

Proceedings of the
12th European Conference on Social
Media
ISCAP, Porto Portugal
22 - 23 May 2025



Susana Pinto

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**Proceedings of the
12th European Conference on
Social Media**

ECSM 2025

22-23 May 2025

Hosted By

ISCAP

Porto, Portugal

Edited by

Susana Pinto

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About the 12th European Conference on Social Media, 2025

The European Conference on Social Media (ECSM) is a well-established academic conference, held annually for over a decade, with a focus on advancing research and dialogue around social media. The primary aim of ECSM is to provide a platform for scholars, researchers, practitioners, and industry professionals to share and discuss their findings on the multifaceted impacts of social media. The conference emphasises the importance of understanding how social media influences various sectors, including society, education, business, and governance.

Aims and Scope

The primary aim of the ECSM is to encourage academic and professional dialogue on the diverse aspects of social media, promoting research that contributes to the better understanding of how social media impacts our lives. The conference seeks to bridge the gap between theory and practice by encouraging contributions that offer both theoretical insights and practical implications. It also provides a collaborative environment where participants can engage in knowledge exchange, interact with peers, and explore emerging trends and issues in social media.

The scope of ECSM is deliberately broad and interdisciplinary, encompassing research that explores the societal implications of social media, its role in communication and community building, and its integration into business and educational practices. Additionally, the conference addresses the analytical and technical aspects of social media, such as data mining, analytics, and the ethical and policy-related challenges that arise from its use. The Proceedings of the 11th European Conference on Social Media 2024 includes academic research papers, PhD research papers, Masters Research papers and work-in-progress papers, which have been presented and discussed at the conference. The proceedings are of an academic level appropriate to a professional research audience, including graduates, postgraduates, doctoral and post-doctoral researchers. All papers have been double-blind peer reviewed by members of the Review Committee.

Topics Covered

The call for papers for the ECSM conference asked for contributions that considered the following topics. In addition the committee welcomed papers on a number of specialist mini-tracks which can be seen at the end of this list.

Social Media and Society:

- how social media affects social behaviour
- cultural dynamics
- community building.

Social Media in Business:

- social media as part of business strategy,
- marketing,
- customer engagement
- brand management.

Educational Uses of Social Media:

- the integration of social media into educational settings,
- the impact of social media on learning, teaching methods, and academic engagement.
- Social media as a research tool.

Social Media Analytics and Data Mining:

- methodologies and tools for analysing social media data
- sentiment analysis

- network analysis
- big data challenges.

Policy and Ethical Issues:

- regulatory, legal, and ethical implications of social media use,
- privacy concerns,
- misinformation
- the digital divide.

Emerging Technologies:

- the intersection between social media and emerging technologies
- artificial intelligence
- virtual reality
- blockchain.

Experts in the field proposed mini tracks on the following topics. Papers accepted on these topics after the double-blind peer review process were presented as mini tracks at the conference and are also published in these proceedings.

- Social Media Challenges and Security
- E-Commerce and Digital Marketing with Social Media

The programme from the 2025 conference can be downloaded from [here](#) and full details about the conference can be seen from the conference website:

<https://www.academic-conferences.org/conferences/ecsm/>

ECSM Preface

These proceedings represent the work of contributors to the 12th European Conference on Social Media (ECSM 2025), hosted by Porto Accounting and Business School (ISCAP), Porto, Portugal on 22-23 May 2025. The Conference Chair is Susana Pinto and Programme Chair is Luciana Oliveira from ISCAP.

ECSM is now a well-established event on the academic research calendar and now in its 12th year the key aim remains the opportunity for participants to share ideas and meet the people who hold them. The scope of papers will ensure an interesting two days. The subjects covered illustrate the wide range of topics that fall into this important and ever-growing area of research.

The opening keynote presentation is given by Professor Alexandre Duarte from the NOVA University of Lisbon on *Behind the Scroll: insights of the Social Media Era*. On the second day, Professor Xabier Martínez Rolán from the University of Vigo, will give a talk on the subject: *From Digital Violence to Disinformation on Social Media: A New Paradigm with Generative AI*.

With an initial submission of 134 abstracts, after the double blind, peer review process there are 41 Academic research papers, 7 PhD research papers and 5 work-in-progress papers published in these Conference Proceedings. These papers represent research from Australia, Austria, Bangladesh, Belgium, Canada, Cyprus, Czech Republic, Egypt, Estonia, Germany, Greece, Hungary, Ireland, Israel, Lithuania, New Zealand, Philippines, Poland, Portugal, Qatar, Romania, Scotland, Slovakia, South Africa, Spain, Turkey, United Kingdom, USA

We hope you enjoy the conference.

Susana Pinto
ISCAP

May 2025

Biographies of Chairs and Keynote Speakers

Conference Chair



Susana Pinto is a Senior lecturer at ISCAP with a Specialist Title in Marketing and Advertising. She is a Ph.D. student in Communication at the University of Vigo with a Master's in Multimedia from FEUP and Bachelor's in Marketing from ISCAP. She has worked as a Principal Coordinator of the Communication and Public Relations Office at ISCAP since December 2023. In 2010, and began her teaching career in the field of Organizational Communication and Advisory at ISCAP. She is a Member of the Scientific Committee of the Post-Graduate Program in Event Management at PEA/ISCAP. She participates in the MatActiva Project and is a member of the FoCAS working group. Areas of interest include Marketing Communication, Public Relations, Social Media, Events, Marketing, Crisis Communication.

Programme Chair



Luciana Oliveira, PhD in Communication, is a professor at ISCAP, P.Porto, and a researcher at CEOS.PP. Her research interests include social media communication, social media content strategies design, audiences' analysis, disinformation and misinformation, social network analysis (SNA) and sentiment/emotion analysis. She has published relevant work and supervised several MSc and PhD students in these domains. She serves as a reviewer and member of the Editorial Review Board for several international conferences and journals on these topics.

Keynote Speakers



Alexandre Duarte is a Professor at Universidade Nova de Lisboa, a researcher at ICNOVA/UNL, and an Invited Professor at the Catholic University of Portugal, where coordinates the Postgraduate Courses in Communication and Advertising Creativity, and Service Design. He holds a PhD in Communication Sciences (specialization in Strategic communications) from the University of Minho. For more than twenty years, he worked as a senior creative copywriter in several multinational advertising agencies. He was a Tutor of the Young Marketers Academy of the EUROBEST Festival, CEO of RESTART - Institute of Arts and Creativity, and advisor to SUPERBRANDS Portugal. Between 2016 and 2022, he served as a Board Member of EDCOM - European Institute for Commercial Communications Education, and from 2024, assumed the Coordination of the Advertising Working Group of the Portuguese Association of Communication Sciences - SOPCOM.



Xabier Martínez Rolán, PhD in Communication from the University of Vigo, is an Associate Professor in the Department of Audiovisual Communication and Advertising at the same institution. His professional and academic career is deeply rooted in digital communication and marketing within digital environments. In the field of teaching, Martínez Rolán is recognized for his innovative approach, teaching courses on mobile applications, web development, and generative artificial intelligence in undergraduate and master's programs. Additionally, he coordinates training initiatives for faculty members, promoting the integration of artificial intelligence tools into pedagogical practices. His research focuses on the transformations in digital communication, with particular emphasis on new advertising formats and the study of virtual communities. He pays special attention to communicative dysfunctions, delving into phenomena such as digital violence and misinformation, analyzing their impact on contemporary society. Throughout his career, he has made significant contributions to advancing knowledge in these areas, with over a hundred academic publications that demonstrate

the breadth and depth of his work. Beyond his academic activities, Xabier Martínez Rolán maintains an active presence in the digital environment through his personal website, where he shares insights and resources related to digital communication, aimed at both professionals and students..

Mini Track Chairs



Joao Batista is a Coordinator Professor at the University of Aveiro, Portugal. A member of the DigiMedia research group, his research interests focus on communication and AI technologies in higher education, as well as information and communication overload. He has participated in research projects and has authored scientific publications. He serves as a reviewer for scientific journals and as a Program and Scientific Committee member for various scientific events.



Gonçalo Carnaz is a Professor at the University of Aveiro, Portugal.. His research interests focus on the use of computer methods (such as AI technologies) in higher education, criminal and medical domain. He has participated in externally funded research projects and has authored numerous scientific publications. He serves as a reviewer for scientific journals and as a Program and Scientific Committee member for various scientific events.



Anabela Mesquita is a Coordinator Professor with Aggregation at ISCAP/IPP. She participated in several European projects as a researcher/partner and coordinator. Anabela has published several articles in journals and conferences. She is a Member of the editorial board for the IGI Global, an Associate Editor and Co-Editor-in-Chief of IJTHI, of various publications and the Chair of the CAE (A3ES) in the area of secretarial and advisory services.



Violetta Wilk is a Senior Lecturer and Researcher at Edith Cowan University, Perth, Australia. Violetta's research investigates social media consumer behaviour, online brand advocacy, online communities, big data analytics, data visualisation, user-generated content, interactive internet-based consumer behaviour, and the persuasiveness of online communication. Violetta often works with qualitative, social media data and uses data visualisation software such as Synthesio,

Leximancer and QSR NVivo.

ECSM Review Committee

ECSM is fortunate to have a significant number of international experts in the field willing to review papers. Care is taken to ensure that a fully double-blind peer review process is followed, and reviewers are not selected if they have any research or organisational connection to the author/s.

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Social Media and LGBTQ+ Experiences in the Aftermath of the 2023 Turkey-Syria Earthquake: A Case Study of Kaos GL

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Abstract: There is a growing consensus that natural disasters exacerbate pre-existing social inequalities, disproportionately affecting marginalized communities, including LGBTQ+ individuals and groups. Their vulnerabilities during such disasters are heightened by intersecting factors such as discrimination, limited access to essential services, and social stigma. In this context, the media plays a crucial role in shaping public perceptions of disasters and influencing disaster management policies; however, LGBTQ+ individuals' experiences are often underrepresented or overlooked in mainstream media coverage of these events (McKinnon et al., 2016). Such an omission not only erases the unique challenges faced by LGBTQ+ communities, including discrimination in shelters, barriers to healthcare access, and an increased risk of violence, but also reinforces the heteronormative frameworks that dominate disaster narratives, further marginalizing these individuals in broader crisis response efforts. In contrast, social media can both mitigate and amplify these disparities. While it provides a platform for advocacy, mutual aid, and solidarity, it also carries risks, such as the spread of misinformation and the potential for cyberbullying, particularly for already marginalized groups. Given these dynamics, it is crucial to explore how social media is used by vulnerable communities, particularly in times of crisis. As both a tool for support and a potential source of harm, social media platforms play a role in shaping how marginalized groups navigate and respond to disasters. Against this background, this study examines how social media platforms were utilized by LGBTQ+ communities in Turkey following the 2023 Turkey-Syria earthquake, with a particular focus on the Kaos GL Association, Turkey's first officially recognized LGBTQ+ organization. Through thematic analysis of content shared on Kaos GL's social media accounts and interviews with two key contributors, the research explores how LGBTQ+ individuals engaged with social media platforms in the aftermath of the disaster and the role these platforms played in shaping their experiences. Thematic analysis revealed three key findings regarding LGBTQ+ individuals' experiences with social media after the 2023 Turkey-Syria earthquake: (1) Social media amplified LGBTQ+ voices, fostered solidarity, and created a sense of belonging, especially on platforms like Kaos GL; (2) It served as a crucial tool for highlighting LGBTQ+ needs and mobilizing resources such as shelter and medical aid; (3) Discrimination and social exclusion persisted offline and online, with social media also being used to spread harmful rhetoric, further marginalizing LGBTQ+ communities during the crisis. These findings underscore the complex role social media played in shaping the post-earthquake experiences of LGBTQ+ individuals in Turkey, highlighting its potential to foster solidarity while also amplifying vulnerability. While previous research has examined the dual role of social media during crises, this study adds to the existing literature by examining how these roles specifically played out within the socio-cultural and political context of the 2023 Turkey-Syria earthquake.

Keywords: Gender Minorities, Social Media, Disaster, 2023 Turkey-Syria Earthquake, Case Study

1. Background

1.1 Everyday Resistance of LGBTQ+ Individuals and Groups

The concept of everyday resistance, or *infrapolitics*, introduced by James Scott (1985), refers to routine and normalized acts of resistance against power structures (see Del Valle, 2017, p. 23). Scott (1985) highlights the distinction between organized resistance and more subtle, everyday acts of defiance. However, Johansson and Vinthagen (2013) critique Scott's emphasis on political consciousness, arguing that everyday resistance should be defined not only by its engagement with power structures but also by its potential for liberation, regardless of intent. In this context, LGBTQ+ individuals, who often face discrimination due to their sexual identity and orientation (Sezer and Oktan, 2020, p. 270), engage in everyday resistance through both individual and collective strategies to challenge the pervasive heteronormative pressures in society. LGBTQ+ individuals' resistance practices within society encompass various strategies against the pressures imposed by heteronormative and sexist structures. These practices occur both at the individual and collective levels and aim to protect LGBTQ+ individuals' identities, defend their rights, and increase their visibility.

LGBTQ+ individuals employ various resistance practices to challenge discrimination and assert their identities, both individually and collectively. **Individual resistance practices** involve self-expression, where individuals increase their visibility and raise social awareness through personal choices such as clothing, hairstyle, and social

media engagement. The act of "coming out" serves as a means of personal liberation and a challenge to societal norms. Additionally, psychological resilience is developed through strategies such as maintaining self-esteem, forming support networks, and seeking psychological assistance to counter prejudice and discrimination (Zottola, 2024, pp. 1-4). **Collective resistance practices** include activism and advocacy, where individuals engage in protests, demonstrations, and legal lobbying to advance LGBTQ+ rights. Community building fosters solidarity through support groups, social events, and educational initiatives. Furthermore, artistic and cultural expression is crucial in increasing visibility and raising awareness by portraying LGBTQ+ experiences in literature, music, cinema, and other artistic domains (ibid).

LGBTQ+ individuals demonstrate resilience against discrimination in their daily lives through community solidarity, activism, and social support. However, during crises, such as natural disasters, their vulnerability increases, and the discrimination they face often becomes more pronounced. Recognizing the diverse experiences of LGBTQ+ individuals during such events, shaped by factors such as cultural context, geographical location, and available resources, is crucial. Addressing these disparities requires sustained efforts, including collaboration between LGBTQ+ advocacy groups, disaster response agencies, and broader communities.

1.2 Experiences of LGBTQ+ Individuals and Groups During Disasters

During disasters, LGBTQ+ individuals face a confluence of challenges arising from pre-existing social vulnerabilities. They often encounter marginalization and discrimination when accessing post-disaster aid, as traditional family structures are typically prioritized, leaving them excluded (Gorman-Murray et al., 2014, pp. 239-243). Temporary shelters can become unsafe spaces for LGBTQ+ individuals, exposing them to harassment and violence, which is further compounded by gender identity challenges within binary-divided spaces. The increased risk of displacement, along with potential food and water insecurity, exacerbates their vulnerability (Yamashita et al., 2017, p. 69). As Gorman-Murray et al. (2017, p. 39) point out, disasters also intensify mental health struggles, triggering past traumas and fostering social isolation. Distrust in official systems, due to past discrimination, can hinder access to essential support. However, despite these adversities, LGBTQ+ communities exhibit remarkable resilience, forming robust support networks and engaging in mutual aid, though these experiences are often further complicated by intersecting identities like race and socioeconomic status (ibid).

Disasters have the potential to cause substantial material, social, and psychological harm (McKinnon et al., 2017, p. 122). They can lead to the destruction of homes and infrastructure, loss of life, or severe injuries, and can induce trauma and disruption at various levels within society (UNISDR, 2009). It is important to note that the repercussions of a disaster are not uniformly distributed. Vulnerable and marginalized communities often face a greater degree of susceptibility to disaster impacts and may have less resilience in their ability to recover (Gorman-Murray et al., 2014, pp. 237-238). For LGBTQ+ individuals, the context of disasters introduces unique challenges and vulnerabilities related to sexual orientation, gender identity, or intersex status. These challenges arise from societal discrimination, a lack of inclusive policies, and an increased risk of marginalization during disaster situations. The experiences of LGBTQ+ individuals in disasters can be discussed in detail as follows:

LGBTQ+ individuals experience disproportionate vulnerabilities during disasters due to social stigma, discrimination, and a lack of legal protections, leading to disparities in resource and service access. Safety concerns arise, particularly in gender-segregated shelters that fail to accommodate diverse gender identities. Family and network dynamics are often disrupted, as chosen families may not be legally recognized, leaving individuals without traditional support. Access to critical healthcare, such as hormone therapy, can be interrupted, compounding existing challenges (McKinnon et al., 2017, p. 127). Discrimination and stigma persist in disaster responses, deterring individuals from seeking assistance. Housing and shelter situations present unique difficulties for transgender and gender non-conforming individuals, as traditional shelters may be unsafe or unaccommodating. Inclusive disaster planning, involving first responder training, safe shelter creation, and culturally sensitive support, is crucial. The loss of identification documents poses particular problems for LGBTQ+ individuals whose IDs may not reflect their gender presentation or recognized relationships. Advocacy organizations play a vital role in raising awareness and ensuring inclusive disaster response. Those who are not visibly LGBTQ+ may face increased isolation and reluctance to seek help, fearing disclosure in hostile environments, and these factors contribute to heightened stress and mental health challenges (ibid, pp. 127-128). Being an LGBTQ+ individual in disasters means navigating a complex web of challenges that are shaped by societal attitudes, legal frameworks, and the availability of inclusive resources. Efforts to address these challenges are ongoing and require collaboration among various stakeholders, including LGBTQ+ advocacy groups, disaster response agencies, and the broader community.

1.3 Social Media and LGBTQ+ Experiences During Disasters

Effective communication plays a pivotal role in not only fostering but also strengthening community resilience in the face of disasters (see Dargin, Fan and Mostafavi, 2021). It could serve as the cornerstone for coordinating emergency responses, disseminating critical information, and fostering a sense of solidarity and preparedness among community members. During and after disasters, the media plays a crucial role in providing essential information, helping individuals and communities strengthen their ability to survive and recover (McKinnon, Gorman-Murray and Dominey-Howes, 2017). Through its selection of coverage angles and emphasis on specific experiences deemed noteworthy, the media shapes public perceptions of a disaster, and the intentional or unintentional omission or suppression of certain narratives may contribute to a broader lack of understanding regarding how disasters uniquely affect marginalized groups (ibid). The coverage of disasters through traditional mass media is often constrained, as it typically relies on messages generated by a single entity and distributed to broad audiences, offering limited opportunities for audience engagement and feedback (Dargin, Fan and Mostafavi, 2021). In contrast, web-based communication technologies, when compared to traditional media, provide increased capacity, reliability, and interactivity, which can enhance communication during disasters (ibid).

Research has shown that digital media plays a crucial role in facilitating connection and support for many individuals within the LGBTQ+ community, particularly those who experience marginalization, isolation, or invisibility (Robards, Byron and D'Souza, 2020). These digital media connections can provide much-needed support that may be lacking in other areas of their lives, allowing LGBTQ+ individuals to observe their own experiences mirrored in the collective lives of others within the community (ibid). However, social media can also serve as a platform where discrimination, hate speech, and harmful rhetoric are disseminated. While it can foster solidarity and empowerment, it can reinforce exclusion and perpetuate stigmatization, highlighting the dual role that social media plays in the lives of marginalized groups. Research on LGBTQ+ experiences in disasters and their representation on social media usually highlights several key points:

One of these is "Social Media as a Tool for Support and Visibility." Social media platforms have become essential for LGBTQ+ individuals during disasters, providing spaces for connection, support, and information-sharing. They help marginalized communities stay informed, organize relief efforts, and share experiences that are often overlooked by mainstream media (Escobar-Viera et al., 2022, p. 2). Another key point highlighted in the representation of LGBTQ+ experiences in disasters is "Digital Activism and Awareness." LGBTQ+ activists use social media to expose discrimination in disaster response efforts, advocate for inclusive policies, and create community-driven relief initiatives. However, misinformation and online harassment can also pose significant issues (Dhiman, 2023, pp. 6-7). "Queer Cosmopolitanism in Disasters" is another important aspect of social media representation of LGBTQ+ experiences during disasters. Research on LGBTQ+ communities in post-disaster settings, such as post-Haiyan Tacloban, found that mobile dating apps (e.g., Grindr) played a key role in facilitating new social networks and building resilience among LGBTQ+ individuals. These platforms provided alternative spaces for identity expression and emotional support (Ong, 2017). Lastly, "Challenges in Social Media Use" is another crucial key point, as social media, while valuable for LGBTQ+ individuals during crises, also presents challenges such as digital surveillance, privacy concerns, and exposure to hate speech, with LGBTQ+ users often employing strategies like private groups and content filtering to create safer online spaces (Saha et al., 2019, pp. 2-3, 5-6). Social media plays a critical role in amplifying LGBTQ+ voices during disasters, offering both community support and advocacy opportunities. However, challenges such as online harassment and misinformation underscore the need for safer, more inclusive digital spaces.

Based on these discussions, this research delves into the post-2023 Turkey-Syria earthquake experiences of LGBTQ+ communities in Turkey, specifically examining the role of social media platforms as utilized by Kaos GL Association, Turkey's first officially recognized LGBTQ+ organization. This study focuses on how LGBTQ+ individuals' lived experiences with social media influenced their digital engagement following the earthquake. The primary objective is to illuminate the complex role social media played in shaping the post-earthquake realities of LGBTQ+ individuals in Turkey, emphasizing its dual capacity to foster solidarity while also exacerbating vulnerabilities within Turkey's socio-cultural and politically complex landscape for gender minorities.

2. Methodology

This study adopts a qualitative research design to explore the experiences of LGBTQ+ individuals in Turkey in the aftermath of the 2023 Turkey-Syria earthquake. Through a case study approach, the research focuses on the

Kaos GL Association, examining how LGBTQ+ individuals engaged with social media platforms during the disaster. Specifically, the study investigates both the positive and negative aspects of their interactions with these platforms. The two main research questions guiding this study are:

1. How did LGBTQ+ individuals use social media platforms, particularly Kaos GL, to foster solidarity, mobilize resources, and navigate challenges during the 2023 Turkey-Syria earthquake?
2. What challenges and opportunities did social media create for LGBTQ+ individuals seeking visibility, assistance, and community support in the aftermath of the earthquake?

The primary data collection method was semi-structured interviews with key contributors to Kaos GL's social media activities during the earthquake crisis. Two in-depth interviews were conducted with members of the organization who played a significant role in managing and creating content for social media platforms. The interviews were held online (via Zoom) on 27 December 2024. The secondary data for this study consisted of Instagram and X (formerly Twitter) content shared by Kaos GL over a one-month period following the 6 February 2023 Turkey-Syria earthquake. A total of 73 Instagram posts were collected, of which 38 were directly related to the earthquake. Additionally, 315 posts were retrieved from X, with 258 specifically addressing the earthquake. This content was analyzed to explore how social media was utilized and to gain insights into the experiences of LGBTQ+ individuals with social media during the crisis. The collected data, consisting of interviews and social media content, was analyzed using thematic analysis, enabling the identification and interpretation of patterns and themes across both data sources. Through this process, three key themes emerged: 'Building Solidarity,' which focused on how social media facilitated connection and collective action within the LGBTQ+ community; 'Making Needs Visible and Mobilizing Support,' which highlighted how social media was used to raise awareness of the unique needs of LGBTQ+ individuals during the crisis; and 'Discrimination and Social Exclusion,' which examined the challenges of hate speech, marginalization, and exclusion that LGBTQ+ individuals faced in both digital and physical spaces during the aftermath of the earthquake. A comprehensive analysis of these themes follows in the next section, where their implications are examined in depth.

3. Findings

Thematic analysis of the data reveals three main themes regarding LGBTQ+ individuals' experiences with social media in the aftermath of the 2023 Turkey-Syria earthquake: *Building Solidarity*, *Making Needs Visible and Mobilizing Support*, *Discrimination and Social Exclusion*. These themes provide a nuanced understanding of how LGBTQ+ individuals engaged with social media during the crisis, highlighting both the challenges they faced—such as social exclusion, marginalization, and online harassment—and how social media served as a platform for solidarity, support, and resource mobilization. The analysis underscores how LGBTQ+ individuals navigated the negative aspects of digital spaces, including hate speech and discrimination, while also leveraging the positive potential of social media to foster connections, amplify their voices, and mobilize support during the crisis.

3.1 Building Solidarity

A key finding from this research is the crucial role social media played in amplifying the voices of LGBTQ+ individuals and groups during the crisis. Participants highlighted that LGBTQ+-focused platforms on social media were essential for documenting the challenges their community faced in the aftermath of the disaster. Social media posts further supported this finding, with 112 out of 296 earthquake-related posts focused on **Building Solidarity**. These platforms not only raised awareness of the specific needs of LGBTQ+ individuals but also contributed to creating a sense of belonging within the community. One of the interviewees, Interviewee A, shared an anecdote that illustrates how social media was instrumental in building solidarity among LGBTQ+ individuals during the aftermath of the earthquake:

In dealing with these challenges during the crisis, social media platforms became a bridge of solidarity for us. The regular news reports and social media posts by Kaos GL enabled us to make on-the-ground realities visible. [...] One of the positive aspects of social media was its role in facilitating solidarity. Thanks to social media, individuals were able to quickly raise awareness of their needs, making the organization of aid more efficient. For example, calls made via social media were crucial in establishing safe spaces for trans individuals to find shelter (Interviewee A, 27 December 2024, Mersin, Turkey).

This interviewee also highlighted how social media facilitated connections, stating: "One of the significant contributions of social media platforms was facilitating communication with LGBTQ+ individuals in the region and helping integrate them into solidarity networks" (Interviewee A, 27 December 2024, Mersin, Turkey). Social

media content further supports this analysis. A tweet from Kaos GL (February 28, 2023) announced the formation of *Bursa Lubunya Dayanışması*, a solidarity initiative created to support LGBTQ+ individuals after the earthquake. This tweet exemplifies how social media acted as a tool for mobilizing support, demonstrating that online platforms were crucial in organizing aid and creating safe spaces. By providing an email contact, the post also reflects the importance of digital networks in establishing resources and fostering connections among affected individuals.



Figure 1: A tweet from Kaos GL (February 28, 2023) announced the formation of Bursa Lubunya Dayanışması, a solidarity initiative for LGBTQ+ individuals after the earthquake (Kaos GL, 2023).

Another social media post from Kaos GL (February 22, 2023) highlights *Ankara LGBTİ+ Earthquake Solidarity*, an initiative designed to assist LGBTQ+ individuals who relocated to Ankara following the earthquake. Featuring an image of a rainbow flag being held in a public space, the post not only documents the collective response but also visually reinforces resilience and community visibility. This post also provides a curated list of support mechanisms, further emphasizing the role of social media in sharing vital information and facilitating access to aid.



Figure 2: An Instagram post from Kaos GL (February 22, 2023) highlighted the Ankara LGBTİ+ earthquake solidarity, compiling support mechanisms for LGBTQ+ individuals coming from the earthquake region to Ankara, emphasizing the importance of support networks and visibility (Kaos GL, 2023).

The analysis demonstrates that social media platforms not only amplified the voices of marginalized communities but also provided an essential space for documenting their challenges and raising awareness about their specific needs. As reflected in Interviewee A's experience, these platforms fostered a sense of belonging and connection, enabling individuals to mobilize resources quickly and organize support. The ability to make urgent needs visible, such as creating safe spaces for trans individuals, highlights the role of social media as a tool for solidarity, advocacy, and collective resilience in times of crisis.

3.2 Making Needs Visible and Mobilizing Support

The theme Making Needs Visible and Mobilizing Support emerged from the interview data as a crucial aspect of participants' experiences. Additionally, the social media posts we analyzed supported this theme, reinforcing the key points discussed. Out of 296 earthquake-related posts, 102 focused on 'Making Needs Visible and Mobilizing Support,' further emphasizing the significance of this theme. This theme highlights how social media platforms were instrumental in raising awareness about the specific needs of LGBTQ+ individuals during the

earthquake, including access to shelter, safety, and other vital resources. It emphasizes the role of these platforms in facilitating calls for help and mobilizing support, both locally and globally.

Both interviewees underscored the pivotal role social media played in bringing attention to the unique challenges faced by LGBTQ+ individuals following the earthquake. These platforms not only raised visibility for the community's struggles but also became vital tools for organizing resources and building support networks. As Participant A noted, "Kaos GL's visibility on social media allowed us to share the stories of marginalized individuals with a wider audience" (Interviewee A, 27 December 2024, Mersin, Turkey). Participant B echoed this sentiment, stating, "Social media posts helped raise awareness of the needs of LGBTQ+ people in the earthquake zone, mobilizing support and aid" (Interviewee B, 27 December 2024, Mersin, Turkey). Both participants emphasized how essential social media was in driving these efforts.

Here is an anecdote shared by Interviewee A, which further elaborates on their experiences:

LGBTQ+ individuals faced significant barriers in accessing shelter, healthcare, and emergency aid—areas in which they were already marginalized due to social prejudices. During the crisis, these barriers were exacerbated, making it nearly impossible for them to access necessary services. Social media calls proved particularly effective for trans individuals in need of shelter and safety in the earthquake zone. A notable example of this was Kaos GL's social media posts titled "Emergency Needs List for LGBTQ+ People in the Earthquake Zone." These posts provided clear and specific information about both the physical and psychological needs of LGBTQ+ individuals, while also sharing contact details for volunteers in the area. As a result, communication was established with individuals in the region, and aid was successfully directed to those in need (Interviewee A, 27 December 2024, Mersin, Turkey).

Here are some examples of social media posts that, along with the interview data, contributed to the emergence of this theme.



Figure 3: A tweet from Kaos GL (February 20, 2023) highlighted the Colors of Resistance İzmir, current emergency needs list for the earthquake region, emphasizing the urgent needs of LGBTi+ individuals affected by the earthquake (Kaos GL, 2023).

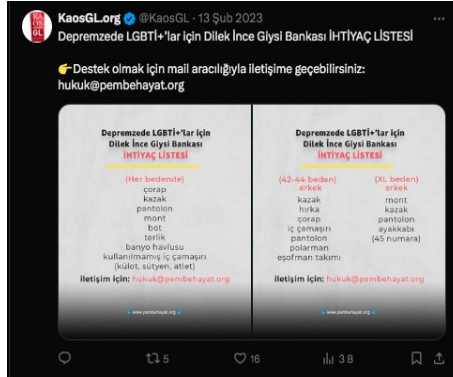


Figure 4: A tweet from Kaos GL (February 13, 2023) highlighted the Clothing Bank Needs List for LGBTi+ Earthquake Survivors by Dilek İnçe, emphasizing the urgent needs of LGBTi+ individuals affected by the earthquake (Kaos GL, 2023).

The analysis of social media posts further reinforces this theme, demonstrating how digital platforms became lifelines for LGBTQ+ individuals affected by the earthquake. Kaos GL's posts (Images 3 and 4) highlight the urgent needs of those in disaster-stricken areas, including essential supplies such as food, hygiene products, and warm clothing.

3.3. Discrimination and Social Exclusion

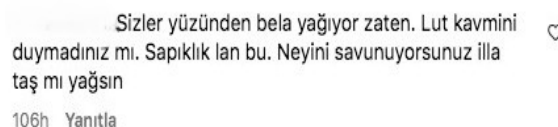
This theme explores the multifaceted marginalization and exclusion of LGBTQ+ individuals in both online and offline spaces, particularly in times of crisis. It examines how deeply ingrained social and cultural biases not only hinder their access to vital support but also contribute to their systematic neglect in disaster relief efforts. Furthermore, it delves into the prevalence of harmful rhetoric and online harassment directed at LGBTQ+ individuals during the crisis, while also examining the role of social media platforms in amplifying and normalizing discriminatory discourses. It explores how the earthquake intensified existing prejudices, with some using social media to spread hate speech, incite violence, and further stigmatize the LGBTQ+ community, ultimately shaping public perceptions and exacerbating their vulnerabilities during such critical moments. Social media posts, in conjunction with the interview data, played a key role in the emergence of the theme 'Discrimination and Social Exclusion.' Of the posts analyzed, 82 centered on this theme, often taking the form of anti-LGBTQ+ discourses and hate speech in response to content shared on Kaos GL's accounts. An anecdote provided by Interviewee A highlights the depth of discrimination LGBTQ+ individuals faced in the aftermath of the earthquake.

Yes, unfortunately, discrimination and stigmatization were frequently encountered on social media. Some people attempted to blame LGBTQ+ individuals for major disasters like the earthquake. Hate speech became widespread on social media platforms, especially through cases where trans individuals were removed from shelters or not even recognized as earthquake victims. These discourses were often masked with religious references or societal morality narratives (Interviewee A, 27 December 2024, Mersin, Turkey).

This finding highlights how LGBTQ+ individuals were not only marginalized in physical spaces but also targeted through digital narratives that reinforced their exclusion. The portrayal of LGBTQ+ communities as responsible for a natural disaster illustrates how crises become moments where existing societal prejudices are amplified. Social media functioned as a key site where these narratives were both produced and circulated, legitimizing discrimination under moral and religious pretexts. The removal of trans individuals from shelters is particularly significant as it reflects the ways in which social media-fueled biases translated into real-life exclusion. Reflecting on this experience, Interviewee B further noted:

Social media played a dual role in shaping the post-earthquake experiences of LGBTQ+ individuals, both positively and negatively. While it became a space for solidarity and support, it also fueled misinformation and cyberbullying, making these challenges even more severe. Hate speech, targeted posts, and fake news about LGBTQ+ individuals intensified social polarization. One striking example was the way some social media users portrayed LGBTQ+ individuals as people unworthy of receiving aid. This not only harmed individuals' morale but also had tangible consequences on access to relief mechanisms (Interviewee B, 27 December 2024, Mersin, Turkey).

Examples of posts that contributed to the emergence of this theme are discussed below.



Sizler yüzünden bela yaşıyor zaten. Lut kavmini
duymadınız mı. Sapıklık lan bu. Neyini savunuyorsunuz illa
taş mı yağsın
106h Yanıtla

Figure 5: A comment written under the post “Ece, a trans woman earthquake survivor from Maraş on Kaos GL’s Instagram account, expressing discrimination towards LGBTQ+ individuals, Instagram User, February 14, 2023.

This post reflects a prevalent form of hate speech, often amplified during crises, where moral and religious justifications are used to discriminate against LGBTQ+ individuals. The comment draws on religious discourse, specifically referencing the story of Lot’s people, to frame the existence of LGBTQ+ individuals as sinful. This narrative suggests that natural disasters, such as the earthquake, are a form of divine punishment for their perceived immorality. Such rhetoric not only reinforces negative stereotypes but also promotes the dangerous idea that LGBTQ+ communities are deserving of harm, further marginalizing an already vulnerable group. In the

context of a disaster, where marginalized groups are already facing heightened risks, this type of moralistic condemnation deepens their exclusion and amplifies societal biases.

Sayfanın adı kaos, derdi vatan hainliği.
105h 3 beğenme Yanıtla

Figure 6: A comment written under the post “Roman LGBTİ+ individuals have become completely invisible in the earthquake zones” on Kaos GL’s Instagram account, expressing discrimination towards LGBTQ+ individuals, Instagram User, February 23, 2023.

This post undermines Kaos GL and, by extension, LGBTQ+ advocacy, labeling it as treasonous (vatan hainliği). It attempts to delegitimize LGBTQ+ activism by associating it with national betrayal. By framing LGBTQ+ advocacy as a form of treason, the post reinforces harmful stereotypes and seeks to criminalize efforts to advance the rights and visibility of marginalized communities. This kind of rhetoric fosters an atmosphere of hostility and exclusion, making it more difficult for vulnerable groups to seek support or protection during times of crisis. In the context of a natural disaster, such narratives can intensify the marginalization and vulnerability of LGBTQ+ individuals, further isolating them from critical resources and solidarity.

..Depremden önce gördüğünüzde "ALLAH belanı versin" demiyormuyduk?? E verdi işte. Şimdi neden üzülüyorsunuz ki?? Ben üzülmiyorum ona. Hatta yemek vermeyenlerin ellerinden öperim. Sırf o şerefsizler yüzündün dağılmıyormu dünya?? Az kaldı. Taş yağacak gökten taş. Soyu kurusun cinsi belli olmayanların. O şerefsizin yerine bir çocuk kurtulsaydı kaşkı. Geçtm çocuğu. Bir köpeğin bile kurtuluşu ondan kıymetli olurdu benim için. Şükür ALLAHın bildiğine. Yaşattıysa vardır bi bildiği. Daha beter ölüm gönderecektir elbet. Yada imana gelir soysuz..
106h 1 beğenme Yanıtla
— Yanıtları gör (6)

Figure 7: A comment written under the post “Ece, a trans woman earthquake survivor from Maraş” on Kaos GL’s Instagram account, expressing discrimination towards LGBTQ+ individuals, Instagram User, February 14, 2023.

This post is an explicit example of hate speech and dehumanization, celebrating the suffering of LGBTQ+ individuals by framing the earthquake as divine punishment. The post not only justifies violence and neglect but also praises those who refuse aid to LGBTQ+ survivors, reinforcing the idea that they are undeserving of basic humanitarian assistance. This finding underscores how the digital sphere became both a site of resistance and exclusion for LGBTQ+ individuals. While solidarity networks emerged, misinformation and targeted attacks also escalated, revealing the deeply polarized nature of public discourse. The construction of LGBTQ+ individuals as “undeserving” of aid points to a broader pattern of social hierarchies that influence disaster response. The way relief efforts were shaped by these online narratives suggests that discrimination in digital spaces has direct material consequences, affecting who is seen as worthy of help and who is left behind.

4. Conclusion

This research explored the experiences of LGBTQ+ individuals in Turkey in the aftermath of the 2023 Turkey-Syria earthquake, focusing on their engagement with social media, particularly through platforms like Kaos GL. The findings emphasize the dual role of social media in fostering solidarity, while also amplifying discrimination and exclusion. The findings indicate that social media played a critical role in fostering solidarity and mobilizing resources, enabling LGBTQ+ individuals to share information, access support, and navigate the challenges of the disaster. However, the research also uncovered how these platforms highlighted the challenges faced by LGBTQ+ individuals, including the amplification of discrimination and exclusion, with hate speech and societal biases exacerbating their vulnerability. The earthquake exacerbated existing societal prejudices, with some individuals using social media to spread harmful rhetoric, stigmatize LGBTQ+ communities, and deny them access to disaster relief. This reinforced societal biases and discrimination, further marginalizing LGBTQ+ individuals both in physical spaces and within digital platforms. Thus, while social media provided significant opportunities for connection and advocacy, it also revealed the persistent marginalization of LGBTQ+ individuals in digital spaces. These findings address the central concerns of the research, showing how social media shaped

LGBTQ+ individuals' experiences during the earthquake—serving both as a tool for support and a site of ongoing discrimination, hostility, and exclusion.

To address these challenges in future crises, it is crucial to improve the inclusivity and visibility of LGBTQ+ support networks on social media platforms, ensuring that marginalized voices are amplified and that access to vital resources is easier for affected individuals. Additionally, fostering collaboration between LGBTQ+ organizations and mainstream disaster response agencies through digital platforms could enhance information sharing and resource mobilization. Furthermore, training social media platforms to better moderate hate speech and address discriminatory narratives could contribute to creating a safer, more supportive online environment for LGBTQ+ individuals during times of crisis.

In the context of the 2023 Turkey-Syria earthquake, this research contributes to the existing body of literature on gender minorities in disaster contexts, with a particular focus on the experiences of LGBTQ+ individuals in Turkey—an area that has been under-explored in current studies. Despite growing interest in gender minorities and disasters, the specific experiences of LGBTQ+ individuals in Turkey—particularly their use of social media—remain underexplored. Centered on the case of Kaos GL, this study highlights these experiences but is limited by its small sample size and singular focus. Future research should include a broader range of LGBTQ+ communities and organizations, especially less visible ones, to offer a more comprehensive understanding.

AI Declaration

This research utilized ChatGPT, an AI language model developed by OpenAI, to assist with data analysis and language refinement.

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Bias in Personalized Social Media Content: Impact on Romanian Generation Z Decision Making

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Abstract: In an era dominated by personalized digital experiences, social media platforms play an increasingly influential role in shaping young adults' perceptions and decisions. With the use of algorithms that personalize social media feeds for individual users, concerns have arisen regarding the extent to which such personalization reinforces preexisting biases and influences user behavior, with a focus on how it influences biased decisions in a variety of contexts, including political opinions, lifestyle choices, and shopping habits. This study investigates the impact of personalized social media content on the decision-making of Romanian Generation Z users. The research analyzes how personalized feeds shape perceptions, preferences, and decisions by examining algorithmic bias in content curation and exposure to diverse viewpoints. Furthermore, the study examines digital literacy and critical thinking by exploring how aware Generation Z is of algorithmic personalization and its potential biases, providing information on its ability to engage with digital content critically. In this context, it is important to mention that throughout the article, we provide users' perspectives on how they perceive, feel, and think about the influence that the media has on their daily lives. Given the lack of research on the willingness of Generation Z to share information on social networks, we also addressed this issue. The data for this research were collected using a questionnaire conducted on a sample of Romanian university undergraduate students, all part of Generation Z. Based on the collected data, we present the results regarding the awareness of the participants about personalized content, their perceptions of bias, and the influence this has on their decision-making. The findings contribute to understanding the implications of algorithmic personalization for young adults in the Romanian context, highlighting the importance of critical social media literacy and promoting informed decision-making in the digital age.

Keywords: Personalized Social Media Content, Algorithmic Bias, User Decision-making, Social Identity.

1. Introduction

Social networks are an essential component of daily life in the digital age, especially for Generation Z, also known as "digital natives" (Chang and Chang, 2023; Katz et al., 2022). Social networks have given this generation, born between the mid-1990s and early 2010s, unprecedented access to information and connectivity through social networks. However, the individualized way the content is delivered on these platforms raised concerns about bias and how it impacts decision-making processes (Fitri and Hariyanto, 2024). Recent studies have shown that Gen Z individuals spend a significant amount of time on social networks (Jayatissa, 2023; McKee et al., 2023; Rózsa et al., 2024; Van Ouytsel, 2021), with research indicating that they dedicate an average of 2 hours and 22 minutes daily to these platforms (Vițelar, 2019).). This substantially impacts how people obtain information, develop opinions, and make decisions, relying on social networks to stay informed and consider it their main source of news and information. However, Rózsa et al. (2024) consider that an in-depth analysis of how Generation Z uses social media privacy is still incomplete. Current research mainly examines the effects of social networks on the social and psychological characteristics of Generation Z and aims to understand the impact of social networks on interpersonal relationships, a sense of belonging to a social group, and the ability to establish and maintain friendships (Penttinen et al., 2022; Bartsch and Kloss, 2019; Boyd, 2014). As mentioned in (Rózsa et al., 2024) previous studies on Generation Z show a greater willingness to share personal data to obtain various benefits and to overcome the anxiety resulting from the fear of missing out (FOMO) on the gratifying experiences others are having (Lyngdoh, 2023), and leading them into risky and inappropriate social behavior.

Research refers to the algorithms that social networks use to personalize the content provided as echo chambers or filter bubbles, where users are exposed primarily to information that aligns with their values and beliefs (Kitchens et al., 2020; Modreanu and Andrisan, 2022).). Furthermore, Kitchens et al. (2020), claim that social media platforms are increasingly criticized for promoting environments that limit exposure to diverse viewpoints, potentially driving users toward more extreme ideological positions. A study by Bakshy et al. (2015) on 10.1 million US Facebook users found that more than 80% of friendships on the social media platform shared the same political affiliation, highlighting a lack of ideological diversity in the information Facebook users encounter through their social connections. The study by Kitchens et al. (2020) finds important variations in the various ways social media platforms deliver content to users, with Facebook being the most comprehensive

representation of features that could influence users' decisions about how to consume information. It also supports the idea that platforms are unlikely to unilaterally provide outside researchers with adequate data on the implementation and effects of algorithmic filtering procedures.

In Romania, the interaction Generation Z has with social networks follows global trends, with platforms such as Facebook, Instagram, and TikTok being particularly popular among this demographic (Statista, 2024) with a promising future supported by entertaining and educational content and the new service, TikTok for Business. However, the specific impact of personalized content and potential biases on Romanian Generation Z decision-making processes remains understudied. This research aims to address this gap by examining the extent to which biased social media content influences the decision-making of Romanian Generation Z individuals. The study uses a quantitative approach, using a questionnaire administered to Generation Z students in Romania. By investigating social media usage patterns, perception of personalized content, and self-reported decision making processes, this research aims to provide information on the relationship between biased social media content and Generation Z decision making behaviors.

Understanding these dynamics is crucial for several reasons. First, it can inform digital literacy initiatives aimed at helping young people navigate the complex information landscape of social networks. Second, it can provide valuable information for policymakers and platform developers to address issues of algorithmic bias and information diversity. Finally, it contributes to the broader academic discourse on the social impacts of personalized digital media in an increasingly connected world.

2. Review of the Literature and Development of the Research Hypothesis

2.1 Generation Z

Generation Z, as the first generation of tech-savvy, is extremely online, learning, shopping, working, dating, and making friends online. They switch between social media feeds, applications, and websites, each contributing to their online ecosystem differently. Generation Zers, who grew up with social networks, design their online personas more carefully than previous generations. Despite their commitment to online media consumption, they are more inclined to adopt trends of anonymity, more personalized feeds, and a smaller online presence (McKinsey, 2024). Currently accounting for more than 30% of the global population, Gen Z is predicted to constitute up to 27% of the workforce by 2025. 98% of Gen Zers own a smartphone, representing almost one third of today's social media influencers. Generation Z will be history's largest, wealthiest, and highest-spending generational cohort and will likely be the only generation ever to reach 2 billion people. Additionally, it is likely the most globally influential generational cohort in history that has a direct impact on how other generations consume (World Data Lab, 2024). In the research conducted by McKinsey (2022) in all generational cohorts on the topic of social media use, respondents indicated more positive than negative effects, despite Gen Z reporting more negative effects. Compared to respondents from lower-middle-income countries, those from high-income countries (as defined by the World Bank) were twice as likely to report that social networks harmed their lives (13 % vs. 7 %). Female Gen Zers were more likely than their male counterparts to believe that social media negatively affected their body image (32% vs. 16%), self-confidence (24% vs. 13 %), and FOMO (32% vs. 22%). Algorithms used by social media networks impact how this generation builds up an understanding of the world around them, but users' awareness and experiences with algorithmic news selection are poorly understood (Swart, 2021). Therefore, this article seeks to understand how these algorithms limit exposure to different perspectives by favoring and recommending content that supports users' preexisting opinions and preferences. By doing this, it intends to clarify the possible implications for users' critical thinking, social dynamics, and ideological polarization, with an emphasis on how this phenomenon specifically impacts Generation Z as a demographic that is heavily reliant on technology.

2.2 Social Media Influence

Social media influence can be addressed by shaping user behaviors with the support of certain platform algorithms that can foster information-limiting environments (Kitchens et al., 2020). Therefore, this can significantly influence selection bias by prioritizing content that aligns with users' past behaviors, preferences, and beliefs. Key biases in social media content that can influence Generation Z's choices are:

Tailored Recommendations: refer to algorithms that examine user data, including likes, shares, or browsing history, to select content, prioritizing information aligned with users' engagement. This limits engagement with varied or opposing perspectives, increasing selection bias.

Optimization Emphasizes User Engagement: social media platforms are designed to boost interactions and often highlight sensational or emotionally charged content. Such content typically aligns with users' existing beliefs, restricting the variety of information they interact with.

Echo Chambers and Filter Bubbles: in these strategies, individuals interact primarily with those who share similar views in self-reinforcing echo chambers created by uniform content. This strategy amplifies selection biases by restricting access to different perspectives or factual information.

The Privacy-Personalization Paradox: while Gen Z values personalized experiences, there is a tension between personalization and privacy concerns. This paradox can influence how Gen Z interacts with and perceives personalized content (McKee et al., 2023; McKinsey, 2024).

Short-form Content Bias: especially on platforms like TikTok and Instagram. The preference for short-form visual content can lead to oversimplification of complex issues and potential misinformation.

Confirmation Bias: occurs because personalized content tends to confirm users' existing beliefs and preferences, making it less likely for Gen Z to encounter challenging or diverse perspectives (Vițelar, 2019).

Selective Information Avoidance: Generation Z users may actively avoid content that challenges their views or is difficult to understand, further reinforcing existing biases.

Accordingly, we propose the first research question:

RQ1: To what extent does exposure to biased content shared by social networks (e.g., friends, family, influencers) on social media platforms influence users' opinions and behaviors?

2.3 Social Media Algorithms

According to Swart (2021) two important factors that determine which information sources a person is exposed to on social media are algorithmic filtering and social network homophily. Social media algorithms work as guides, searching through large amounts of information to curate personalized experiences for each user. One of the key aspects of social networking algorithms is their ability to analyze user behavior and preferences. It is essential to understand these algorithmic mechanics for companies and any other content producers looking to increase their reach and engagement. All these things can be achieved with the advances of AI technology, which is capable of processing large amounts of data in real-time and predicting user preferences and interests with surprising accuracy by recognizing patterns and correlations within these data (Poleac, 2024).

Social media networks use several types of algorithms as presented in the next paragraph.

Facebook employs various metrics, such as user activity, engagement, and demographics, to tailor content. Taking into account factors such as time, type of content, and levels of engagement, it evaluates posts based on anticipated user interest. Furthermore, the algorithm segments individuals into interest groups, significantly affecting the volume of news that users encounter (Thorson et al., 2019). X's (previously Twitter) emphasizes content that acquires greater engagement, establishing a feedback loop that enhances the visibility of trending posts. To assemble content on the Explore page, the platform's recommendation algorithm considers user actions and preferences as well (Garz et al., 2023). The Instagram algorithm places significant emphasis on engagement metrics, including likes, comments, and shares, frequently at the cost of content quality or user preferences. Research conducted by Gross et al. (2024) indicates that Instagram's algorithm consistently limits specific content types, especially those concerning social and political matters, which conflicts with the platform's professed dedication to free expression. The study argues that Instagram's algorithm utilizes psychological strategies to boost user engagement and duration on the platform, highlighting ethical issues regarding user manipulation. TikTok's algorithm is among the most sophisticated systems and the most captivating when compared to other social media algorithms. The flow experience, which includes enjoyment, focus, and altered perception of time, significantly influences both directly and indirectly the behavior associated with TikTok addiction. The study by Yao et al. (2022) emphasizes the interconnectedness of TikTok addiction and algorithm enhancement, indicating that users find themselves in an "entertainment loop."

Based on these premises, through this research we also aim to answer the following questions:

RQ2: To what extent are Generation Z users aware of the biases and influences of personalization algorithms on the content consumed?

3. Methodology

The methodology outlines the systematic approach adopted to explore the impact of biased personalized social media content on Generation Z in Romania. Romania boasts one of the fastest Internet connections in Europe, facilitating constant access to social media platforms. Romania's unique context, situated at the intersection of traditional and modern EU influences, promises to offer a more nuanced understanding of how young Romanians engage with personalized content. Analysis of these cultural particularities can provide valuable insights into how local values influence digital behavior. Romania can be considered a representative case for other countries in Central and Eastern Europe that share similar social, economic, and cultural characteristics. Thus, the study contributes not only to understanding the national context but also to providing a broader perspective on the global impact of algorithmic personalization on Generation Z.

The research framework involves going through a sequence of steps, starting with defining the research questions and exploring the existing literature on social media algorithms and their influence on users, particularly Generation Z. The research design incorporates the preparation of study materials and the pre-test of the data collection process to ensure the reliability and validity of the findings, as shown in Figure 1.

Data collection was carried out in November 2024. Initially, subjects were selected as representatives of Generation Z (regardless of age). Subsequent analysis indicated that the vast majority of respondents were over 18 and, therefore, considered primary decision makers in their own lives. The research instrument was a questionnaire designed in Office Forms and distributed online to 250 respondents. However, only 189 respondents provided answers.

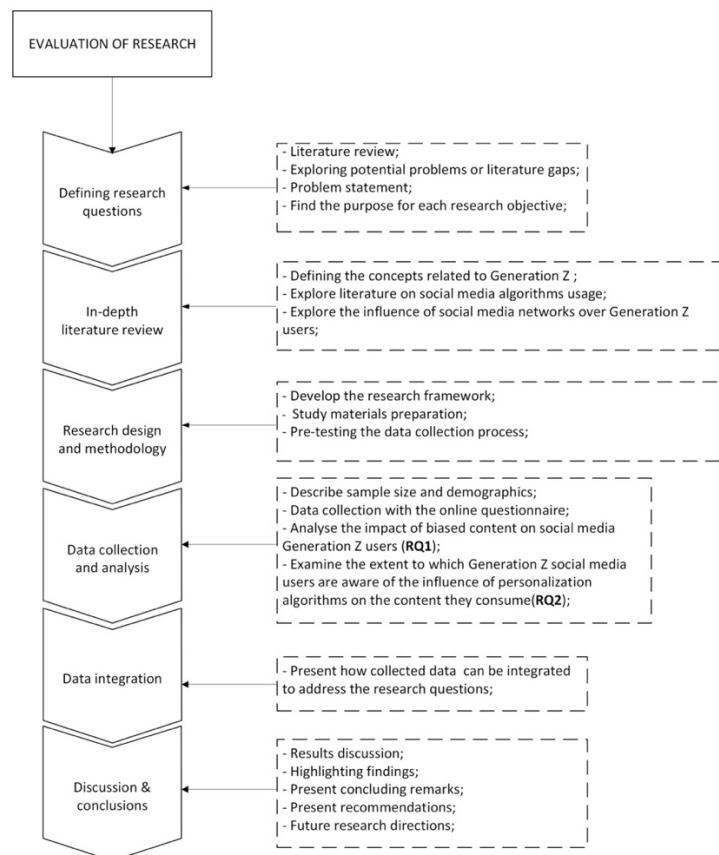


Figure 1: Research Methodology

The sample was selected to represent Generation Z (over 18 years), with the majority of respondents (78%) falling within the 18-21 age group and the remaining 22% within the 22-27 age group. The gender distribution of the respondents was 60% male, 39% female, and 1% other or undeclared. The majority of the respondents (80%) were undergraduate students, 6% were master's students, 3% were college graduates, and only 2% were high school graduates. The 18-27 age group is going through a transition phase during which people develop their sense of identity, pursue education, make decisions about their careers, and form social connections. These

processes are influenced by the personalized content to which they are exposed. They also extensively utilize social networks, ranking among the most active segments on these platforms and frequently engaging in algorithmic content. This demographic's extensive use of social media facilitates the study's objective of assessing the impact of algorithms on individuals.

The collected data were analyzed to address the main research questions: the impact of biased content on social networks (RQ1) and the awareness of personalization algorithms among Generation Z users (RQ2).

4. Results and Discussions

The analysis of the conducted study will start with the observation that almost 40% of the respondents, representatives of Generation Z, choose to spend between 2-4 hours daily on social media platforms, and another important part, 23%, spend double time (4-6 hours) on the same social networks. This time span suggests that for a large part of Generation Z, social networks are no longer just a tool for entertainment or connection, but an integral part of their daily routine. The results indicate that the introduction of critical thinking-oriented digital literacy among Generation Z is vital. This would help them recognize and manage algorithmic influences and their impact on their behavior.

The social media platforms most frequently used by respondents in order of preference are Instagram (87%), YouTube (80%), TikTok (56%) and Facebook (40%), according to the survey. Not far from these results is the ranking presented in the latest report presented by Opeepl (2024), where YouTube remains the most popular platform. In both the present research and Opeepl (2024), YouTube and Instagram dominate as the top platforms, with usage rates of approximately 80% and 76-87%. This consistency suggests that the Romanian Generation Z aligns with global trends regarding platform preferences. However, this study highlights that the usage of TikTok in Romania (56%) is less than the 68% reported worldwide by Opeepl, indicating possible regional differences in platform popularity, which could stem from cultural or accessibility factors.

The section further presents an in-depth analysis of the survey results. It examines how Generation Z in Romania perceives biases in personalized social media content and how these biases impact their decision-making processes. When answering questions about algorithmic personalization, the perception of personalized content, and information-seeking behaviors, certain patterns and relationships in the data can be revealed. The study results indicate how subjects, representatives of Generation Z, perceive the influence of algorithms on their content preferences, evaluate the importance of personalized recommendations, and navigate the possible risks of algorithm-based information ecosystems. The results provided a significant perspective on the equilibrium between algorithmic functioning and user freedom of choice, emphasizing the importance of awareness, autonomy, and diversity in information access. Figure 2 presents the study findings on the impact of personalized algorithms on user preferences.

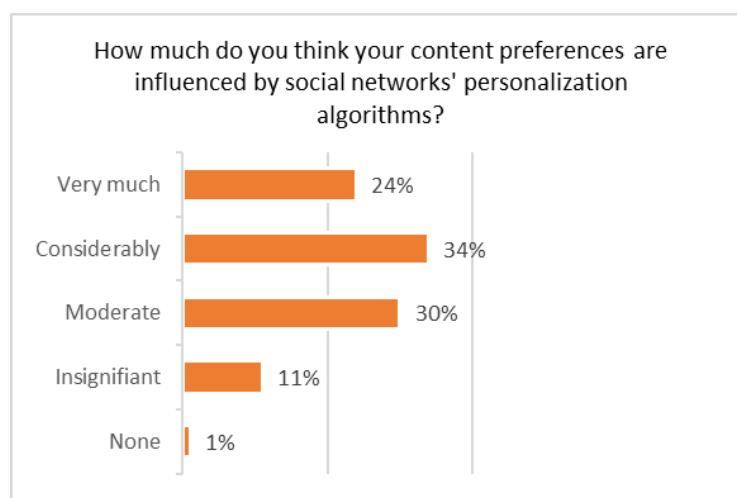


Figure 2: The influence of personalized social media algorithms on content preferences.

Nearly 60% of the respondents are convinced that social network algorithms have a "considerable influence" or "very great influence" on their content preferences. This result indicates significant validation of the role these algorithms play in shaping user interaction. Those who fall into the "moderate influence" category also show

significant engagement, these are about 30% of respondents. So, while some users do not feel overwhelmingly affected, they still recognize the presence of algorithms in their content consumption. Only 11% of the respondents mentioned that they feel minimally influenced by these algorithms, and only one respondent said that she is not influenced at all. This indicates that very few users are interested in the effects of personalization on social networks. Figure 3 illustrates the findings of the survey investigating the influence of social networks on decision-making processes.

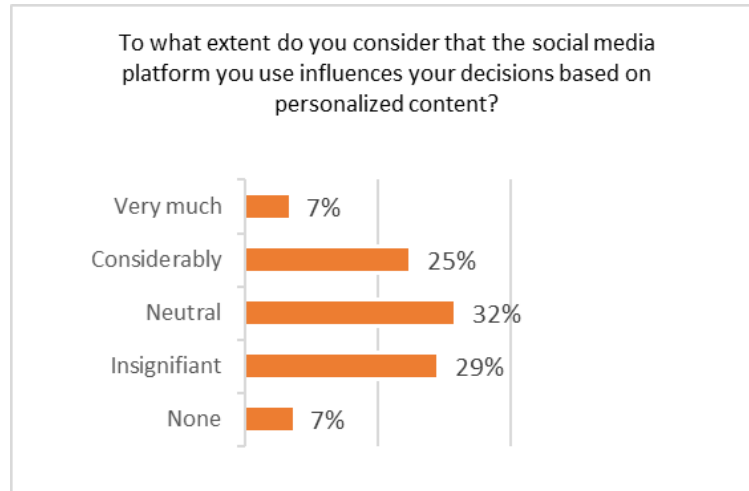


Figure 3: The Influence of Personalized Content on Social Media in User Decision-making

Only a small proportion of the respondents (7%) mentioned that social networks do not influence their decisions. This suggests the existence of a segment of users who may be less engaged in personalized content or who rely on other sources for decision-making. Almost a third of the participants (29%) perceive a minor impact from social networks. This shows that while they recognize some level of impact, it does not significantly alter their choices. At the same time, a high percentage of respondents (32%) have a neutral attitude, which could translate into an ambiguous position or a balanced view on the influence of social networks. They recognize the potential for influence but are not very convinced of its effect. In contrast, almost a third of the respondents (25%) reported that social networks have a considerable or very significant impact on their decisions. This group is very likely to actively interact with personalized content and understand its role in shaping preferences. Furthermore, only a small number of respondents (7%) believe that social networks have considerable influence on their decisions. This highlights that only a small number of users perceive a significant impact of social networks.

In conclusion, the majority (61%) of the respondents believe that social networks have a negligible or neutral impact on their decision-making process. This may indicate a growing skepticism about the authenticity and reliability of personalized content. On the contrary, the 32% who consider the influence to be considerable or very considerable highlight a substantial group that is actively involved and has confidence in the information presented through social networks. This finding is consistent with research that indicates that social networks can serve as a powerful tool for consumer decision-making, particularly among younger populations.

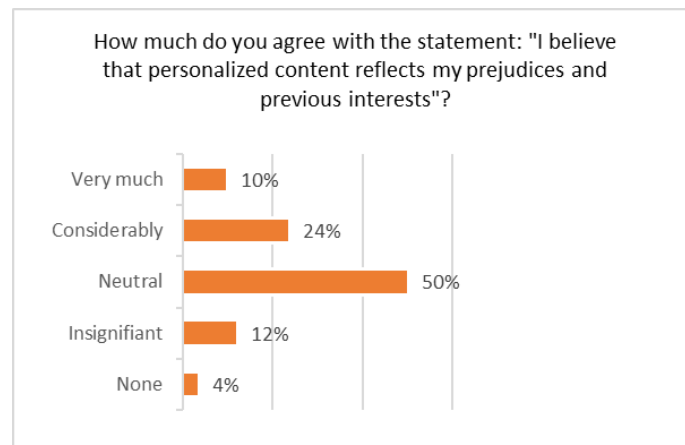


Figure 4: Perception of Personalized Content as a Manifestation of Personal Prejudices and Previous Interests.

Figure 4 shows the perceptions of the respondents about personalized content. A significant proportion of respondents (50%) selected the neutral option. This suggests a degree of uncertainty or an ambiguous stance on the impact of personalized content on reflecting pre-existing biases and interests. This could suggest that users are not aware of the mechanisms behind personalization or have not formed a conclusive opinion about its potential to reinforce existing views. The combined response of "To a great extent" (24%) and "Very much" (10%) indicates that about a third of respondents agree that personalized content reflects their preconceptions and interests. This indicates a significant awareness among a category of subjects, representatives of Generation Z, of the potential for personalization found in social networks that can easily create echo chambers or reinforce existing biases. However, a smaller share (16%) disagreed with the presented statement, so they responded with "no" (4%) and "insignificant" (12%). This means that a small percentage of respondents believe that personalized content does not significantly reflect their pre-existing views. By analyzing the responses to this question of exploring the neutrality or objectivity of personalized content, we can provide insights into attitudes toward personalized media and decision-making processes.

In Figure 5, a very small proportion of respondents (3%) mentioned that they never questioned the neutrality or objectivity of personalized content. This may suggest that there is a high level of trust in the algorithmic systems responsible for curating this content. These individuals perceive algorithms as normally reliable and objective. At the same time, this response can also be translated as confidence in their ability to independently assess the credibility and accuracy of the information presented without critical judgment at all.

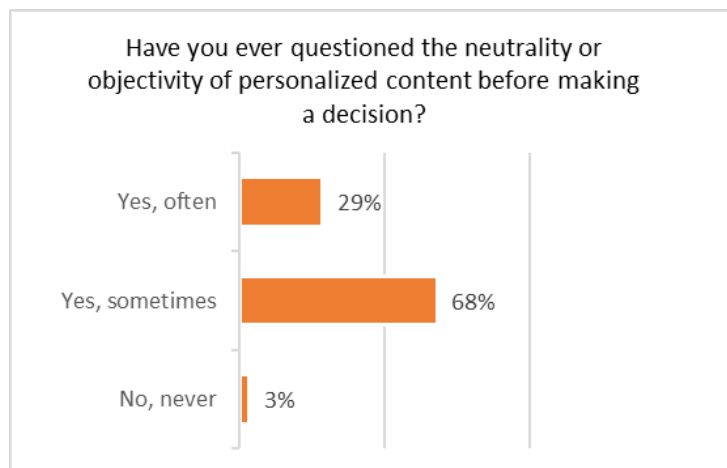


Figure 5: Assessing the Impact of the Neutrality of Personalized Content in Decision Making

Most of the respondents (68%) responded that they sometimes question the neutrality or objectivity of personalized content. This response indicates a slightly skeptical attitude and possible critical analysis of algorithmically processed information. These individuals are aware of potential biases or external influences on algorithmic results, and this may cause them to periodically evaluate the validity and impartiality of the content they consume. This category of Generation Z respondents probably values algorithmic transparency and is likely to seek additional sources of verification to validate information before making decisions. Another category of respondents (29%) reported that they often question the neutrality or objectivity of personalized content, indicating a greater awareness of the potential biases inherent in algorithmic personalization. This group may have a deeper understanding of phenomena such as filter bubbles, echo chambers, and the spread of misinformation, leading them to critically analyze the information presented.

5. Conclusions

The results of this study offer perspectives on how personalized social media content influences the decision-making processes of Romanian Generation Z individuals. To answer RQ1, the study reveals that users' beliefs and behaviors are notably affected by exposure to biased content on social media, particularly through connections with friends, family, and influencers. Although most of the respondents indicated neutral or slight influence, a significant number recognized substantial effects, highlighting the widespread influence of tailored

content on shaping choices and preferences. To minimize potential biases, the importance of increased awareness and a thorough evaluation of personalized guidance is highlighted.

In addressing RQ2, we identified that Romanian Generation Z individuals exhibit moderate to high awareness of the biases and influences present in social media personalization algorithms. Most of the respondents admitted to doubting the neutrality and objectivity of personalized content, with many actively seeking diverse viewpoints to combat algorithmic biases. This indicates an increasingly critical awareness among this demographic, underlining their ability to navigate the intricacies of algorithm-based information environments with enhanced agency and digital skills.

This research emphasizes the necessity of promoting critical social media literacy, allowing Generation Z to engage thoughtfully with personalized digital content. Some constraints must also be recognized. The research sample mainly comprised Romanian university undergraduate students, which may not fully reflect the larger Generation Z population, including people from various educational or socioeconomic backgrounds. Additionally, the dependence on self-reported responses through a questionnaire can create biases, such as social desirability bias, where respondents respond as they believe to be favorable or anticipated. Since the research was carried out at one specific moment, it fails to reflect possible variations in perceptions, behaviors, or decision-making processes as time progresses. Recognizing these limitations underscores additional research's need to fill these voids and expand on the results, promoting a more comprehensive grasp of Generation Z's engagement with tailored social media content. Figure 6 offers a perspective for addressing the risks of echo chambers and promoting balanced content consumption for Generation Z on social media as future research directions.

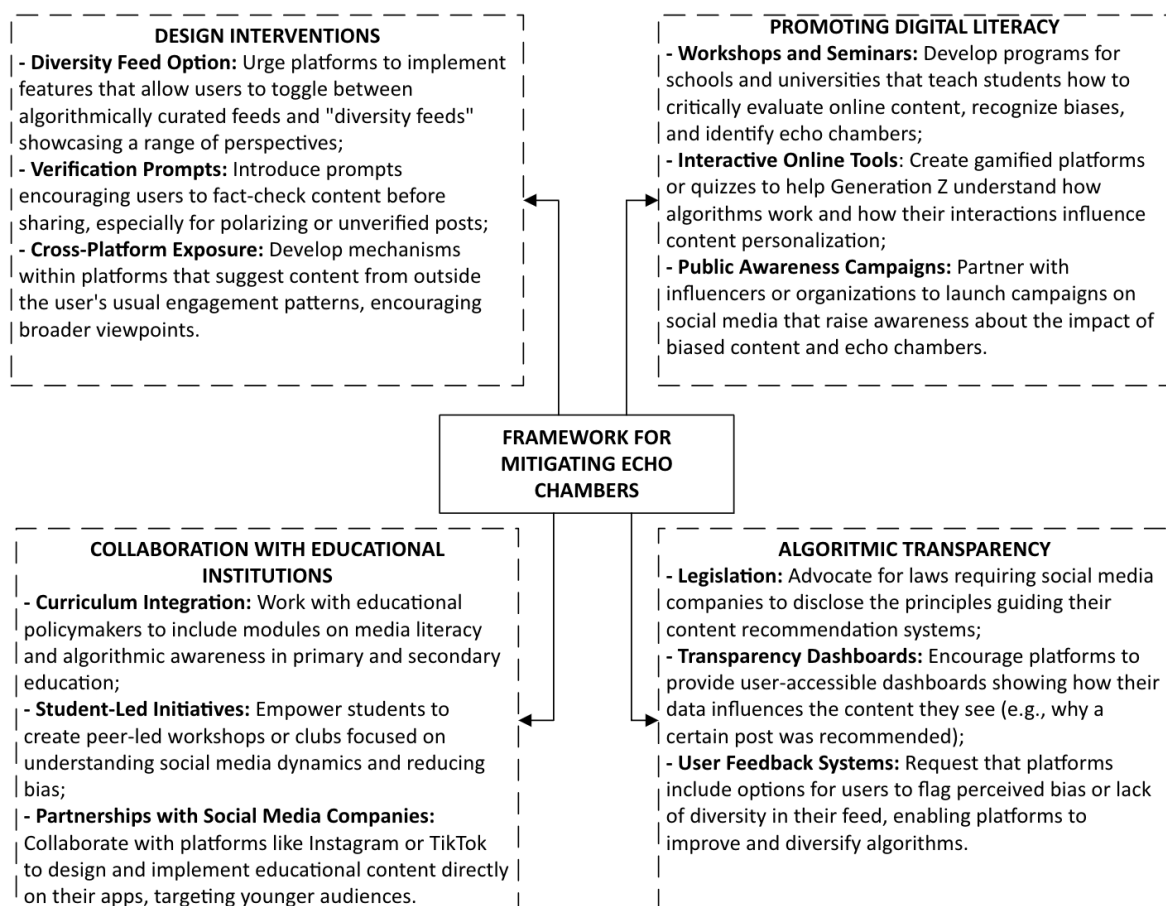


Figure 6: Framework for Mitigating Echo Chambers in Personalized Social Media Content

Greater understanding would be achieved by grasping how prolonged interaction with algorithm-driven content influences social behaviors and critical thinking as time progresses. Furthermore, more research is needed to assess the effectiveness of digital literacy programs in enabling Generation Z to critically evaluate curated content. Examining how the provision of targeted educational programs can reduce susceptibility to algorithmic biases is essential.

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The Relationship between Incivility and Negative Emotions in Conversations about Immigrants on Reddit

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Abstract: Being characterized by a strong participatory culture, social media have revolutionized the way people communicate and exchange information, fostering important debates, acting as an extension of everyday talk between individuals and emerging as a new space for socialization. Conversations about health, entertainment, sports, politics, and more are actively held, offering insight into how online communities communicate and interact around various themes. Through this ongoing dialogue, online social media communities reveal how users negotiate differences and build collective narratives, making these digital platforms a vital ground for analysing contemporary discourse. This becomes increasingly important knowing how negative, prejudiced and toxic discourse can propagate online and how it affects not only users but society at large. In this article, we examine debates on immigration in Portugal and Europe on Reddit, focusing on sentiment, emotion, and the level of incivility in this context. Analysing a database of 2,167 posts and comments on a Portuguese-language subreddit, we adopt a mixed-methods approach to explore how emotions are linked to incivility towards immigration and immigrants, especially from Brazil. Patterns of incivility and negative emotions are identified, revealing a high frequency of communication norm violations accompanied by feelings of anger in discussions about immigration. We found considerable overlaps between negative emotions, particularly anger, and breaches of the contextual norm and the relational norm, whereas emotions like sadness, fear, and even pleasure only seldom seem to be indicative of the presence of incivility. Overall, our analysis illustrates how different emotions affect the maintenance or breach of communication norms in online interactions. This article not only contributes to the scientific literature on online behaviour in Portuguese-speaking environments but also informs policymakers and online platform moderators on strategies to manage and mitigate incivility in virtual debates, particularly by understanding the role emotions play in fostering or curbing disrespectful discourse.

Keywords: Incivility, Emotion Analysis, Sentiment Analysis, Reddit, Immigration

1. Introduction

The rise of social media has profoundly altered how individuals engage with social and political issues. In an era of post-truth tendencies, sentiment and emotions dominate user interactions, shaping conversations on controversial topics like immigration. While social media was initially celebrated for its democratizing power, it has increasingly become a space for incivility—characterized by disrespectful and hostile language—particularly toward marginalized groups, including immigrants. Understanding the intersections of sentiment, emotions, and incivility in social media comments is therefore crucial to addressing the societal implications of digital communication.

Sentiment reflects underlying attitudes in social media discourse. Combined with emotions such as anger or fear, sentiment amplifies reactions to immigration-related topics (Nasuto and Rowe 2024, Gerbaudo et al. 2023, Erisen et al. 2020). Fear-based narratives often elicit negative sentiments and heightened incivility (Ahmed et al. 2024, Ekman 2019, D’Errico and Paciello 2018, Conzo et al. 2021), while empathetic framing fosters more supportive discourse (Paciello et al. 2019). These emotional drivers significantly influence the tone and civility of online conversations.

Incivility on social media poses challenges to public discourse and the well-being of targeted individuals. Uncivil comments heighten anger, reinforce stereotypes, polarize discussions, and discourage substantive engagement (Hwang et al. 2014, Chen and Lu 2017, Ordoñez and Nekmat 2019, Ekman 2019, Roden and Saleem 2022). Immigration, as a polarizing issue, often attracts emotionally charged and uncivil comments that reflect broader societal tensions (Gadarian and Albertson 2014, Thiele and Turnšek 2022, Nasuto and Rowe 2024). Analyzing the sentiments and emotions driving these interactions sheds light on dynamics of prejudice, discrimination, and hate speech on digital platforms.

This study explores the relationship between sentiment, emotions, and incivility in Reddit comments about immigration in Portugal. Reddit is selected due to its distinct framework, which promotes in-depth conversations and user-created content, rendering it a suitable site for examining sentiment and incivility within immigration discussions. Moreover, although it has a worldwide audience, Reddit is still a lesser-explored platform for immigration discussions, especially among Portuguese-speaking users. By focusing on Portuguese, this study

provides insight into how the unique cultural and political landscape of Portugal shape online discussions about immigration. This fills the gap in research that usually emphasizes English-language platforms, providing a broader viewpoint on the emotional and attitudinal aspects of incivility. This study enhances comprehension of how digital communication influences views of marginalized communities in Portuguese society, culture, and language.

2. Literature Review

2.1 Participatory Culture and Digital Communities

The advent of social media has brought about profound shifts in society, shaping communication and the way individuals engage and participate. Unlike traditional media, where communication was performed in an unidirectional fashion, with little to no participation from the public, the digital era has provided a space where barriers of time, geography and access are easily overcome and users are now part of a multidirectional style of communication. This interactive nature fosters participatory cultures where individuals not only consume but actively create and distribute content (Jenkins and Ito 2015). In this sense, participatory culture on social media has empowered users to collaborate, express opinions, and build communities around shared interests and causes. Examples of civic engagement, and digital activism on platforms like Facebook or Twitter have deeply marked popular culture in recent years, regarding movements like Black Lives Matter or #MeToo (Ostertag and Ortiz 2015, Soriano et al. 2016, De Choudhury et al. 2016, Ince et al. 2017, Miller and Demirbilek 2023).

However, the participatory culture of social media also has its downsides. Being dominated by algorithms that build the foundation for communities, social media can also contribute to the formation of echo chambers and filter bubbles, by exposing users predominantly to like-minded opinions. This environment can exacerbate polarization, reduce exposure to diverse viewpoints, and hinder meaningful dialogue (Cinelli et al. 2021, Sunstein 2018). Studies have shown that users in these environments are more likely to encounter and perpetuate extreme or divisive rhetoric (Barberá et al. 2015). In this sense, while social media platforms provide unprecedented opportunities for global connectivity and dialogue, they also serve as fertile ground for negative, toxic, and discriminatory discourse.

2.2 Incivility

Research shows that incivility online is often linked to anonymity and the lack of immediate consequences, leading to a higher likelihood of norm violations and aggressive interactions, which disseminate at a higher pace in online environment and fuel hostility (Coe et al. 2014, Zimmerman and Ybarra 2016, Brady et al. 2017). This toxicity not only affects individual users but also contributes to broader societal polarization and distrust (Sobieraj and Berry 2011). Rossini (2019) argues that it is not only incivility that poses a threat to democratic discourse, but the intolerance that often overlaps polarized conversations and that attacks groups of people or individuals. Hate speech, that targets people or groups based on race, religion, gender, or other attribute, is such a particularly insidious form of toxic discourse online. Social media platforms such as Facebook and Twitter have become a hotbed for hate speech which is often targeted towards marginalised communities (Chetty and Alathur 2018). Algorithmic content moderation is utilized in these platforms and it often fails to detect nuanced forms of intolerance, which could be detrimental to democratic dialogue (Oh and Downey 2024). Discussions about immigration, for instance, often expose xenophobic tendencies in which immigrants are blamed for a host of societal ills (Musolff 2017, Nortio et al. 2021).

In these conversations, emotions often play a pivotal role. Among the range of emotions experienced online, negative emotions like anger, frustration, and resentment are most associated with incivility (Brady et al. 2017). These emotions often escalate tensions and provoke hostile responses, particularly in contentious debates. Anger is the emotion most frequently linked to uncivil online behaviour (Borah 2014, Gervais 2015, Chen and Ng 2017). In debates about sensitive topics such as immigration, anger can manifest as personal attacks, hate speech, or inflammatory language, contributing to the erosion of respectful dialogue (Calderón et al. 2020). Additionally, immigrants are often stereotyped as criminals or threats, showcasing how anger fuels inflammatory discourse (Paasch-Colberg et al. 2021). Aside from anger, swear words and negative sentiment are also linked to anti-immigrant rhetoric in social media (Ahmed et al. 2021).

Incivility in immigration discussions reflects broader societal tensions and underscores the challenges of fostering constructive discourse in online spaces. The intersection of emotions and incivility in online discourse offers valuable insights for understanding and mitigating toxic communication in digital spaces. By focusing on

emotionally charged discussions, particularly those around immigration, research can contribute to more inclusive and respectful online environments, benefiting both individual users and society.

3. Methodology

This study was developed in three stages. The first stage consisted of collecting and pre-processing the data (the interactions from the sub-forum), ensuring that they were valid for analysis, i.e. they related to the topic of immigration and were within the period from 09/06/2022 to 09/06/2023. For the sample size of a population of 4519 total comments, the criteria of 99% confidence and 2% margin of error were applied, resulting in the selection of 2167 random comments. In the second phase, we subjected this sample to coding by type of communication norm violated according to Bormann et al. (2022) operationalization, by type of emotion according to Ekman (1992) and sentiment.

All comments were classified according to the cooperative communication norm they violated, based on Bormann's operationalisation (2022). If more than one norm was violated, the comment was assigned to more than one subcategory. The 'No Incivility' category was created to include all comments that did not violate communication norms. The same applies to emotion, which follows Ekman's (1992) six basic emotions. The emotion 'Surprise' was suppressed in our model, since surprise has mainly physical manifestations that would be impossible to verify in this environment. In addition, the 'No Emotion' category was applied to accommodate all comments whose emotional value could not be determined or did not belong to one of the predefined subcategories. Finally, all the comments were subjected to an automatic sentiment analysis (Positive, Neutral or Negative) by the Buzzmonitor algorithm and then humanly reviewed. Finally, in the third phase, we proceeded to analyse the data.

4. Results

4.1 Incivility

Classifying the content of interactions according to the type of communication norm violated reveals trends in terms of the incivility present on the subreddit in conversations related to immigration. The results can be seen in Table 1.

Table 1: Incivility frequency

Norm	N	(%)
No Incivility	1395	64.37
Relation Norm	314	14.49
Contextual Norm	198	9.14
Modal Norm	116	5.35
Informational Norm	109	5.03
Process Norm	35	1.62

Although they do not represent most interactions, messages containing incivility account for 35.63% of the sample. The data reveals that violations of the Relation (14.49%) and Context (9.14%) norms are the most prominent within the sample. In terms of content, these messages share similarities, frequently featuring negative language and personal attacks. Interactions that breach contextual norms often include derogatory remarks and targeted attacks on specific immigrant groups. One example of this violation is found in an interaction under a post reblogging a news post about how more than 113.000 CPLP citizens have obtained residence permits in Portugal in two months. In the comment section users argued that these immigrants wouldn't contribute significantly to the country and only deplete public services. This user was accused of being racist, which provoked this response by another user: *"if we're so 'racist' why don't you go back to africa? no one brought you here and no one is forcing you to stay. lol. he knows very well that it's much better to live in a country of 'racist whites' than to live in Africa."* Such statements reinforce the notion that immigrants are "second-class citizens," undermining their rights and framing them as threats to public resources, despite immigrants significantly contributing to Social Security in Portugal, generating a surplus of €1.6 billion (Jornal de Negócios 2023).

When it comes to the Relation Norm, violations are seen in comment related to a video posted on the forum allegedly depicting youth from CPLP countries stealing from tourists in the centre of Lisbon. Users theorized they were Brazilian immigrants, which prompted Brazilian nationals in the comments to argue that these people were just taking back the wealth Portugal stole from Brazil during colonization. A user responded with the following comment: *“If theft means putting you to work and exploiting what you didn't exploit, then tell me how you call it that you're still killing indigenous people today and you say that the Portuguese were bad? You've had 500 years to develop and you still have a victim (...) those who are here for good (...) are welcome, those who come just to criticise go to hell”*. This reaction underscores how colonial legacies provoke emotionally charged, hostile debates, highlighting the sensitivity of this issue among Portuguese nationals and individuals from former colonies.

These examples illustrate the aggressive, uncivil discourse prevalent in the forum, with discussions often centring on immigrants as threats or drawing on colonial histories to justify hostility. The findings reflect broader societal tensions and prejudices, setting the stage for an analysis of sentiment trends in the sample.

4.2 Sentiment

Sentiment analysis helps us uncover trends in the tone of conversations between users, which paints a clearer picture of the community. Table 4 shows the representativeness of negative, neutral, and positive sentiment in the sample.

Table 2: Sentiment frequency

Sentiment	N	%
Neutral	1337	61.70
Negative	820	37.84
Positive	10	0.46

Building on our previous findings that civility was present in most interactions, sentiment analysis further confirms the dominance of a neutral tone. Nevertheless, an evident trend towards negative interactions highlights the emergence of a more critical and aggressive communication environment, characterized by tense and hostile debates. These findings are consistent with earlier results indicating heightened levels of incivility. The presence of incivility frequently correlates with the prevalence of negative sentiment, further amplifying this dynamic. This communication climate becomes even more pronounced when examining trends in emotional expressions.

4.3 Emotions

Emotion analysis sustains latter findings, while also presenting a scenario of aggression in interaction between users, further explaining the results seen regarding Incivility and Sentiment.

Table 3: Emotion frequency

Emotion	N	%
No Emotion	1680	77.57
Anger	323	14.91
Disgust	83	3.83
Sadness	44	2.03
Fear	28	1.29
Joy	8	0.37

The neutrality of messages is reflected in 77.57% of interactions, which were found to convey no significant emotion. However, the most frequent emotion identified in the sample is Anger (14.91%), further emphasizing the contentious communication environment within this forum. From personal opinions on immigration to

heated exchanges between users, the debate often lacks markers of quality discourse. Notably, the presence of Disgust (3.83%), Sadness (2.03%), and Fear (1.29%) also contributes to the negative tone dominating discussions. The near absence of Joy (0.37%) underscores the predominantly critical and sombre nature of user conversations about immigration.

In this context, it becomes essential to examine how incivility, sentiment, and emotion intersect and what these findings reveal about users' attitudes toward immigration.

4.4 The Interplay of Incivility, Sentiment and Emotion

In the following table, we observe the interplay of sentiment with violations of cooperative communication norms.

Table 4: Incivility and Sentiment

Incivility	Negative	Neutral	Positive
Context Norm	198	0	0
Information Norm	68	41	0
Modality Norm	70	45	0
No Incivility	154	1233	8
Process Norm	16	18	0
Relation Norm	314	0	0

Most interactions do not contain emotions or violations of communication norms, which suggests that many interactions are neutral or respect communication norms. However, we observed significant overlaps of negative sentiment with violations of contextual and relational norms. A Pearson correlation coefficient was computed for the relationship between Incivility and Sentiment, revealing a coefficient (r) of -0.47, which indicates that there is a moderate and statistically significant negative correlation ($p < 0.0001$), suggesting that negative feelings are associated with a greater occurrence of incivility. Additionally, the relationship between Sentiment and Emotions revealed a correlation coefficient (r) of -0.53 ($p < 0.0001$). The moderate negative correlation suggests that negative feelings are strongly associated with negative emotions, while positive feelings are related to the absence of emotion.

The analysis of these trends regarding emotion further clarifies and support these results. The following heat map portrays these relationships (Figure 1).

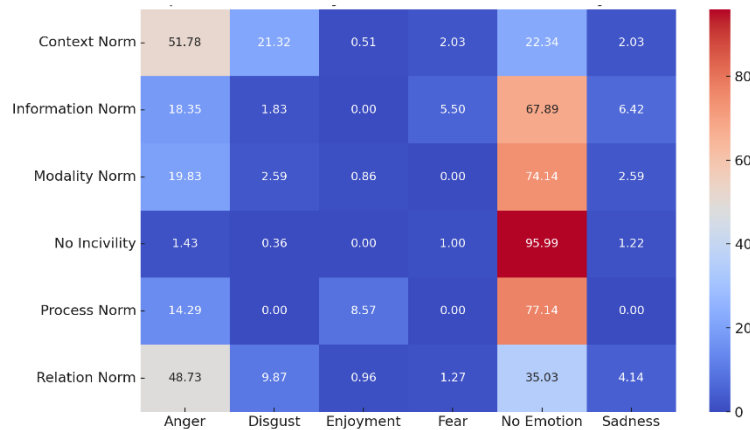


Figure 1: Incivility and Emotions (heat map)

The heat map reveals that most interactions without incivility (96%) are associated with 'No Emotion'. However, the Relation Norm has a very high association with anger (48.7%). Context Norm also has a high association with anger (51.8%). Additionally, the Relation Norm and Context Norm have considerable proportions of disgust (9.9% and 21.3% respectively) associated with them. Other types of incivility have lower proportions. This

suggests that these categories of incivility can intensify conflicts or be direct expressions of dissatisfaction in discussions about immigration.

Interestingly, types of incivility, such as Modality Norm and Process Norm, also have a high association with 'No Emotion' (74% and 77%, respectively). This could be explained by the frequent use of sarcasm and slang, which frequently indicate a negative sentiment, but not necessarily a feeling of anger, sadness or fear. Furthermore, emotions such as 'Fear' and 'Sadness' have lower associations, but appear more frequently in interactions with Information Norm and Relation Norm.

The relationship between Incivility and Emotions produced a Pearson correlation coefficient (r) of 0.28 ($p < 0.0001$). Although weaker, the positive correlation is statistically significant, confirming that the presence of incivility is associated with an increase in the expression of negative emotions. This pattern indicates that specific types of incivility are strongly linked to intense negative emotions, especially anger and disgust. This reinforces the hypothesis that uncivil interactions often evoke or reflect negative emotions.

4.5 Differences in Nationalities

Analysing the interactions shows that users refer not only to immigration as a phenomenon, but also to the different nationalities that immigrate most to Portugal. It is important to explore the prevalence of references to specific nationalities to understand their prevalence in our sample, and how they are charged with more or less hate. Table 6 shows the frequency of references to the five most mentioned nationalities.

Table 6: Frequency of mentions of nationalities

Nationality	N	%
Portuguese	297	53.04
Brazilian	170	30.36
Indian	42	7.50
African	39	6.96
French	12	2.14

Table 6 highlights that the most frequently mentioned nationality is Portuguese, which aligns with the focus of the subreddit on Portugal. The language associated with 'Portuguese' spans a range of tones, from neutral discussions on cultural and social issues in Portugal to expressions of frustration with societal and governmental matters, as well as declarations of national pride. This is followed by notable mentions of Brazilian nationality, reflecting Brazil's status as one of the largest sources of immigration to Portugal. The following heat map (Figure 2) portrays the interplay of incivility, emotions and sentiment in discussions about Brazilians.

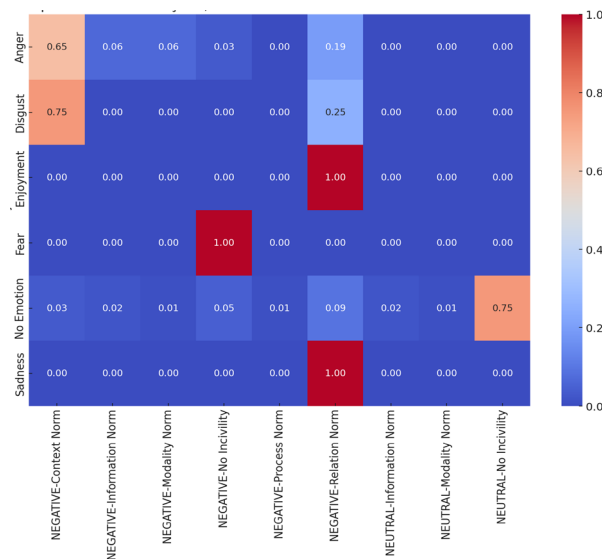


Figure 2: Heat Map - Incivility, Emotion and Sentiment about Brazilian Nationality

The analysis of the graph reveals that 'No Emotion' is the most prevalent emotion, which suggests a predominantly neutral tone in the statements, regardless of whether they are associated with feelings or manifestations of incivility. On the other hand, the presence of emotions such as 'Anger' or 'Fear' associated with high levels of incivility points to more hostile interactions. A predominance of negative sentiment linked to the Relation Norm and the Context Norm indicates the occurrence of stigmatisation, targeted criticism and use of vulgar language and personal attacks. The correlation between negative feelings and high levels of incivility points to the presence of prejudice or hostility in interactions about Brazilians.

As far as the language used is concerned, the most discussed topics in the sample reveal issues related to the legality of Brazilian citizens entering Portuguese territory, as well as concerns about visa management. We also see comparisons between Brazilian and Portuguese culture, with frequent stereotyping.

Further references include Indians, whose immigration flux has been growing in the last decade, and Africans, a trend strongly influenced by Portugal's historical ties with its former colonies, where migration processes are often facilitated (Figure 3).

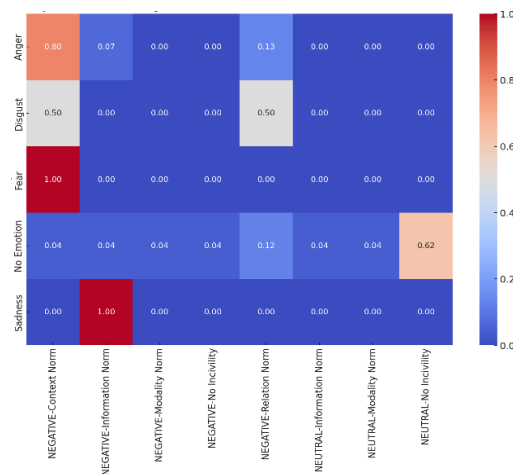


Figure 3: Heat Map - Incivility, Emotion and Sentiment about Indian Nationality

Analysing intersections in the heat map reveals important patterns. High values of negative emotions, such as ‘Anger,’ associated with negative feelings and high levels of incivility indicate social tensions or hostile discourse directed at Indians. In the case of interactions about Indians, we observe the strong occurrence of ‘Fear’ and the “Context Norm”, which reveals that racist remarks are often accompanied by negative fearful reactions. This is mainly due to reports of sex crimes, which the forum users’ habitually link to “Indians” as an all-encompassing term for individuals of South Asian descent. We also encounter a high frequency of violations of the Information Norm and negative sentiment, revealing a low-quality debate where exaggerations and misrepresentations of the truth are frequent. Lastly, we analyse the confluences of incivility, sentiment and emotion towards African individuals (Figure 4).

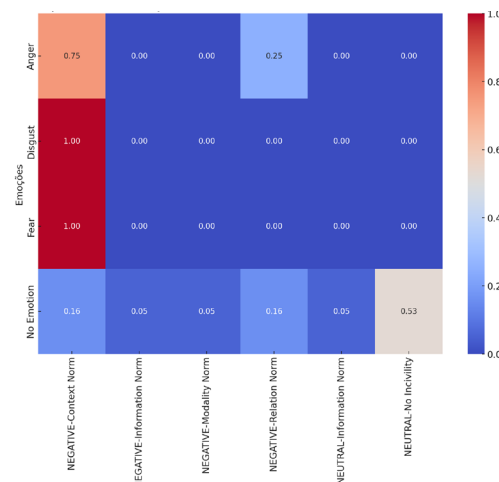


Figure 4: Heat Map - Incivility, Emotion and Sentiment about African Individuals

Once more, users on the forum use the term “African” as an all-encompassing term for individuals of African descent, no matter what country they are from. When the sentiments are analysed, the negative sentiment is often associated with categories of incivility such as ‘Relation Norm’ or ‘Context Norm,’ which reflect critical or hostile discourse directed at Africans. These patterns can indicate prejudice, stigmatisation or specific social tensions, particularly targeted at individuals from CPLP (Community of Portuguese Speaking Countries), whose immigration processes are facilitated and therefore more frequent. Incivility categories such as ‘Relation Norm,’ ‘Modality Norm’ and ‘Context Norm’ help to qualify the tone of interactions. The incivility associated with ‘Relation Norm’ often reflected interpersonal disrespect and more hostile interactions, while ‘Context Norm’ points to inappropriate behaviour related to the general topic, which include prejudice and racism.

All in all, the analysis of the intersections of incivility, sentiment and emotion regarding particular nationalities helps to unveil the uncivil, emotional and prejudiced discourse perpetrated in the forum, revealing an environment where co-operative debate is seldom, and personal attacks and vulgar language are frequent.

5. Conclusion

The present study delves into the communication environment of a sub-reddit dedicated to Portugal to better understand the conversations being held about immigration in the country. We have demonstrated that incivility frequently manifests in specific patterns linked to negative sentiment in conversations about immigrants. We have also revealed how communication norms are violated and how these behaviours align with emotional expression.

The significant overlap between negative emotions, especially anger, and violations of relational and contextual communication norms highlights the challenges of fostering constructive online discourse. Anger-fuelled incivility erodes trust and inclusivity within digital communities, deterring marginalized voices and limiting diverse perspectives. These dynamic risks transforming online forums into echo chambers, reinforcing existing biases and deepening societal polarization. These findings suggest an urgent need for platform-specific strategies to promote civil discourse, such as enhanced moderation tools, community guidelines emphasizing empathy, and educational campaigns about digital etiquette. The prevalence of anger and incivility in discussions about immigration reveals a societal undercurrent of frustration and prejudice, often targeting specific nationalities. This trend risks perpetuating xenophobic narratives and legitimizing discriminatory attitudes toward immigrants. Policymakers can draw from these insights to design interventions that counteract prejudice. For instance, public campaigns emphasizing the economic and cultural contributions of immigrants, alongside stricter regulations against hate speech, can mitigate the negative impact of such discourse. Additionally, governments should prioritize transparent communication around immigration policies to address fears and misinformation, which often fuel negative emotions online.

The interplay of emotion, sentiment, and incivility also raises concerns about the societal impact of digital communication. The amplification of anger and hostility in online spaces risks normalizing aggressive discourse, which may translate into offline interactions and exacerbate social tensions. Educators, social workers, and community leaders should address these dynamics by fostering digital literacy and promoting constructive communication skills, particularly among younger generations who are most active on social media platforms.

These findings open avenues for future research. It would be relevant to explore how incivility and negative emotions vary between different topics related to immigration, such as the labour market, security and cultural integration. Furthermore, it is crucial to examine the impact of the social media context, analysing how different platforms, such as Facebook and Twitter, influence levels of incivility and emotions, considering differences in design, target audience and moderation policies.

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Community Autonomy and Centralised Governance: A Textual Case Study Of The Reddit API Virtual Sit-In

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Abstract: Many content creators in online communities experience a power imbalance because of centralised social media governance while also focusing on profit. This paper investigates the Reddit API protest as a notable case of digital activism in the context of centralised online community governance. This coordinated protest aimed to disrupt Reddit's operations, draw attention to the perceived injustices of the API changes, and pressure the platform to reconsider its policies. To determine how the Reddit API virtual sit-in demonstrated the difficulties of reconciling community autonomy with a perceived power imbalance, an interpretivist worldview was adopted. A total of 139 posts from June to July 2023 in nine subreddits were analysed using deductive, followed by inductive, thematic analysis. Data analysis revealed three main themes, namely planned disruption, collective action and solidarity, platform response and perceived success. The results reveal that while the protest showcased considerable community mobilisation, Reddit's centralised governance structure limited the success of the virtual sit-in. The study contributes to discussions on digital activism and platform governance, suggesting that without decentralised models that empower user communities, digital protests may primarily serve as expressions of discontent rather than as mechanisms for noticeable changes.

Keywords: Community Autonomy, Digital Activism, Online Community Governance, Platform Governance, Virtual Sit-in

1. Introduction

The growing influence of social media platforms in public discourse has raised concerns about how they maintain a balance between user community autonomy and centralisation. As these platforms have become hubs for activism and collective action, questions have arisen about how much users can influence outcomes in corporate-controlled digital settings (Jhaver, Frey & Zhang 2023). The Reddit API protest in June 2023 occurred by means of a virtual sit-in, where thousands of subreddits initiated a blackout in response to restrictive changes affecting accessibility and community management. The protest is an example of the restrictions online communities face when their interests conflict with platform policy (Germain 2023). This coordinated protest aimed to disrupt Reddit's operations, draw attention to the perceived injustices of the API changes, and pressure the platform to reconsider its policies (Pequeño IV 2023). Using a textual case study, this study examines the Reddit API protest as an example of digital activism in centralised online community governance. In doing so, the following research question was addressed: How did the Reddit API virtual sit-in demonstrate the challenges of balancing community autonomy with centralised platform governance?

To answer the study's research question, a total of 139 posts from June to July 2023 across nine subreddits were analysed through deductive, followed by inductive, thematic analysis. The results provide a better understanding of the broader implications of platform governance for digital community empowerment and the future of digital activism. The remainder of the paper is structured as follows: First, a theoretical background in terms of centralised social media governance and digital activism is provided. Thereafter, the research context, method and results are explained and discussed. The paper ends with a conclusion.

2. Theoretical Background

2.1 Centralised Social Media Governance

Through its platform, social media has created millions of online communities, for example Facebook groups, Pinterest boards, subreddits on Reddit and channel-based communities on YouTube (Raouna 2024). Over the years, social media platforms have evolved from mere distributors of user-generated content to active producers of content (Van Dijck 2013), which is supported by the presence of these online communities. Van Dijck, De Waal and Poell (2018) argue that the "platformisation" of society not only disrupts traditional media landscapes but also raises critical questions about who is responsible for upholding values, particularly as the dynamics of power shift are in favour of large digital platforms. Also, independent creators in these communities face increased competition and reduced visibility (Van Dijck et al. 2018).

Aside from a power imbalance, online communities on social media have evolved into a digital platform economy, as many social media corporations operate with the primary goal of generating revenue. Although

these corporations have seen significant financial success as a result of their involvement in social media, creators who contribute content and engage on these platforms have largely missed out on these profits (Kopf 2020). Many of these corporations govern their social media platforms centrally with rules and regulations in the form of content policies that outline permissible behaviour and terms of service agreements known as user agreements. Social media networks also monitor content with algorithmic moderation, hired content moderators, and user reporting (Reuber & Fischer 2021). Centralised social media networks are criticised for data handling, lack of openness, and censorship (Sphynx Labs 2024).

Zeng, Kaye and Bondy (2022) explain online governance as the strategies and mechanisms used by digital platforms, including social media, to regulate and manage content and user interactions. This governance may include both conventional content moderation techniques, such as content removal, and more advanced approaches such as visibility moderation, wherein platforms adjust the dissemination of user-generated content through algorithmic or regulatory mechanisms. Therefore, the focus is not only on what content is removed but also on how content is amplified or suppressed to influence which voices and perspectives are most visible on the platform (Zeng et al. 2022).

How social media platforms are centrally governed often leads to an imbalance between the power of the social media corporations and the content creators. To illustrate, unfair copyright enforcement issues on YouTube have resulted in numerous false accusations, with long-term consequences for creators (Hallinan, Reynolds, & Rothenstein 2024). Content creators must adapt to changing algorithms and policies, which impact their brand identity, communication styles, and activities (Arriagada & Ibáñez 2020; Esparcia, Caro-Castaño & Martinez 2023). However, a shift from centralised to decentralised governance on social media platforms is increasingly being considered as a means of distributing power more evenly across different levels. This decentralisation is intended to empower online communities, encourage innovation, and improve user experiences while also addressing governance challenges such as accountability and coordination across different levels (Jhaver et al. 2023). Examples include Steemit, Mastodon, and Peepeth (Sphynx Labs 2024). This study focuses on Redditt, a centralised and governed community social media platform with some decentralised moderation at the subreddit level, but not for the platform's overall structure and governance (Fiesler et al. 2018).

2.2 Digital Activism

Scholars and journalists alike have recently paid close attention to digital activism. Nonetheless, a clear and universally accepted definition and scope of digital activism have yet to emerge (Ozkula 2021; Esparcia et al. 2023). Due to its broad scope and conceptual challenges, digital activism can be treated as an umbrella term that includes a wide range of actions (Ozkula 2021). Examples of types of actions include but are not limited to online petitions, social media campaigns, hacktivism, hashtag activism, the coordination and mobilisation of offline protests through digital platforms, digital documentation of events, the creation and dissemination of political memes and parodies, virtual sit-ins, data activism, and the use of digital tools for grassroots surveillance and reporting (Ozkula 2021; Esparcia et al. 2023). Social media amplifies digital activism by allowing users to connect their personal experiences to larger causes, as well as encouraging support and organisation in online communities (Greijdanus et al. 2020).

The concept of a virtual sit-in first emerged in the late 1990s and early 2000s, as the Internet became a more popular tool for activism. The concept was inspired by the sit-ins from the U.S. civil rights movement, which were a form of nonviolent civil disobedience (Weber 2013) and can thus be referred to as electronic civil disobedience (Rouse 2013). Early examples include actions by groups such as the Electronic Disturbance Theatre (EDT), which organised virtual sit-ins against institutions and governments as a form of protest against issues such as globalisation and human rights violations (Apostol & Thompson 2019). Virtual sit-ins work on the same principles as physical sit-ins, with disruption serving as a key mechanism for amplifying the protesters' message (Weber 2013; Rouse 2013). However, the effectiveness of virtual sit-ins, like other forms of digital activism, depends on the level of participation and the ability to mobilise support (Zahira et al. 2018). While the idea of digital activism is broad (Ozkula, 2021; Esparcia et al. 2023), this paper focuses primarily on a virtual sit-in that occurred on Reddit in June 2023.

3. The Research Context

This study focuses on Redditt as an example of centralised online community governance. Reddit is a social content aggregator founded by Steve Huffman and Alexis Ohanian in 2005. Users can share and discuss links, text, images, and videos. Votes determine posts' visibility in the platform's many "subreddits." Subreddits have

their own rules and moderators and cover specific topics (Sawicki & Ganzha 2024). Upvoted posts are promoted, while downvoted posts are degraded. Reddit's comment sections allow users to discuss, share, offer insights, aggregate diverse content, and have real-time conversations on many topics (Anderson 2015). Research by Singer et al. (2014) indicates that Reddit has evolved from being a primary entry point to the Web into a more "self-referential" online community that promotes and enhances its own user-generated content, such as images and text, rather than relying on external sources. Most discussions on Reddit are accessible to the public, in that anyone can view the content regardless of whether they have a Reddit account, except for those in private subreddits (Proferes et al. 2021).

Reddit's online community governance is reflected in what Fiesler et al. (2018: 72) refer to as "an ecosystem of community-created rules." Behaviour on Reddit is regulated through three main methods namely a user agreement and content policy, a set of community norms and specific rules for individual subreddits (Fiesler et al. 2018: 72). Subreddit moderation is mostly handled by volunteer moderators who enforce both subreddit community standards and sitewide rules and can delete posts, comments, and media that violate subreddit rules and ban violators (Thach et al. 2022).

On 18 April 2023, Reddit announced through its official communication channel that it would implement significant modifications to its Application Programming Interface (API), a framework of protocols and tools facilitating inter-software communication, thereby allowing developers to incorporate functionalities from one system into another (Preibisch 2018). As of 1 July 2023, the updated terms allowed applications making fewer than 100 queries per minute per OAuth ID to continue using the free tier, while those without OAuth registration were restricted to 10 queries per minute. This policy affected over 90% of Reddit applications. This resulted in wide-spread protest among Reddit subreddits (Mehta 2023; Simpson 2023). The coordinated effort was one of the largest acts of collective action on Reddit, with over 9 000 subreddits participating at its peak, demonstrating widespread discontent and the power of online community governance (Simpson 2023). This protest was largely organised by subreddit moderators who communicated with one another across multiple communities. They used private moderator forums, direct messages, and public posts to rally support and coordinate the timing of the blackout (Simpson 2023).

4. Method

This qualitative study investigates the Reddit API protest through a textual case study. To address the research question, an interpretivist worldview was adopted for a deductive, followed by an inductive thematic analysis of Reddit posts about the protest. Thematic analysis is an approach to qualitative analysis to uncover and present reoccurring patterns or themes in data (Braun & Clarke 2006). By focusing on predetermined themes related to virtual sit-ins, the analysis first aimed to identify patterns and insights that are relevant to the study's research question, after which the data was used to gain more insight. Data about the API protests were purposively sampled from the following subreddits in the public domain by manually searching for information about the protest in the search bar of each subreddit (see Pascoe 2021). The subreddits selected for this analysis have relevance to the Reddit API protest, are large communities, and reflect different perspectives of content creators. Table 1 below depicts the subreddits and number of posts analysed for this study.

Table 1: The subreddits and number of posts analysed for this study

Subreddit And Purpose	No of Members and Posts Analysed	Subreddit And Purpose	No of Members and Posts Analysed
r/reddithelp (a forum for assistance on Reddit)	26 000 members 13 posts	r/OutOfTheLoop (information about what is happening on Redditt)	3.4 million members 26 posts
r/technology (news and discussions regarding the use of technology and related issues)	17 million members 17 posts	r/webdev (all topics about web development)	2.6 million members 6 posts
r/redditdev (discussion of Reddit's API and Reddit API clients.)	76 000 members 12 posts	r/gaming (gaming forum)	44 million members 3 posts

Subreddit And Purpose	No of Members and Posts Analysed	Subreddit And Purpose	No of Members and Posts Analysed
r/AskReddit (members may ask thought-provoking questions)	49 million members 36 posts	r/ModSupport (an official admin-moderated community)	102 000 members 24 posts
r/reddit (updates, announcements and news about Redditt)	228 000 members 2 posts		
Total: 139 posts			

Data analysis was facilitated by the NVivo qualitative data analysis software, which assisted in organising and coding the data (Edwards-Jones 2014). Trustworthiness of the results was enhanced by following Lincoln and Guba's (1985) four criteria of credibility, transferability, dependability, and confirmability.

5. Results

Three themes emerged during the deductive thematic analysis as follows, which were also analysed inductively to uncover the deeper meaning of the data.

5.1 Theme 1: Planned Disruption

This theme relates to the planned disruption as part of the Reddit API protest. The protest was a well-coordinated effort to disrupt the platform's normal operations. The following subthemes and codes became evident.

Table 2: Planned disruption, subthemes and codes

Subthemes	Codes
Announcement of blackout	Informing the Subreddit community
	Voting for the protest action
Reluctance to participate	Sceptism

The subreddits involved in the protest announced the blackout to their communities well in advance, providing a clear explanation of the issues surrounding the API changes and seeking feedback from members. For example, moderators from subreddits such as r/technology and r/ModSupport consulted their members before deciding to go dark, stating, *"The moderators have been discussing our participation, and yesterday we made a post asking for the community's opinion on going dark."* This form of communication is essential in digital activism as it builds transparency and trust among participants, which is critical for mobilisation (Greijdanus et al. 2020).

Another code that emerged was the practice of voting on whether or not to participate in the protest. Many subreddits, including r/AskReddit and r/webdev, engaged in a democratic process by allowing their members to vote on whether the subreddit should participate in the blackout. Statements like *"We wanted to ensure that whatever action we take is largely supported by our community"* reflect the decentralised decision-making process in these subreddits, which stands in contrast to the centralised governance of Reddit itself. This type of bottom-up decision-making is important for digital protests because it encourages a sense of ownership and commitment among participants (Ozkula 2021). Ozkula (2021) contends that collective decision-making strengthens the legitimacy and reach of digital activism. By allowing users to influence how the protest unfolded, the moderators ensured greater community engagement and solidarity (Zahira et al. 2018).

Despite widespread support, not all members believed the blackout worked. Some users doubted a temporary subreddit shutdown would change anything. Comments such as *"Going dark for two days isn't a protest, it's*

taking a break" reflect this cynicism, which is not uncommon in digital activism. In this regard, Greijdanus et al. (2020) argue that the effectiveness of digital protests often depends on the perception that they can bring about tangible outcomes, and when that perception is absent, participants may be less likely to engage fully. The community disagreement highlights a key challenge in digital activism: maintaining momentum and making protests more than symbolic (Esparcia et al. 2023).

5.2 Theme 2: Collective Action and Solidarity

This theme is related to collective action and solidarity, which are important aspects of virtual sit-ins. The subreddits used a coordinated blackout to protest Reddit's API changes, with thousands of communities going "dark" by making their subreddits private or restricting access to members only. The following subthemes and codes became evident.

Table 3: Collective action and solidarity, subthemes and codes

Subthemes	Codes
Collective action	Community participation
Symbolic use of cultural references	Posting images of John Oliver Not safe for work (NSFW) Videos changed to text only
Caution	Impact on Redditt community

The level of participation highlights the collective discontent felt across the community and reflects the ability of Reddit users to unite for a common cause. Statements such as *"This put the community in a huge rage, and if the API is being killed, we're taking down Reddit with us. So join us in our effort to revert this change,"* point out the shared sense of purpose that drove the protest. As Greijdanus et al. (2020) argue, collective action is a cornerstone of effective digital activism, and the ability of a movement to sustain participation is key to its success. In this case, the coordination between subreddit moderators and the broader community reflected a strong sense of solidarity (Simpson 2023).

During the blackout, symbolic cultural references, such as changing subreddit themes to feature John Oliver, were used as parody. Digital activism often uses humour and cultural symbols to gain momentum and visibility (Esparcia et al. 2023). As one user noted: *"In protest they changed the topic of the subreddit to only be john oliver. Thats not what we expected when we joined the subreddit."* Many subreddits also labelled themselves *"not safe for work (NSFW)"*, which affected Reddit's advertising revenue, while subreddits sharing videos changed to *"text only."*

Discussions of ongoing actions beyond the initial two-day blackout helped to strengthen solidarity. Moderators emphasised that the protest was part of a larger, ongoing effort, with one stating: *"The two-day blackout isn't the goal, and it's not the end. We'll use the community and buzz we've built as a tool for further action."* This commitment is similar to nonviolent resistance movements in physical protests, in which collective action grows over time to increase pressure on governing authorities (Rouse 2013). However, some subreddits expressed concern, particularly about the impact of the blackout on their own communities. Moderators and users discussed the long-term implications of continuing the protest, particularly how API changes would affect moderation tools and the functionality of personal scripts used by developers and moderators. One user stated: *"I want to know if I can still use the API, without cost, on personal scripts that I use for moderation. I don't want to spend 300 hours more on a script that you'll just take away after giving double talk."*

This tension between immediate protest actions and the practical implications for community management illustrates the undercurrents of solidarity in digital activism (Ozkula 2021).

5.3 Theme 3: Platform Response and Perceived Success

This theme deals with the platform's response and perceived success. For virtual sit-ins to succeed, the platform's response must reflect user demands, or at least acknowledge them meaningfully. The following subthemes and codes became evident.

Table 4: Platform response and perceived success

Subthemes	Codes
Platform's response	Addressing the community Response to blackout
Platform taking control	Replacing mod teams Supermods lack of power
Perceived success	Unmet demands Perceived futility

The platform's response emerged as a key subtheme, highlighting Reddit's varied approaches to addressing the community and reasserting control. Initially Reddit tried to clarify the API changes, explaining the limitations and costs involved, with statements such as: *"There's been a lot of confusion over what these changes mean, and I want to highlight what these changes mean for moderators and developers."* The platform also allowed selective exceptions for accessibility-related third-party apps. However, they stood by their stance on profitability and strategic control, which remained uncompromised despite user pushback: *"We're Sticking With API Changes, Despite Subreddits Going Dark."* Greijdanus et al. (2020) argue that when platforms engage only selectively or make token gestures, it can alienate users and deepen mistrust. Reddit's response, which involved limited dialogue followed by stringent policies, reflects a form of corporate governance that prioritises long-term platform goals over community alignment. As the blackout continued, Reddit administrators took decisive action against moderators who refused to reopen subreddits, threatening to replace them with "scab" moderators or Reddit-appointed admins. As one user stated: *"Any subreddit of significance that was still private was told in no uncertain terms to 'return to normal function, or we'll replace the mod teams entirely.'"* This demonstrates how centralised platforms can wield power to reassert order when facing disruptive user actions. Platform control versus community autonomy is increasingly significant in digital activism studies, as it reveals the limitations users face on centralised platforms (Jhaver et al. 2023).

Also, a revealing insight from the protest was the perceived limited power held by so-called "supermods" or "power moderators", namely users who manage a large number of subreddits. One user explained: *"We found out that the 'supermods' or 'power moderators', i.e. users who moderate huge number of subreddits, had way less power over the admins than they thought they did, and also are not opinion leaders or able to influence the wants of the userbase – a painful realisation for them."* This experience highlighted the hierarchical nature of platform governance, where perceived influence in the user community does not equate to power over administrative decisions (Zeng et al. 2022).

Perceived success is another subtheme that emerged in participants' reflections, showing mixed opinions on whether the protest achieved its goals. The core demands of the protest were largely unmet, as Reddit maintained its API pricing model, leading to the closure of numerous third-party applications relied upon by users and moderators alike. User comments such as *"The changes happened... most third-party apps died out. Nothing happened with the protest because it was handled horribly"*, reveals the feeling of disillusionment among protest participants, who felt that their efforts were either ignored or inadequately organised. In this regard, Greijdanus et al. (2020) highlight the importance of structured organisation in digital activism, arguing that without cohesive strategies and consistent messaging, protests are vulnerable to fragmentation and diminished impact.

Another sentiment expressed among users was the perceived futility of user protests against Reddit's corporate interests. A statement such as *"It really hammered home in no uncertain terms that this isn't a democracy from their point of view. Customers will adapt to new changes 'or else'"* reflects a broader realisation that Reddit, as

a private organisation, operates with a governance model that does not prioritise user input in the decision-making process (Zeng et al. 2022).

6. Discussion

Through a textual case study, this qualitative study investigated the Reddit API protest as an example of digital activism in a centrally governed online platform. The research question was addressed through three key themes that reveal the difficulties and limitations faced by user-led digital activism efforts on centralised social media platforms. The Reddit API virtual sit-in illustrates the complex tension between user community autonomy and centralised platform governance, highlighting the limitations of digital activism in corporate-owned spaces. While users can mobilise collective action and gain visibility, their influence is constrained by the platform's power to control, redirect, or suppress dissenting actions (Zeng et al. 2022; Ozkula 2021). The protest revealed that Reddit's centralised governance framework prioritises corporate objectives, such as profitability and control over platform operations, above the demands of its user base (Esparcia et al. 2023). Even those with perceived authority found their influence diminished by the platform's administrative decisions (Jhaver et al. 2023). This imbalance suggests that digital activism on centralised platforms often serves more to signal discontent than to effect substantial change. There is thus a need for governance models that grant users meaningful influence if true community autonomy is to be achieved (Greijdanus et al. 2020; Weber 2013).

The results reveal that while the Reddit API protest mobilised considerable community action, it also highlighted the constraints that centralised governance imposes on community autonomy. Digital activism in corporate platforms faces limitations, as platforms can choose to suppress, ignore, or counter user-led protests if they conflict with corporate objectives. The results contribute to the broader literature on digital activism, showing that while platforms can facilitate community-driven movements, true autonomy is difficult to achieve in centralised, profit-oriented environments (Esparcia et al. 2023; Greijdanus et al. 2020).

7. Conclusion

The Reddit API protest offers valuable insights into an example of how digital activism on a centralised platform may remain limited in its ability to drive substantial change. As was shown with the textual case study, this limitation is because of the tension between community autonomy and corporate governance. The results reveal that while user communities can organise, disrupt, and mobilise for collective action, their influence is constrained by the platform's centralised power structure. As argued in the literature, user-led movements in corporate-owned spaces often struggle to achieve substantial change due to platform priorities that favour business interests over user demands. Hence, when online communities want greater autonomy and influence, decentralised or alternative platforms could be a more effective setting. The study is not without limitations in that the results can only be generalised to the Reddit social media platform. Future research could expand on the study's insights by examining protests on decentralised platforms or by comparing cases across various social media environments.

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X Marks the Spot: An Examination of X and Its Transformation from Twitter

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Abstract: This study examines X and perceptions and opinions related to the platform since Elon Musk took it over. We address the following research question: 1) What role do the characteristics of users of X have on their opinions and attitudes of the social media platform? A large-scale survey was conducted with 408 participants recruited from Amazon's Mechanical Turk. Only a small subset of participants do not use X (15%), while a large percentage (39%) of those who do use it do so for less than five hours per week. A small number (11%) of participants use it more than 20 hours a week. A plurality of participants (37.3%) believed that individuals should be at least 18 years old to use X, while others thought 16 (17.0%) or 17 (2.9%) was old enough. The study also explores differences in opinions and use of X since Musk took over the company, as well as perceptions related to the role government should play with respect to the regulation of social media in general. Differences based on demographics are also explored, as well as political party affiliation. Those that identify as Republican have seen their opinions related to X, its policies, and Musk increase much more than those that identify as Democrat. A subset of participants (N=121) that identified X as one of the two social media platforms they used the most were asked additional questions related to their use of the platform. A plurality of participants (39.2%) indicated they were personally better off with X, while others were either not sure (28.0%) or believed their life was not better as a result (32.8%). In contrast, when they were asked whether society is better off with the existence of X, participants were evenly split between 'yes' and 'no' at 36.8% each, followed by those that were not sure (26.4%). Limitations, implications, and directions for future research are explored.

Keywords: Social Media, X, Twitter, User Behavior, Perceptions, Opinions, Political Party Affiliation

1. Introduction

Social media has had a significant influence on many aspects of our everyday lives (Kross et al., 2021). Although is not entirely clear whether that influence has been positive, negative, or somewhere in the middle (Ortiz-Ospina and Roser, 2024), it is difficult to escape the fact that social media has become a regular part of our fabric as a society. And while some social media platforms have come and gone, e.g., MySpace and Friendster (Corry, 2022), others have remade themselves in the wake of a change in ownership and leadership, such as Elon Musk's takeover of Twitter—later renamed to X (Wang et al., 2024).

In the current paper, it is this remake of Twitter into X and the change in leadership that we are most interested in exploring. To do so, we address the following research question: What role do the characteristics of users of X have on their opinions and attitudes of the social media platform?

The remainder of the paper is organized as follows. First, we provide some relevant background information by exploring the literature related to X. Next, we discuss the methods used to explore the two research questions. Then, we provide the results of our study and subsequent analysis. Finally, we discuss the results and their implications and conclude with some final remarks.

2. Background

In this section, we discuss X as a social media platform, social issues, research issues, the demographics of X users, and then how X compares to other social media platforms.

2.1 X as a Social Media Platform

X is a social media platform that allows users to microblog short messages called tweets no longer than 280 characters. X gives users the ability to communicate with other users through likes, replies, quote tweets, and retweets by following content without the requirement of reciprocation (Kwak et al., 2010). User's friends and followers can see each other's tweets and interact with each other. The X platform is a popular tool for gathering real-time data for research in numerous fields such as social media analysis, political polarisation, healthcare applications, finance, and stock predictions, estimation of disaster destruction, and marketing to track consumer sentiment (Weller et al., 2014). X has developed application programming interfaces (API) to allow researchers

to analyse data. Four categories can be extracted from X platform data and can be utilized for predictive analysis: user features, time features, interaction features, and text features (Salemdeeb and Sahnoud, 2023).

But as X was bought by Elon Musk who renamed the platform from Twitter to X, the platform has expectedly changed. He and newly installed CEO Linda Yaccarino have sought to make the platform an “everything, super” app powered by AI where X becomes the future of unlimited interactivity centred in “audio, video, messaging, payments/banking - creating a global marketplace for ideas, goods, services, and opportunities,” which Yaccarino describes (Stokel-Walker, 2023). However, this brings in the question of whether this “WeChat model” will be successful as competition increases and users become sceptical of the increased involvement in users’ lives (Peters, 2023).

2.2 Social Issues

Since Musk transformed X into what is now known as X, the platform has lost some of its core features. Musk’s ambition of turning X into an “everything app” and changes to the platform sparks debate about whether X will lose its users and unique value proposition of being a central hub for news. It has been over two years since Musk bought Twitter. The service has lost advertisers and users (Ortutay, 2023). With misinformation and even disinformation intensifying after the dismissal of X’s Trust and Safety advisory group, content moderation, regular users, and even the European Union have warned the CEO about possible implications (Yeo, 2023).

It is not just an issue with the new content and purpose of the platform, there is also a huge risk with switching names and domains. The rushed Twitter rebrand poses the perfect opportunity to send phishing email requests to users, presenting cybersecurity risks (Collins, 2023). X has also experienced many technical glitches since Musk bought the platform and revamped its operating procedures and content moderation policies and recently experienced widespread issues with hyperlinks not opening properly (Mastrangelo, 2023). The impact of such changes is reflected in a 2023 analysis of current and recent X users, where 25% of those surveyed said they were not at all likely to be on X a year from the time of the survey. The users’ average number of tweets per month also declined by around 25% following Musk’s purchase of the site (Dinesh and Odabaş, 2023). It is difficult to be sure where X will stand in the future and whether it will achieve success as an “everything app,” but it is clear that Musk will continue to champion the transition nonetheless.

2.3 Research Issues

From a communication phenomenon for micro-blogging, X has now become an experiment for Musk’s latest goal of ‘revolutionizing’ the social media landscape. Historically, X has been a playground for academic research through its free application programming interface to which thousands of papers were written based on this data (Kaphle et al., 2022). That all changed when Musk put the API behind a paywall.

Moreover, there has also been a documented rise in hate speech towards minorities on X since Musk acquired the platform. This concern comes after X’s lawsuit against the Center for Countering Digital Hate after this documentation, raising the question that if researchers cannot study X via the API anymore, how can hate speech on the platform be tracked and what does it mean for the future? X’s new paid structure has lowered the number of posts and messages on the platform, making reliable research difficult to find moving forward since Musk is continually reprimanding researchers that call the platform out (Klepper and Ortutay, 2024). This has inspired researchers to engage in other platforms such as Reddit, Facebook, and Instagram.

2.4 Demographics and X

In 2023, X was ranked as the 14th most popular social networking site worldwide. How did the rebrand impact X’s target audience? While other platforms have targeted individuals under 18 years old, X has maintained a unique customer base, attracting a variety of age groups, genders, income levels, education levels, and ethnic groups (Hughes, 2019).

Considering the breakdown of X users’ age groups, individuals aged 25-49 years old made up 59.2% of all users and individuals aged 18-24 comprised 17.1% of all total users. X has strategically targeted young adults that will continue to use the platform as they get older (Chen, X. et al., 2015).

X users also tend to be wealthier than the general public, with X users reporting a household income of \$75,000 or higher for 41% of all users compared to 32% of the general population. This can be correlated with higher education levels where 42% of adult X users have at least a bachelor's degree compared to 31% of the overall public.

2.5 Other Social Media Platforms

Out of all the top 10 most popular social media platforms, X seems to attract the most different users due its UI, quick messaging system, and low character limit that makes it easy for users to share and access content (Lee and Song, 2022). However, there are correlations and differences in target user behaviour and UI between other platforms. When comparing the demographics of X users compared to platforms like Instagram and Facebook, a typical X user seems to be a young adult male, for Instagram a teenage female, and for Facebook, a millennial female.

The concepts of Instagram, Facebook, Snapchat, Reddit, and TikTok differ as well. For example, Snapchat encourages 'living in the moment' through sharing pictures and videos temporarily, matching the lifestyle of teenagers and young adults. Facebook's unique value proposition is to simply make the world a more open and connected place, a place that provides information and news, attracting millennials and older adults that want to stay connected. Instagram encourages effortless interaction through photo and video sharing, offering temporary and permanent post and sharing options. Reddit's unique value proposition is its wealth of user-generated content that offers a space for discussion, learning, and information on specific topics.

3. Methods

In order to address the previously noted research question, a large-scale survey was administered. Amazon's Mechanical Turk (MTurk) was used for participant recruitment with Qualtrics used as the survey platform. IRB approval was sought and obtained prior to data collection commencing. This study qualified for exempt status. Prior to individuals participating in the survey, informed consent was obtained from them. Participants were compensated \$6 for their time and effort. When asked how the time and effort required to complete the survey for the compensation received compared to similar projects, 74% of the participants indicated it was easier for the money or comparable to other projects. Another 26% participants indicated more effort was required for the compensation received.

MTurk is known for providing a useful platform for researchers conducting certain types of research, such as surveys (Dupuis, Endicott-Popovsky and Crossler, 2013). To address quality control concerns, multiple attention check questions were embedded throughout the survey (Dupuis, Renaud and Searle, 2022).

In the current study, multiple qualifiers were used to ensure a high-quality participant pool. Additionally, five quality control questions were embedded within the survey itself. Three of these posed questions that had obvious answers (i.e., 'select agree to get paid'), while the other two consisted of repeated demographic questions (i.e., gender identity and ethnicity) appearing at both the beginning and end of the survey. If there was a mismatch in their responses then their work was rejected.

After 13.2% of the responses were rejected due to quality control failures, there were 408 remaining responses available for analysis. Table 1 provides the demographics of our sample based on gender identity, ethnicity, and education. A slight majority of participants identified as male (56.1%) and most participants were White (79.2%). Additionally, most participants were under 40 (55.4%) and had a Bachelor's degree or higher (69.6%).

Table 1: Demographics of Research Participants

Gender	N	%
Female	176	43.10%
Male	229	56.10%
Non-Binary	1	0.20%
Prefer not to say	2	0.50%
Ethnicity	N	%
Asian / Pacific Islander	43	10.50%
Black / African-American	27	6.60%

White / Caucasian	323	79.20%
Hispanic	10	2.50%
Other / Multi-Racial	5	1.20%
Age	N	%
20-29	64	15.70%
30-39	162	39.70%
40-49	80	19.60%
50-59	59	14.50%
60-69	36	8.80%
70-79	7	1.70%
Education	N	%
Did not Graduate HS	2	0.50%
Graduated HS / GED	41	10.00%
Some College	46	11.30%
Associate's Degree	35	8.60%
Bachelor's Degree	235	57.60%
Master's Degree or Greater	49	12.00%

4. Results, Analysis, and Discussion

Next, we discuss the results of the study so that we may address the previously noted research questions.

4.1 Social Media Use

In addition to better understanding the usage characteristics of our participants that use X, we also asked them about their social media use in general. Table 2 identifies how frequently our participants use a variety of social media platforms. Only a small subset of our sample does not use X (15%). Among those that do use X, 39% use it less than five hours per week and 19% use it between five and 10 hours per week. Another 17% use it between 10 and 20 hours per week, while 11% use it more than 20 hours per week.

Table 2: Social Media Use in Hours Per Week

Platform	0	< 5	< 10	< 20	20+
X / Twitter	15%	39%	19%	17%	11%
Facebook	7%	33%	16%	19%	24%
Instagram	11%	35%	13%	21%	19%
TikTok	31%	36%	15%	12%	6%
SnapChat	52%	25%	11%	8%	4%
Reddit	8%	43%	23%	18%	9%
BeReal	68%	15%	8%	6%	2%
Pinterest	33%	43%	13%	8%	3%
Truth Social	64%	19%	9%	6%	2%

4.2 Usage and Opinions Since Musk Assumed Ownership and Control

We were also interested in how their usage of X and their opinions around Musk may have changed since he assumed ownership and control of the social media platform. Our analysis is limited to those that currently use X. We asked participants about their usage and satisfaction with the platform, positive opinion regarding content moderation policies, positive opinion of Musk, and negative opinion of Musk. Table 3 indicates whether it has

decreased, stayed about the same, or increased. With respect to usage of the platform, 29.2% of participants indicated that it decreased for them, while 70.7% noted that it either stayed about the same or increased. Satisfaction with X has decreased compared to the amount it has increased. More individuals indicated that their opinion on content moderation policies, as well as both their favourable and unfavourable opinion of Musk increased rather than decreased. The table also examines differences based on political party affiliation. For all five questions, Republicans generally had much more favourable opinions of X, its policies, and Musk when compared to Democrats. Independent samples t-test performed for each of these questions indicates the differences were statistically significant in all cases ($p < .001$).

Table 3: Changes in Usage and Opinion

	Decreased	Same	Increased	N	Mean
Usage	29.2%	35.2%	35.5%	366	2.06
Democrats	34.3%	32.3%	33.3%	198	1.99
Republicans	9.2%	32.2%	58.6%	87	2.49
Satisfaction	35.8%	36.3%	27.9%	344	1.92
Democrats	47.3%	35.2%	17.6%	182	1.70
Republicans	5.9%	36.5%	57.6%	85	2.52

Opinion on Content Moderation Policies	35.2%	27.7%	37.1%	361	2.02
Democrats	43.7%	22.1%	34.2%	199	1.90
Republicans	8.3%	32.1%	59.5%	84	2.51
Positive Opinion of Elon Musk	33.9%	24.3%	41.8%	378	2.08
Democrats	44.6%	18.6%	36.8%	204	1.92
Republicans	6.6%	22.0%	71.4%	91	2.65
Negative Opinion of Elon Musk	31.4%	28.6%	40.0%	370	2.09
Democrats	28.4%	22.1%	49.5%	204	2.21
Republicans	51.1%	34.1%	14.8%	88	1.64

4.3 Minimum age to use X

Social media platforms may pose harm to individuals, especially those that are younger. We asked participants how old they believed someone should be to use X. A plurality of responses (37.3%) suggested someone should be at least 18 to use X, while others believed 16 (17.0%) or 17 (2.9%) was old enough to use X. Yet, some thought individuals as young as 13 (11.5%), 14 (8.1%), or 15 (7.4%) was old enough. Finally, a small subset of responses (15.7%) indicated those under 13 should be able to use X.

4.4 Perceptions on Government's Role

Beyond the minimum age an individual should be to use X, we also wanted to know what their thoughts were on the role government should have with respect to regulating social media platforms in general. When asked if government should do more to regulate social media companies, a large number of participants indicated either 'yes' (46.8%) or 'maybe' (28.4%). A comparatively small number responded either 'no' (16.9%) or 'not sure' (7.8%).

The behaviour of younger individuals and social media use has long been a concern, especially given the rise of cyberbullying and how young some individuals are when they begin using social media (Martin et al., 2018). Regret of what they post is common (Xie and Kang, 2015). Thus, we asked them if the government should do more to protect younger individuals from the possible harms of social media. While some responded either 'no' (6.6%) or 'not sure' (7.1%), others suggested this should be done only for individuals under 10 (6.1%) or 13 (30.9%). Almost half of the participants (49.3%) suggested the government should do more to protect all younger individuals under the age of 18.

While social media may help provide a sense of connectedness for older adults (Sinclair and Grieve, 2017), they are often limited in their ability to use it as effectively as younger individuals due to lower levels of self-efficacy (Chen, Y. and Gao, 2023). Therefore, we asked them if the government should do more to protect older individuals from the harm of social media. A large number of participants indicated that either the government should not do more to protect older adults (25.7%) or they were not sure (19.6%). For those that did believe the government should do more, they indicated it should be done only for those 50 and over (9.6%), 55 and over (7.6%), 60 and over (10.3%), 65 and over (15.4%), 70 and over (7.6%), 75 and older (2.2%), and finally only those 80 and over (2.0%).

Finally, we asked participants if the government should do more to protect all individuals from the possible harm of social media companies. Most (58.1%) indicated that the government should do more, while 19.9% indicated they were not sure. Still others (22.1%) thought that the government should not do more to protect all individuals from the possible harm of social media companies.

4.5 Are we Better off With X?

While social media platforms may be popular and attract a significant amount of attention, are we personally and collectively better off as a result of their existence? We asked participants this question as it related to X. A plurality of participants (39.2%) indicated they were personally better off, while others were either not sure (28.0%) or believed their life was not better as a result (32.8%). In contrast, when they were asked whether society is better off with the existence of X, participants were evenly split between 'yes' and 'no' at 36.8% each, followed by those that were not sure (26.4%).

4.6 Differences Based on Demographics

There are many features available to end users on the X platform. We assessed how the importance of some of these features varied based on gender identification and age. With respect to gender identification, an independent-samples t-test was conducted to compare those that identified as female with those that identify as male. There was a significant difference in the rating of how important participants believed the ability to obtain news on social media was for females ($M=3.37$, $SD=1.346$) and males ($M=3.69$, $SD=1.274$) with those that identified as male believing that feature was more important; $t(402)=2.47$, $p = .014$. However, when we examined the same question in the context of X, a significant difference was not found $t(121)=0.847$, $p = .399$. A 10-item ranking of features was used for this question.

Additionally, there was a significant difference in the rating of how important participants believed the ability to catch up with family and friends on X was for females ($M=3.93$, $SD=1.238$) and males ($M=3.59$, $SD=1.182$) with those that identified as female believing that feature was more important; $t(402)=-2.76$, $p = .006$. However, when we examined the same question in the context of X, a significant difference was not found $t(121)=0.540$, $p = .590$. A 10-item ranking of features was used for this question.

When examining X, there was a significant difference in the rating of how happy participants were regarding the ability to reply to a tweet on X was for females ($M=4.29$, $SD=0.716$) and males ($M=3.89$, $SD=1.054$) with those that identified as female feeling happier about this feature; $t(121)=-2.494$, $p = .014$. A 7-point Likert scale was used for this question. Also, there was a significant difference in the rating of how happy participants were regarding the ability to share content on X was for females ($M=4.68$, $SD=2.161$) and males ($M=5.59$, $SD=2.362$) with those that identified as male feeling happier about this feature; $t(121)=2.053$, $p = .042$. A 7-point Likert scale was used for this question.

We also examined differences based on political party affiliation, which gained prominence more recently as Musk changed moderation policies to those more favourable to conservative personalities and became a public supporter of Donald Trump. We compared users of X that identified as a Republican ($N=40$) with those that identified as a Democrat ($N=58$). Table 4 illustrates where significant differences were found.

Table 4: Differences Based on Political Party Affiliation

Topic	Party	M	SD	t	Sig.	DF
Reply to a Tweet	Republican	4.35	0.83359	2.931	0.004	96
	Democrat	3.7759	1.02672			
Scroll through 'For You'	Republican	4.025	0.97369	2.662	0.009	94
	Democrat	3.431	1.22992			
Scroll through 'Happening Now'	Republican	3.925	1.0225	3.034	0.003	96
	Democrat	3.2414	1.14417			
Scroll through 'Trending'	Republican	3.9	1.00766	2.725	0.008	96
	Democrat	3.2759	1.18163			
Don't Post Controversial Content	Republican	2.5	1.03775	-2.169	0.033	96
	Democrat	2.931	0.91502			
Refrain from Posting Content that may Offend	Republican	2.35	1.02657	-3.14	0.002	73
	Democrat	2.9655	0.83699			
Level of Privacy Offered by X is Adequate	Republican	3.125	0.64798	2.676	0.009	96
	Democrat	2.7069	0.89851			
Spend Time on Image Post	Republican	3.1	0.87119	2.686	0.009	95
	Democrat	2.614	0.88144			

Overall, those that identify as Republican are generally more satisfied with the various features of X, such as replying to a tweet, scrolling through 'For You,' 'Happening Now,' and 'Trending.' Additionally, Republicans generally spend more time on image posts than those that identify as Democrat. In contrast, Democrats were less likely to post controversial content or post content that may offend others. Also, Democrats were less likely to think that the privacy offered by X was adequate.

5. Conclusion

In this exploratory study, we examined the following research question: 1) What role do the characteristics of users of X have on their opinions and attitudes of the social media platform? In the results we obtained, the most striking differences are found with respect to political party affiliation (Tables 3 and 4). This notably includes favourability opinions regarding the platforms, its policies, and Musk with Democrats having much more negative opinions when compared to Republicans.

5.1 Limitations

There are three primary limitations that we will discuss here. First, there is an incentive for research participants to complete the survey as quickly as possible since it allows them to move onto their next MTurk platform opportunity sooner. And while most of our participants (74%) believed the compensation received was better or comparable to those in similar projects they completed, it is nonetheless beneficial for them to complete it as quickly as possible. This may result in less attention than other participant pools. The quality control questions we employed help mitigate this to a certain extent, but it is not possible to determine the full level of attention and care of their responses.

Second, common method bias is a potential issue given that a single research method was employed—a survey (Podsakoff et al., 2003). The use of multiple quality control procedures and the level of anonymity provided by the platform help mitigate this concern to some degree, but the concern cannot be alleviated fully. Finally, we asked participants in part about their opinions and attitudes and how they may have changed. However, this was done at a single point in time. It is possible that they may not be able to accurately reflect on how their opinions and attitudes have changed and thus a longitudinal study would have been able to more accurately capture these changes.

5.2 Future Work

In the future, it will be worthwhile to further examine some of these differences, including through open-ended questions and semi-structured interviews. Additionally, a larger and unresolved question is what this all means for democracy, especially as X and Musk have become more favourable to Republicans, conservative ideology, and authoritarianism. As authoritarianism has seen a recent upsurge, the potential consequences may be far-reaching given the power of social media in developing, advancing, and changing public opinion.

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Unlocking Employee Engagement: Key Drivers for Participation in Corporate Influencer Programs on LinkedIn

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Abstract: The nature of corporate communication has undergone significant changes in recent years. One notable trend is the increasing use of employees as brand ambassadors, as evidenced by the proliferation of corporate influencer programs. However, a critical question is often overlooked: under what conditions are employees genuinely willing to participate in such programs? This predicament poses a substantial challenge to companies, who must devise compelling strategies to attract and engage employees in these initiatives. This study aims to address this gap by examining the critical factors influencing employee participation in corporate influencer programs on LinkedIn through a conjoint analysis. More than 100 employees, representing a range of company types from start-ups to large corporations, were surveyed. The findings reveal that a modern and actively cultivated corporate culture is essential for employees, while external recognition and occasional support (such as social media guidelines) play only a minor role.

Keywords: Corporate Influencer Motivation, Corporate Influencer Programs, Conjoint Analysis

1. Introduction

An increasing number of companies are incorporating employees into their communication strategies as ambassadors for the organization. These employees voluntarily share insights about their work on their personal social media profiles, offering an authentic glimpse into the company's daily operations (Lüthy, 2023). This innovative approach to corporate communication is referred to as corporate influencing, which involves the dissemination of company-related information through employees (Knappe, 2021). Employee-driven communication is perceived as particularly credible, as these individuals also serve as relatable figures within their peer groups (Ebner & Eck, 2022). The objectives pursued by corporate influencers' posts may include strengthening the employer brand, increasing brand awareness, generating leads, or enhancing customer loyalty (Ebner & Eck, 2022; Knappe, 2021). Notable corporations such as IBM, Cisco, Siemens, and DATEV have already implemented corporate influencer programs, strategically engaging employees as company ambassadors for a variety of objectives (DATEV, 2025; Humphreys, 2023; Rashbass, 2024).

The professional networking platform LinkedIn has emerged as the ideal medium for corporate influencer communication. With its emphasis on professional connections, LinkedIn offers a solid foundation for corporate influencers to develop personal branding strategies. Its thematic orientation and range of technical features position LinkedIn as the leading platform for corporate influencer activities (Ebner & Eck, 2022; Klein, 2021; Radde, 2021). Since 2024, an exciting technical development has been the allowance for companies to sponsor content created by employees, thereby augmenting its reach (Agius, 2024). Despite these technical advancements and the significant investment in corporate influencer programs, it is noteworthy that one-third of such initiatives ultimately fail (Mathony, 2024). One possible reason for this is the reluctance to serve as a brand ambassador for the company. This reluctance stems from a variety of personal, professional, and cultural factors. At its core, this resistance reflects a complex interplay between the employee's relationship with the company, their perceived risks and benefits, and the broader dynamics of the workplace (Majka, 2024).

Corporate influencing remains largely practice-driven, with limited academic research on the subject. For instance, Nestler et al. (2021) explore a definition for corporate influencers and describe their tasks, objectives, skills, and characteristics. Other studies examine the tangible value corporate influencers bring to organizations. Durst and Klopff (2024), for example, found that corporate influencers in the skilled trades sector positively impact both the industry's image and career choices of potential applicants.

Research has focused on corporate expectations of corporate influencer communication, the ideal attributes of corporate influencers, and their role within the communication mix to date. However, understanding the conditions under which employees are motivated to participate in these programs is a critical prerequisite.

The limited and nascent literature on this topic has rarely explored the factors influencing employees' preferences for participating in corporate influencer programs, particularly on LinkedIn. While Lüthy (2023),

Ebner and Eck (2022), Hoffmann (2020), Klein (2021), Sturmer (2020), and Zayats (2020) have described a range of factors influencing the success of such programs for both organizations and employees, as well as the various initiation and implementation strategies, their findings are largely experience-based and serve as practical guidelines. A qualitative study by Termöllen (2023) examines the organizational challenges of corporate influencer communication, developing a model based on nine expert interviews to aid inexperienced organizations in structuring their corporate influencer strategies.

However, no experimental research has yet analysed which factors employees prioritize and how these preferences influence their decision to participate in corporate influencer programs on LinkedIn. Understanding these preferences is crucial, as it not only helps organizations tailor their influencer programs to enhance employee engagement and endorsement but also provides deeper theoretical insights into the dynamics of corporate communication strategies and programs.

In our study, we quantitatively examine the factors that influence employees' preferences for participating in corporate influencer programs. Using a conjoint analysis with over 100 participants, we address the following research question: *Which factors influence employees' preferences when deciding to participate in a corporate influencer program on LinkedIn?*

2. Corporate Influencer and Corporate Influencer Programs

A **corporate influencer** is primarily an employee whose main responsibility lies in fulfilling the specific duties of their department. In addition to these responsibilities, they share content on their personal social media profiles—such as LinkedIn, Xing, or Twitter—on behalf of their organization. This content leverages their specialized knowledge to provide insights into their area of expertise (Ebner & Eck, 2022).

These employees consistently establish a connection to their company, either by explicitly mentioning or linking to the organization or by listing it in their profiles. This association ensures that they are clearly identifiable as employees of the company.

To act as a corporate influencer, employees should meet these three essential requirements:

1. **Alignment with tasks and organizational values:** Employees need to feel comfortable and satisfied within the organization, identifying with its core values such as trust, recognition, respect, transparency, and a sense of participation (Lüthy, 2020). (Tomczak et al., 2012) (Sturmer, 2020)
2. **Motivation and personal benefits:** Intrinsic motivation is essential for corporate influencing, as the process relies heavily on voluntary participation (Moormann, 2021). It allows employees to enhance their professional presence on social media, develop valuable networks, and potentially advance their careers (Ebner & Eck, 2022).
3. **Communication Skills:** Corporate influencers need to be creative, adept at using social media (especially LinkedIn), and skilled at distilling complex information into clear, engaging content tailored to their audience (Nestler et al., 2021)

Corporate influencer programs are internal initiatives designed to position employees as brand ambassadors and thought leaders, particularly in digital spaces. The objective of these programs is to establish a mutually beneficial scenario in which both the company and its participating employees experience advantages. Employees generate and share content that simultaneously promotes the company and positions them as experts in their industry (Knappe, 2021). Including employees from diverse roles and departments enhances the richness and inclusivity of the communication strategy (Ebner & Eck, 2022). Moreover, such programs are integral to employer branding, helping to attract prospective talent (Durst & Klopff, 2024). While corporate influencer programs are highly customizable to each organization's needs, it is recommended to establish guiding principles, a mission, and clear objectives collaboratively with participants (Knappe, 2021).

Based on insights from Lüthy (2023), Ebner and Eck (2022), Hoffmann (2020), Klein (2021), Sturmer (2020), and Zayats (2020) several factors significantly influence the success of corporate influencer programs:

1. **Transparency and leadership commitment:** Senior management must demonstrate clear support for the initiative. For example, in 2018, Tim Hötting, CEO of Deutsche Telekom AG, personally engaged with corporate influencers, which not only provided motivation but, more importantly, signalled his unequivocal commitment to the program.
2. **Social CEO and mentorship:** Companies can leverage experienced social media users, particularly on LinkedIn, as mentors to support and guide less experienced employees participating in corporate

influencer programs. Additionally, dedicated "office hours" or consultation sessions can be particularly beneficial.

3. **Structured onboarding process:** Employees should undergo a structured onboarding process before joining the program, starting with the definition of clear roles and responsibilities. This process provides participants with a clear understanding of what to expect and includes training on social media best practices.
4. **Social media guidelines:** Organizations should develop tailored social media guidelines that align corporate influencer activities with the company's values, incorporating elements of behavioural branding such as tone and conduct rules. These guidelines should extend beyond legal compliance to promote active communication and foster employee alignment with organizational values, thereby minimizing potential pitfalls.
5. **Content library and support:** Providing a content library or content hub is crucial for supporting corporate influencers. These resources offer a source of inspiration and guidance for creating relevant and engaging content.
6. **Dedicated time for corporate influencing:** Employees need sufficient time within their work schedules to create content and engage with their audiences.
7. **Internal community:** Internal corporate influencer communities provide social anchors, fostering trust and openness. Platforms like company intranets can support the creation and maintenance of these communities.
8. **Trust:** Corporate influencers should be given the freedom to operate independently on their channels, as this autonomy significantly enhances their motivation and engagement.
9. **Contractual agreements:** Clear contractual agreements are essential to protect corporate influencers legally and to define specific guidelines regarding liability, data protection, and compliance requirements. This reduces uncertainties and minimizes the risk of errors.

It is evident that the phenomenon of corporate influencers and their corresponding programs has captured the business community's attention and has also become a focal point of empirical research. This body of work has illuminated the characteristics of such programs and the factors crucial for their success. However, one bottleneck of these initiatives remains the willingness of employees to participate actively. Therefore, continued research is essential to unravel the motivations and incentives that drive employee engagement in these programs, ensuring their effectiveness and sustainability in the evolving landscape of corporate communication.

3. Research Model and Hypothesis

The Theory of Planned Behavior (TPB), developed by Icek Ajzen in 1991, extends the earlier Theory of Reasoned Action (Ajzen, 1991). Originating from social psychology, it explains how human behavior is influenced by intentions and perceived control. Intention, defined as the motivation or willingness to engage in a specific behavior, is considered the strongest single predictor of actual behavior. This intention is shaped by three determinants: attitude toward the behavior, subjective norms, and perceived behavioural control (Fishbein & Ajzen, 2011). The TPB is a widely utilized framework for the prediction and modification of human actions. Consequently, it is particularly well-suited for investigating and understanding the motivations behind employee participation in corporate influencer programs. By employing the TPB, we can methodically explore and quantify the relative impacts of decision-relevant influencing factors. This, in turn, offers actionable insights into designing more effective corporate influencer programs that align with employees' preferences and organizational objectives.

To identify and determine the factors that are relevant to the decision-making process, the present research model was developed using the results of preliminary expert interviews with corporate marketing professionals and corporate influencers. The analysis approach that was applied was qualitative and inductive, and this approach led to the identification of three major determinants from the data: sense of belonging to the organization, recognition from others, and support from the organization. We apply and contrast these determinants to the TPB framework in the following way:

1. **Sense of Belonging to the Organization:** This represents *the attitude toward the behavior*, i.e., the individual's positive or negative evaluation of performing the behavior. In the context of corporate influencer programs, this is reflected by the employee's emotional connection and identification with the organization, which positively or negatively influences their attitude toward participating in the corporate influencer program.

2. **Recognition from Others:** These represent the *subjective norm*, i.e., the perceived social pressures or expectations from significant others regarding the behavior. In the presented case, it is concluded that this pertains to the perception of whether significant individuals or groups, such as colleagues, supervisors, or peers, acknowledge and value participation in the corporate influencer program.
3. **Support from the Organization** representing *perceived behavioural control*: This determinant reflects the ease or difficulty of performing the behavior, as perceived by the individual. Our insights suggest that this construct refers to the extent to which organizational resources, encouragement, and structural support enable or hinder the employee's ability to participate effectively in the program.

By integrating these determinants within the TPB framework, our research elucidates how individual perceptions, and organizational dynamics interact to influence employee participation in corporate influencer initiatives. This holistic approach validates the theoretical model and enhances the practical understanding necessary for optimizing corporate influencer programs.

Based on this context, we develop three hypotheses to explore the determinants of employee participation in corporate influencer programs on LinkedIn. The conjoint analysis methodology will be utilized to test these hypotheses by examining how each determinant (independent variables) influences the part-worth utilities of employee decisions regarding the likelihood to participate in a corporate influencer program on LinkedIn (dependent variable).

- **H1:** The attitude toward organizational culture influences the (individual) part-worth utilities when deciding to participate in a corporate influencer program on LinkedIn. It is hypothesized that a positive attitude toward organizational culture increases the likelihood of participating in a corporate influencer program.
- **H2:** Subjective norms influence the (individual) part-worth utilities when deciding to participate in a corporate influencer program on LinkedIn. It is hypothesized that positive recognition from others increases the likelihood of participating in a corporate influencer program.
- **H3:** Perceived behavioural control influences the (individual) part-worth utilities when deciding to participate in a corporate influencer program on LinkedIn. It is hypothesized that the lower the perceived barriers and the greater the organizational support, the higher the likelihood of participating in a corporate influencer program.

Figure 1 provides a visualization of our research model, illustrating the relationships between the constructs.

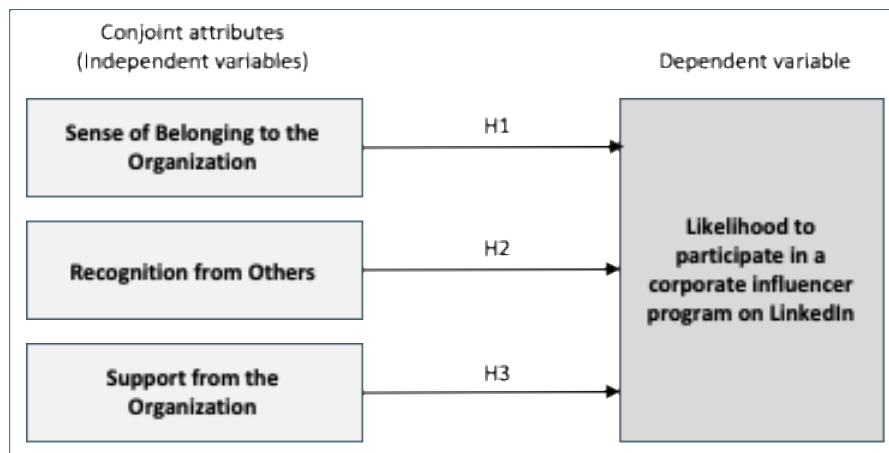


Figure 1: Research model based on theory of planned behavior

4. Conjoint Design and Survey Structure

To examine the conditions under which employees are more likely to participate in a corporate influencer program on LinkedIn, a choice-based conjoint analysis is conducted. This multivariate analysis method is designed to estimate part-worth utilities based on holistic evaluations. It allows for the determination of the part-worth utilities of factors influencing participation in a corporate influencer program, as well as the relative importance of individual factors (Hauser et al., 2019). Conjoint analysis was developed as a methodological framework for studying consumer preferences, with the objective of estimating the respondent's metric utility functions. The analysis can be carried out either through a direct survey of preferred alternatives or indirectly.

For this study, we have chosen the indirect approach, known as choice-based conjoint analysis (Louviere & Woodworth, 1983). This method simulates various scenarios (stimuli) composed of combinations of the independent variables and their attribute levels. Respondents are presented with different alternatives (choice sets) from which they must select their preferred option.

4.1 Design of the Choice Situation

For a choice-based conjoint analysis, it is essential to define the attribute levels and choice situations clearly (Raghavaram et al., 2010). We opted for two attribute levels, "high" and "low," as the distinction is easier to interpret compared to "low," "medium," and "high." To enhance understanding, the "high" and "low" levels were described in detail based on the assigned influencing factors (see Table 1).

Table 1: Choice experiment design: Attributes and attribute levels

Attribute	Sense of Belonging to the Organization	Recognition from Others	Support from the Organization
Attribute Levels	Low I feel little to no connection with the organization's culture and values. We do not foster an internal community.	Participation in the corporate influencer program neither advances my personal brand nor my network. It has no impact on my future career.	I receive little to no support for corporate influencing. The organization dictates what I should post and controls all related activities.
	High I fully identify with the organization's culture and values. We foster a strong internal community.	Participation in the corporate influencer program significantly enhances my personal brand and network. It positively impacts my future career.	I receive full support for corporate influencing, including guidelines, a content hub, and additional resources. The organization trusts me and allows me autonomy in deciding what to post.

By combining the number of attributes (J) and their levels (M), eight distinct stimuli (S) can be generated to differentiate the selection scenarios within the choice experiment (Backhaus et al., 2015):

$$S = M^J = 2^3 = 8$$

These eight stimuli represent all possible combinations of the attributes at their respective levels, enabling the analysis of preferences across varying scenarios.

In the survey design for this study, each choice situation comprised two choice sets, accompanied by an additional "none of the above" option (see Figure 2). This fallback choice allows respondents to opt-out if they do not prefer any of the presented scenarios. Excluding the opt-out option, the calculation using the formula for pairwise combinations yields a total of 28 paired choice sets, with S representing the set of potential stimuli (Backhaus et al., 2015):

$$S \cdot \frac{(S-1)}{2} = 8 \cdot \frac{(8-1)}{2} = 28$$

Due to the complexity and the cognitive load it would impose, presenting all 28 pairwise choice sets to each participant is impractical. To maintain the respondents' focus and prevent fatigue, it is recommended to use a maximum of 12 to 15 decision situations per participant (Backhaus et al., 2015). In this study, we opted for seven choice sets per participant because additional questions were included in the survey. The 28 paired choice sets were randomized and divided into four distinct questionnaires, each containing seven choice situations. At the beginning of the survey, respondents were randomly assigned to one of these four questionnaires. This approach ensures a manageable workload for participants while preserving the robustness of the study design.

4.2 Questionnaire Design

For this study, the tool LimeSurvey was chosen, as it is a leading open-source survey tool that enables the creation of diverse online surveys with extensive question and answer options, flexible logic, and evaluation rules (LimeSurvey, 2023). To facilitate later comparison of responses, only closed-ended questions were used. With the exception of the filter question and demographic items, all relevant survey questions included the

additional option "none of the above" to ensure that participants were not forced to choose an answer (Roemer, 2014).

The structure of a standardized questionnaire generally consists of six parts: title, instructions, (socio-) demographics, content, feedback, and closing remarks (Döring & Bortz, 2016). Before the actual questionnaire began, participants were introduced to the topic through an introductory section, where the concept of the corporate influencer program was defined, and the upcoming scenario was briefly explained. A total of 15 questions were asked, divided as follows:

- One filter question
- Seven questions on the scenarios
- Seven questions on demographic characteristics

Next, a specific scenario was described, requiring participants to immerse themselves in the context of the study. As part of this, the Theory of Planned Behavior and the three attributes with their respective levels were explained to help participants better understand the scenario. Respondents were presented with seven situations, each requiring them to choose between three alternatives. Each situation featured two scenarios (choice sets) and the option "none of the above." A sample section of the questionnaire showing one of these choice situations is illustrated in Figure 2.

In which scenario would you be more likely to participate in the Corporate Influencer Program on LinkedIn?

Scenario 1	Scenario 2
Sense of belonging to the organization HIGH	Sense of belonging to the organization HIGH
Recognition from others HIGH	Recognition from others LOW
Support from the organization LOW	Support from the organization HIGH

Please select one of the following answers:

Scenario 1

Scenario 2

None of the above

Figure 2: Choice situation in the questionnaire

5. Sample and Results

For this study, data was collected using an online questionnaire. During the two-week survey period, from December 7, 2023, to December 21, 2023, the survey link was distributed via LinkedIn, and a total of 202 participants accessed the link. Of these, 71 questionnaires were incomplete, leaving 131 datasets. These were further evaluated against various quality criteria. For example, participants were excluded if their completion time was excessively short, indicating that they may not have engaged thoughtfully with the questionnaire. Finally, we obtained a final dataset of 112 valid responses. The distribution of gender, age and company size within the sample is shown in Table 2.

Table 2: Gender, age, and company size distribution of the sample

Gender			
Male		Female	
31 (28%)		81 (72%)	
Age Group			
18-26 years		27-42 years	
43 (38%)		50 (45%)	
43-58 years		59-73 years	
16 (14%)		3 (3%)	

Company Size (Number of Employees)					
2-10	11-50	51-100	101-500	500-1000	> 1000
5 (4%)	25 (22%)	8 (7%)	20 (18%)	10 (9%)	40 (39%)

The part-worth utilities, which influence the composition of the overall utility, aim to explain an individual's choice behavior as accurately as possible. The highest part-worth utilities in each category represent the range of results compared to the null category. In this context, the respective part-worth utilities always reflect the difference from the baseline category. Typically, the final level of an attribute is chosen as the baseline category. In the present study, since only two levels exist for each attribute, the "high" level was consistently defined as the baseline category. The data result in a cumulative total of -1.802 (see Table 3). This value serves to quantify the overall impact of unfavourable circumstances on the decision to participate in the corporate influencer program. Consequently, this cumulative disutility underscores the importance of maintaining high standards across all key attributes to foster employee participation in corporate influencer programs.

Table 3: Estimated part-worth utilities compared to the null category

	Low	High
Sense of Belonging to the Organization	-1.066	0
Recognition from Others	-0.505	0
Support from the Organization	-0.231	0
None		-0.270

By calculating the ratio between the overall total and the individual values, the relative importance of the attributes can be derived. The largest share (59.15%) is attributed to **sense of belonging to the organization**. **Recognition from others** ranks second with 28.12%, while **organizational support** accounts for the smallest relative importance at just 12.82% (see Table 4).

Table 4: Relative importance of attributes

Attribute	Relative importance
Sense of Belonging to the Organization	59.15%
Recognition from Others	28.12%
Support from the Organization	12.82%

Based on all values, it is possible to calculate the total utilities of the choice sets in the next step (see Table 5).

Table 5: Overall utility values of the choice sets

Choice Set	Sense of Belonging to the Organization	Recognition from Others	Support from the Organization	Overall utility of choice sets
1	High	High	High	0
2	High	High	Low	- 0.231
		None-Option		- 0.270
3	High	Low	High	- 0.505
4	High	Low	Low	- 0.736
5	Low	High	High	- 1.066
6	Low	High	Low	- 1.297
7	Low	Low	High	- 1.571
8	Low	Low	Low	- 1.802

By aggregating the overall utility of the individual stimuli, choice set 1, "High Belongingness / High Recognition / High Support," achieves the highest overall utility score of 0. This is followed by the stimulus "High Belongingness / High Recognition / Low Support," indicating that the combination of a strong sense of belonging to the organization and high external recognition provides greater utility than high organizational support alone. Interestingly, the "None-Option" ranks third, with a partial utility value of -0.270. This suggests that employees

are unlikely to participate in a corporate influencer program on LinkedIn unless they feel a strong sense of belonging to the organization and receive significant external recognition. The subsequent choice sets further highlight the critical role of belongingness. The utility of a strong sense of belonging alone outweighs the combined impact of low recognition from third parties and low organizational support. The next choice set's utility score is driven solely by a low sense of belonging, as both "High Recognition" and "High Support" are treated as neutral, contributing no additional value. The final three stimuli emphasize the relatively minor roles of third-party recognition and organizational support compared to the importance of belongingness. While recognition and support contribute to the overall utility, their influence is secondary to the foundational impact of an employee's sense of connection to the organization.

In evaluating the performance of the conjoint analysis model applied to understand employee preferences in corporate influencer programs, several statistics are of importance. The log-likelihood (LL) of the model at convergence was -771.137, compared to the null log-likelihood (LLO) of -861.312. The difference between these values, yielding a likelihood ratio (LLR) of -180.35, is statistically significant (p -value < 0.001), indicating that the model fits the data significantly better than a model with no predictors. The McFadden R^2 value, at 10.47%, although appearing modest, is within the acceptable range for conjoint analysis models, where explanatory powers are typically lower than those observed in other types of regression models due to the complexity and variability in choice data. The model's hit rate, defined as its classification accuracy, is 59.95%, indicative of its acceptable predictive capability, particularly in light of the unaccounted factors influencing such employee decisions in a real-world context. The collective significance of these metrics underscores the efficacy of the model in capturing and interpreting the decision-making processes of employees when contemplating participation in corporate influencer programs.

6. Discussion, Limitations and Implications

Our study provided clear insights into the importance of influencing factors that determine whether employees are willing to participate in a corporate influencer program. The findings suggest that a sense of belonging to the organization has a significant impact on the preference to join a corporate influencer program on LinkedIn, making it the decisive factor in the decision-making process. Our results are in line with Lüthy (2020), Tomczak et al. (2012) and Sturmer (2020) who state that the alignment with tasks and organizational values is an essential requirement to act as a corporate influencer. This also underlines the findings of Termöllen's qualitative study (2023) who found that if a strong corporate culture is not established as a prerequisite, employees may not only feel unmotivated to speak about the organization but also struggle to identify positive aspects to share publicly. Considering the nine influencing factors derived from the insights of Lüthy (2023), Ebner and Eck (2022), Hoffmann (2020), Klein (2021), Sturmer (2020), and Zayats (2020), we hypothesize that transparency and leadership commitment (Factor 1) and internal corporate influencer communities (Factor 7) can foster the sense of belonging. E.g., by positioning the CEO and leadership management as first movers in a corporate influencer program or by organizing peer-learning sessions for experience sharing. According to our results, the influencing factors social CEO and mentorship (Factor 2), structured onboarding process (Factor 3), social media guidelines (Factor 4), content library and support (Factor 5), dedicated time for corporate influencing (Factor 6) or contractual agreements (Factor 9) play a minor role to raise motivation or willingness to participate in corporate influencer programs. We assume that these factors primarily function as hygiene factors for employees.

Regarding our limitations, participation in the survey was voluntary, meaning that respondents were free to decide whether or not to participate. Consequently, it is likely that individuals with an interest in the topic of corporate influencer programs were more inclined to take part in the survey. Furthermore, the results have limited generalizability, as the study specifically focused on corporate influencer programs on LinkedIn.

We conclude that employees will only engage in a corporate influencer program if the organization successfully cultivates a deep and enduring sense of belonging. Building such a culture—founded on trust, mutual respect, flexibility, and collaboration on an equal footing—takes time and cannot happen instantly. It requires time to create an environment where employees not only feel comfortable but are also motivated and willing to actively represent their organization to the outside world.

Future research could explore the long-term sustainability of corporate influencer engagement by analysing how employee motivation, organizational support, and external recognition evolve over time.

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Image Content Analysis of Egyptian Athletes Visual Self-Presentation Strategies on Instagram

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Abstract: The study of visual presentation strategies on social media has increasingly captured the attention of academics, particularly those specializing in sports communication and self-image branding among professional athletes. This investigation aims to analyze the visual self-presentation strategies employed by Egyptian male and female athletes on Instagram to effectively convey their images to fans and sports stakeholders. Utilizing image content analysis as a methodology, this research examines the online tactics used by athletes, focusing on the visual elements of their posts and comparing the online presence of 10 Egyptian male and female professional athletes by analyzing 1,000 images. The collection of images began with the athlete's most recent post and proceeded backward to gather 100 images for each athlete. The findings reveal that Egyptian athletes strategically utilize images to position themselves, with the effectiveness of their self-presentation largely contingent upon the nature of the content they share. Despite observable disparities in online engagement between male and female athletes—stemming from cultural influences and the predominant role of men in the Egyptian sports landscape—there is a recognition among athletes of the critical importance of visual self-presentation. However, many athletes struggle to implement effective online strategies due to limited resources and knowledge. The practical implications of this study emphasize the necessity for athletes to develop tailored online strategies that align with their specific objectives and the image they wish to project. Such strategies should consider the athlete's current performance status and career stage, striking a balance between on-field and off-field imagery while prioritizing content that resonates with their audience. Additionally, fostering workshops or training sessions on effective social media use could empower athletes to leverage their visual branding more effectively, ultimately enhancing their engagement with fans and stakeholders within the sports community. This study contributes to a deeper understanding of how cultural contexts shape self-presentation strategies in the digital age.

Keywords: Self-Presentation, Athletes Brand Image, Gender Difference, Instagram

1. Introduction

Brands are typically characterized by specific attributes associated with products or services (Keller, 1993), while personal branding refers to the unique characteristics linked to an individual. In the realm of sports, this personal branding is often termed an “athlete brand” (Parmentier & Fischer, 2012). An athlete's brand possesses distinct and irreplaceable traits (Chadwick & Burton, 2008), and according to Arai et al. (2014), it is defined as “the public persona of an individual athlete who has established symbolic meaning and value through their name, image, or other brand elements in the market.”

Arai et al. identify the primary brand associations of an athlete as dimensions including athletic performance, appealing appearance, and a marketable lifestyle. This concept is also described as “the practice of strategically shaping and managing how one is perceived by others in social contexts” (Rampersad, 2008; Resnick et al., 2016). An athlete's image is a crucial element alongside their athletic performance in any sports context. This image plays various roles in athlete branding, and establishing a strong image requires significant marketing efforts and best practices, particularly in the digital age (Geurin-Eagleman & Burch, 2015). Maintaining an athlete's image on social media has become essential for expanding their fan base and attracting sponsors. This is reflected in the public messages they share, which may relate to their sport or personal lives. Before managing their online presence haphazardly, it is vital for individuals to understand the nuances of an athlete's self-presentation and the most effective strategies for successful online engagement. Accordingly, this study aims to examine the visual self-presentation strategies used by Egyptian male and female athletes on Instagram to effectively showcase their image to their fans and sports stakeholders. The reason behind choosing Instagram as the platform for this study because Instagram is the most visually orientated platform compared to others, owing to its features and user-friendliness (Meta, 2023). By January 2024, Instagram was acknowledged as the foremost preferred social media platform, with WhatsApp and Facebook ranking second and third, respectively (Kemp, 2024). The number of internet users in Egypt was recorded at 82.01 million in January 2024, accounting for 72.2% of the country's total population. The number of social media users in Egypt is 45.40 million, accounting for 40.0% of the country's total population. Instagram ranks third foremost preferred social media platform among Egyptians, behind Facebook and WhatsApp (Kemp, 2024). Instagram's distinctive visual emphasis, centred on image sharing and hashtags, differentiates it from other social media platforms and

influences user interactions (Burgess, 2006; Caliandro & Graham, 2020). Platforms such as Facebook and Twitter facilitate image sharing and sharing; yet, these functionalities are secondary rather than central. In contrast, Instagram is fundamentally a visual platform, entirely reliant on imagery. This emphasis on visual content makes Instagram a crucial tool for athletes in shaping their online self-presentation.

2. Literature Review

2.1 Online Self Presentation Strategies by Athletes

Social media enables athletes to directly communicate and interact with their fans and other persons in the sports industry, alongside traditional media outlets (Li et al., 2017). Furthermore, social media empowers athletes to challenge the portrayal of themselves in traditional media by using their online platforms to choose and share content of their choosing (Sanderson, 2011). When analysing social media postings through the lens of the self-presentation theory, they are categorised into two primary types: frontstage and backstage posts. Frontstage posts consist of content on pitch, during competitions and posts of interacting with fans and material that promotes athletes and their brands. Backstage postings consist of reposts from various internet platforms, demonstrating empathy for other athletes and teams (Lebel and Danylchuk, 2012). Furthermore, Frederick and Clavio (2015) discovered that athletes mostly use personal material, such as details about their family or their daily routine, in their backstage postings. Goffman (1978) argues that individuals shape their identities in accordance with societal expectations. Similarly, athletes conform to the expectations of the sports industry and other stakeholders when presenting themselves online. Their online presence has a significant impact on the followers who seek insights into their professional and personal lives through platforms like Instagram. Consequently, strategic planning for their online image becomes crucial (Gonke & Gencer, 2023). Prior studies on impression management and self-presentation on social media have proposed two strategies (Kim & Lee, 2011; Niu et al., 2015; Gao et al., 2023). The first strategy is positive self-presentation, which entails reducing negative impressions from online followers by carefully choosing and projecting an ideal online persona. This may be accomplished by disseminating postings that exhibit happy moments and only positive content (Kim & Lee, 2011). The second strategy is honest self-presentation, in which individuals post non-selectively without censoring their content. This includes expressing positive and negative events and feelings (Yang & Brown, 2016; Yang et al., 2017; Gao et al., 2023).

Online self-presentation strategies enable athletes to create the content they want to share freely; however, some factors must be considered because it's not personal. Each athlete's goals, fans, and sports career are key factors that influence their overall online strategy for self-presentation. Schlenker & Pontari (2000) and Ning et al. (2024) have discussed these factors in detail. Athletes also need to strike a balance between their online objectives and the fans' expectations, which are unavoidably shaped by social and cultural norms in addition to the athletes' backgrounds (Xu & Armstrong, 2019; Johnson et al., 2023).

In a study conducted by Ning, Miao, and Wang (2024) revealed that Chinese Olympic athletes recognised the importance and potential of strategically using social media platforms to improve their brand image and they adopted self-presentation strategies online. The research conducted by Ning, Miao, and Wang (2024) explores the financial challenges experienced by retired Chinese athletes, including Shangwu Zhang and Dongmei Ai.

The study highlights the many debates surrounding this topic. In addition, Ning et al. (2024) found that Chinese athletes who do not do well in their sports or attain athletic success tend to limit their online self-presentation owing to a lack of excitement. In several Western countries, lesser-known athletes use social media as a crucial means to shape their public image (Toffoletti & Thorpe, 2018). In a related study, Sanderson (2013) examined the utilisation of Twitter by rookie athletes in major sports leagues such as MLB, NBA, NFL, and NHL. The study focused on how these athletes strategically portray a distinct persona on social media that goes beyond their on-field performance. This involves tweeting about various subjects such as cultural preferences and personal stories.

Logan Morrison, a Major League Baseball (MLB) player, used self-presentation strategies on Twitter, as outlined also by Sanderson (2014). Morrison portrayed a self-image characterised by offensiveness and sarcasm, which contributed to his significant online popularity, with a following exceeding 120,000 individuals. This incited resentment within his squad at the time and resulted in clashes between coaches, executives, and players. These tensions need the athlete to contemplate their self-presentation and exert more control and management over the projected image (Ning et al., 2024).

Self-presentation theory (Goffman, 1959) helps athletes manage their self-image and how they are perceived by others, particularly in social contexts. Athletes strategically curate their online personas, sharing content that highlights their achievements and personal lives while also engaging with fans in a relatable manner. This careful construction of identity allows athletes to foster a deeper connection with their audience, enhancing their brand and marketability. Moreover, by presenting themselves in a favorable light, athletes can navigate public scrutiny and shape fan perceptions, ultimately influencing their legacy both on and off the field. The previous research underscores the complexity of self-presentation strategies in the digital age, where athletes must navigate both professional and personal expectations. While social media provides a platform for athletes to control their narratives and engage directly with their audience, it also introduces challenges regarding authenticity, branding, and fan reception. Studies indicate that athletes strategically curate content to maintain an appealing and marketable image, balancing the tension between positive and honest self-presentation. However, cultural factors, sporting success, and individual personality play significant roles in shaping their online personas. Ultimately, an athlete's ability to manage their self-image effectively can influence their public perception, career trajectory, and commercial opportunities. However, the ways in which male and female athletes present themselves—and are represented—in online spaces are notably different.

2.2 Differences between Male & Female Athletes' Online Self Presentation

Worldwide sports media reinforced the concept of hegemonic masculinity by continually categorising female athletes as inferior to their male counterparts (Bruce, 2016). According to Geurin-Eagleman & Burch (2015), female athletes participate in sports globally at a rate of about 40%, but only about 8% of media coverage focuses on their participation. Ahmad (2019) reports that women's sports and athletes accounted for a mere 4% of media content in 2019, with women contributing only 12% to sports media. Previous research confirms the inadequate representation of female athletes, likely due to insufficient media attention, prevailing patriarchal systems, and male dominance in certain cultural settings. Ponterotto (2014) conducted a corpus-assisted study to investigate the media portrayal of tennis player Maria Sharapova in Italian and English newspapers. The investigation uncovered two obvious media depiction strategies: sexualising Maria Sharapova's body by highlighting her sexual appeal and desirability and presenting her as an innocent little girl rather than an exceptional athlete. Media coverage of female athletes tends to use language that evokes emotions, whereas coverage of male athletes focuses more on their athleticism rather than their physical or personal qualities.

According to Gonkek and Gencer's (2023) research, there has been a recent decline in male dominance in sports, coinciding with an increase in media coverage of female participation in traditionally male-dominated sports. The problem lies in the fact that female sports do not generate the same amount of media attention or interest from fans as those of males (Valenti et al., 2018; Doyle et al., 2021). The level of emphasis placed on female sports differs throughout various nations as a result of the culture and norms prevalent in their communities (Sadeghi et al., 2018). Recently, the study conducted by Gonkek and Gencer (2023) corroborated the research of Geurin-Eagleman and Burch (2015), indicating that female athletes tend to share more about their personal lives on Instagram compared to their male counterparts. One possible explanation, as clarified by Sun (2008), is that women get pleasure from undertaking many roles in their everyday lives, such as being a mother and pursuing a professional job, and they take pride in demonstrating their ability to successfully manage these diverse responsibilities. Gonkek and Gencer (2023) found that male athletes are more inclined to share content that highlights their athletic appearance. In addition, Kane et al. (2013) discovered that female athletes want more emphasis on their athletic accomplishments rather than their femininity from both their fans and the sports media. Overall, the research highlights the persistent gender disparities in media representation and self-presentation strategies among athletes. Female athletes continue to face systemic barriers that limit their visibility in mainstream sports media, often compelling them to emphasize personal aspects of their lives on social media rather than solely focusing on their athletic achievements. While there has been some progress in increasing coverage of female sports, societal norms and cultural perceptions still influence the way female athletes are portrayed and perceived. The evidence suggests that despite efforts to challenge traditional gender narratives, sports media continues to reinforce distinctions between male and female athletes, affecting their self-presentation and public engagement.

3. Methodology

Qualitative research is a prevalent study approach in the field of social sciences (Saldaña, 2011). Data can comprise several types of information, such as textual materials, e.g., interviews, papers, and fieldnotes or visual materials, including images, videos, and Internet content (Saldaña, 2011). According to Riffe, Lacy, and Fico

(2005), content analysis is a systematic and replicable method for analysing content, both written and visual. Visual content analysis is considered a subtle method as it involves consuming and studying photographs after they have been taken and posted online (Riffe, Lacy, and Fico, 2005). The study analyses photographs posted on Instagram by ten professional Egyptian athletes, divided equally between males and females.

This study used a purposive convenience sampling method to choose a sample of ten athletes (five males and five females) from various sports who possess the largest Instagram following and the most popular sports in Egypt both team and individual sports. It involved collecting and categorising one hundred photos from each participant, resulting in a cumulative total of 1,000 images among the 10 athletes. The athletes in this research represent a total of seven sports, consisting of three team sports and four individual sports. The sports illustrated in **Table 1** features both male and female athletes.

Table 1: Sport represented in the Image Content Analysis

Male Athletes No.	Sport	Female Athletes No.	Sport
1	Football	1	Squash
2	Football	2	Basketball
3	Handball	3	Swimming
4	Handball	4	Table Tennis
5	Squash	5	Karate

The sample and athlete selection were limited by the absence of statistics in Egypt indicating the highest number of followers among Egyptian athletes and the most popular sport. Therefore, the sample relied heavily on the insights of experts from the sports industry.

3.1 Coding Procedures

The protocol for the coding procedure was developed based on the adaptation of the coding schemes for image content of Goffman's (1976) content analytic investigations of visual media (Clavio & Geurin-Eagleman, 2011), athletes' online visual self-presentations (Lebel & Danylchuk, 2012; Pegoraro, 2010), and Geurin-Eagleman and Burch (2016). For this presented project the coding protocol, as shown in **Table 2**, involves six phases. The first of which is categorising the main content of the photo, represented in the posted photograph, examining the elements of composition within the shot, and ultimately communicating the emotions that the posted photographs want to express about this athlete. Furthermore, the code contained essential details such as a photo caption, the compatibility of the caption with the photographs, user tags, and a hashtag. Significantly, a dimension was only included in the primary content coding for females since it was highly noticeable and absent in the photographs of male athletes. This dimension relates to material associated with supporting causes and engaging in charitable activities.

Table 2: below includes the details of the coding scheme

Main Content of the photo (6 items)	Classification
Relating to athlete personal life	Any photo that refers to their personal life: • daily routines • weather • party reference • charity work • family life
Relating to athlete business life	Any photo that relates to their business life: • training • traveling • game preparations • promoting products
Relating to athlete sport	Any photo directly relates to their sport but not directly related to them: • other games in their league • college or minor-league games of the same sport • equipment

Main Content of the photo (6 items)	Classification
	large events that take place in this sport and do not include the athlete
Other sport or athlete	Any photograph that refers to another sport or athlete. Aside from athletes, any references to coaches, general managers, owners, or broadcasters from other sports are applicable to this category.
Reposting photo/content originally posted by fans	Any posts to comments their fans or non-fans have sent them, plus responses to spouses or family members and sports journalists.
Pop culture/ Landmark focused photo/ Internet Meme	Any photos on pop culture: - TV show - movie - musician or group - actor or actress - politician - famous landmark
Photograph Components (8 items)	Classification
Sizes of athletes in photos	- single photo the picture in which the athlete is depicted in the usual or regular size. - bigger than others The more exaggerated picture depicts the athlete attracting particular attention because of their unusual and striking appearance or behaviour. - as big as others the picture in which the athlete appears as big as other individuals captured. - Smaller than others the picture in which the athlete appears further from perspective.
Clothing	- Uniform - No uniform
Posture	- Normal the picture depicts the athlete in a normal stance, not arched or sitting. - cause knee/body arched the picture depicts the athlete in a stance whose body is arched or whose knee is posed.
Emotions	- positive - neutral - negative - no face in view
Photo types	- Selfie A picture of an athlete in which the athlete and photographer are the same. Signs of a selfie consist of arms extended to hold on the device in front of the athlete's face, a close-up picture of the face, or a mirror's reflection of the athlete carrying a camera. - Headshot A photograph that features the athlete's head. - Half body A photograph features the athlete's body parts, such as the torso and thighs. - Full body A photograph that features the athlete's entire body.
The focus of photos	- Athlete in focus The image that focuses on the athlete mainly. - Athlete not in focus The photo focuses on a person rather than the athlete, such as a family member or a friend.
Text in Photo	Availability of any texts, graphics design in the photographs.

The data collection occurred in April 2023, when photographs were gathered from the most recent photo shared by the athlete and proceeding backward to compile 100 images per athlete, thus without a defined or purposeful

time frame. Quantitative analysis was employed to code photographs, examining the frequency of each given picture as part of the process.

4. Findings & Conclusion

The starting point of the analysis comprises data about the general use of hashtags, user tagging, and captions on athletes' Instagram accounts. It is observed that both male and female athletes engage in these practices, although females exhibit a significantly higher frequency, with their female athletes there are individual athletes who make substantially more use of tagging within their posts, particularly the use of hashtags. In addition, the analysis of the main photograph content reveals that the predominant content shared by male and female athletes consists of two categories: images depicting the sport they engage in on the field, and images showcasing their triumphs. Finally, emotions are the last coding aspect of photographs. Both male and female athletes had predominantly positive expressions in the photos, which represented their strongest feelings. However, female athletes had a 20% greater proportion of images with positive expressions compared to male athletes.

The first observation is that the male athletes within the sample show consistency in their online usage as there is no long-time gap between one post and another, unlike the selected female athletes, who lack online consistency. In addition, unlike female athletes, male athletes make limited use of hashtags connected to their posts. In conversation with 'Adel Koriem' – AFC Media Manager, a second general observation is that for male athletes in Egypt, team sports create fan engagement more than individual sports, especially when it comes to the Egyptian national team. On the other hand, female athletes who play in an individual sport attract more fans, and the reason behind this is that team sports in Egypt, such as football, handball, basketball, and volleyball for males, have greater support from media and federations than female team sports. It is also very clear that playing for a well-known team creates large differences in the number of followers and fan engagement between athletes. Differences also exist when comparing athletes who play football to another sport, especially in Egypt, where the most popular sport is football. These observations when combined are one of the reasons which limit the amount of fan engagement and total number of followers that female athletes in Egypt obtain. The findings of the main photograph content show that the male athletes commonly post content within their sport-setting context, which may include training, matches, tournaments, and camps. These athletes also post nationalism photographs, which may include holding their national flag, wearing the national team uniform, and winning championships with the national team, ranking as the second-highest content. Also coming in third in most posted content are photographs that include victories and celebrations that drive large traffic and increase engagement. The type of content that follows the top three items is personal content. Four athletes shared photographs featuring their families, consisting of their parents and children, only one differed from this with personal content which revolved around personal trips or friends, primarily due to their young age. Reposted photographs from other accounts, landmark scenes, and business content that may include media and sponsor deals are the least posted content.

As for the female athletes, the majority sampled frequently post content within the context of their sport, encompassing activities such as training, competitions, tournaments, and camps. The sampled female athletes also post personal photographs, which may feature their family, friends, and special occasions, making it the second most prevalent type of posted content. Photographs depicting wins and celebrations rank third in terms of the amount of content shared, with four of the five female athletes frequently posting such materials, with this helping to generate traffic, and fostering higher levels of engagement with their followers.

Female athletes tend to refrain from posting certain photographs, namely those that showcase their physical appearance and figure. The least often shared content consists of reposted photos sourced from other accounts, iconic locations, photographs featuring other athletes or sports, content about nationalism, and advocacy for charity causes. It is crucial to highlight that the inclusion of 'cause support' content in the female analysis is based on the discovery of its presence on female athletes' accounts, in contrast to male athletes where it was not present. Table 4.1 and 4.2 present some of the key findings of both male and female athletes.

Table 3: Main Categories of Photographs – Male Athletes

Criteria	MA1	MA2	MA3	MA4	MA5	Total	Percentage %
Main Categories of Photographs							
Personal	15	13	11	12	19	70	14%
Business	9	2	6	5	18	40	8%
Athlete Sport	30	56	36	37	40	199	39.8%
Physical Appearance	2	5	9	1	1	18	3.6%
Other athletes/Sport	15	9	14	11	4	53	10.6%
Reposting Content	0	0	0	1	0	1	0.2%
Landmarks	3	2	7	3	5	20	4%
Athlete Victory	32	10	13	24	18	97	19.4%
Nationalism	7	2	13	3	21	46	9.2%

Table 4: Main Categories of Photographs – Female Athletes

Criteria	FA1	FA2	FA3	FA4	FA5	Total	Percentage %
Main Categories of Photographs							
Personal	10	9	32	26	47	124	24.8%
Business	8	4	14	9	5	40	8%
Athlete Sport	60	57	39	28	14	198	39.6%
Physical Appearance	0	0	0	0	0	0	0%
Other athletes/Sport	6	1	6	10	2	25	5%
Reposting Content	2	0	0	0	0	2	0.4%
Landmarks	2	8	10	6	5	31	6.2%
Cause Support	4	1	6	1	3	15	3%
Athlete Victory	16	20	4	29	29	98	19.6%
Nationalism	2	6	9	9	5	25	5%

The analysis of posted content reveals gender-based distinctions in social media self-presentation. Male athletes focus on sport-related imagery, nationalism, and personal life to engage with their audience, with limited attention to advocacy or external causes. In contrast, female athletes place greater emphasis on personal and celebratory content while avoiding posts that highlight their physical appearance. The presence of cause-related advocacy in female athletes' posts, absent in male athletes' accounts, suggests a nuanced approach to self-presentation where women use social media not only for engagement but also for broader social influence. These findings underscore how gender norms shape the digital portrayal of athletes, influencing both content creation and audience interaction. Understanding these gendered self-presentation patterns provides a foundation for exploring their broader theoretical and cultural implications. This study's theoretical contribution expands on various aspects related to the self-presentation theory in the context of the Middle Eastern World, particularly Egypt. While previous scholars have examined Goffman's (1959) theory, this study offers unique

insights by applying it specifically to the Egyptian sports industry. Despite the growing interest in this area, limited comprehensive research has been conducted thus far. This research sheds light on the disparities in online behavior between male and female Egyptian athletes, examining the impact of cultural norms and cyberbullying on the online self-presentation of female athletes. The practical implications of this research are multi-fold as it emphasises the importance of prioritising different forms of content, particularly photos, to convey the desired self-presentation and engage with the target audience effectively.

5. Study Limitations and Future Research

This study has several limitations that should be acknowledged. Firstly, its focus on the Egyptian context may limit the generalizability of findings to other Middle Eastern countries, where restrictions on athletes, particularly female athletes. Additionally, while captions accompanying athletes' photographs were considered, their textual content was not analyzed, as the study prioritized visual elements over written communication. Future research can address these gaps by exploring different cultural contexts, incorporating multiple social media platforms, and including a more diverse range of athletes from various sporting backgrounds. Firstly, applying self-presentation theory across different cultural contexts would provide valuable comparative insights into the Egyptian sports sector and expand the theoretical framework, especially given the scarcity of research on sports communication through images in the Arab world. Additionally, examining how cultural influences shape the online self-presentation of male and female athletes across other Middle Eastern nations would contribute to a more comprehensive understanding of these dynamics. Secondly, studying Egyptian athletes who live abroad and compete for non-Egyptian teams presents another avenue for exploration, particularly in terms of their self-presentation strategies, online engagement, and the cultural perceptions of Egyptian fans towards them. Third, nationalistic imagery emerged as a significant theme in this study, reinforcing the emotional connection between fans and athletes through national team representation. While this study identified nationalistic content as a major category, future research could further investigate the impact of national team performance on athletes' self-image, particularly in a sentimental and emotionally driven sports culture like Egypt. Finally, as fans are central to sports media and engagement, analyzing the specific metrics of fan interaction and its influence on athletes' online behavior would be a valuable extension of this study. Despite existing research on fan engagement, further exploration of how online interactivity shapes an athlete's self-presentation remains a crucial area for investigation.

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Stories of #EndSARS: Applying Social Network Analysis through a Postcolonial Framework

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Abstract: Social media has become central to contemporary activism, transforming how movements worldwide mobilise and organise around shared goals. The #EndSARS movement in Nigeria started in 2017 as a citizen-led effort that confronted police brutality, especially from the Special Anti-Robbery Squad (SARS) of the Nigerian Police. Facilitated primarily by social media platforms such as Twitter, Instagram, Facebook, and WhatsApp, data shows that more than 8 million unique authors participated in creating content that commented on or provided support to the offline protests (NENDO 2020). Much like other contemporary social media activism efforts, #EndSARS lacked established and movement-recognised spokespersons; instead, networked microcelebrities and influential voices emerged intermittently, each with varied social capital, reflecting the movement's decentralised nature. This paper presents research into the lived experiences of #EndSARS activists on Instagram, utilising a modified social network analysis to identify these individuals without relying on popularity metrics alone. Adopting a postcolonial lens, this research centred on inclusive representation to disrupt traditional hierarchies where dominant voices speak over, or on behalf of, marginalised communities. This approach was implemented through Richardson's (2000) crystallisation and by operationalising Tufekci's (2013) concept of the "networked microcelebrity". Standard social network analysis metrics were adapted to recognise diverse voices and multifaceted connections among activists. The resulting visualisation platform highlights interactions among 117 information-rich participants, offering multidirectional perspectives on the movement's narrative. This approach enhanced the visibility of less-prominent activists and provided a nuanced, visually engaging map of the networked narratives driving #EndSARS. In a broader context, this approach initiates the conversation on decolonising social network analysis to incorporate more diverse and representative voices.

Keywords: Social Network Analysis, Social Media Activism, Postcolonialism, #Endsars, Networked Narratives, Networked Microcelebrity

1. Introduction

Social media activism has had varied and notable iterations across the world. In Nigeria, several social justice movements have engaged social media since 2012; notable examples being #OccupyNigeria, #BringBackOurGirls and more recently the #EndSARS movement (Paul 2023). In all of these instances social media served as an autonomous means of communication that democratised narrative control, scaled mobilisation and made organisation of disparate groups feasible (Castells 2015). The potential for social media to be used in ways that support activism in different contexts has been attributed to the technological affordances made available by social media platforms. Faraj and Azad (2012 p.4) define technological affordances as "action possibilities and opportunities that emerge from actors engaging with a focal technology". Therefore, social media serving as a focal point for different groups of Nigerians within and outside its borders has become a powerful tool for politically motivated individuals to bring visibility and garner support for a range of social justice issues.

Identified by Tufekci (2013) as a Networked Microcelebrity (NMC), the social media activist is a person who points attention to a social justice cause by a presentation of their political and personal selves on social media. Tufekci's typologisation underscores that within any large-scale social media movement, individuals engage and experience activism on deeply personal and varied levels. However, the narratives portrayed by traditional media outlets about these movements are often flawed and repeated single stories that essentialises the experiences and perspectives of these individuals. This phenomenon is problematised by postcolonial theorists who argue that when a specific group is spoken about in the construction of another's imagination, it reproduces a colonial dynamic that essentialises them and can constitute or encourage their oppression. Said (1985) argues that writing about a silent Other, particularly for an audience shaped by power and privilege, and with the intent to define or represent that Other, can itself constitute a form of epistemic violence. Social media affords activists tools to circumvent the hegemonic control of traditional media and assert their agency. Viewed through a postcolonial lens, the social media activist can be seen as a subaltern who challenges the erasure and marginalisation of their voices by deconstructing monolithic narratives rooted in colonial hierarchies, epistemic violence, and economic inequality (Young 2003; Castells 2015). However, this is a negotiated process that underscores the enduring legacies of colonialism.

This paper examines the process of identifying diverse social media activists involved in the #EndSARS movement, which aimed to challenge the systemic police brutality perpetrated by Nigeria's Special Anti-Robbery Squad (SARS). By applying social network analysis adapted to a postcolonial framework, the varied stories shared by these activists on social media were used to create a cohesive and interactive presentation of the #EndSARS protests. The paper concludes by considering the different applications of such an artefact and discusses the implications of a postcolonial approach to social network analysis.

2. Studying The #EndSARS Protests

The #EndSARS movement started gaining traction on Twitter in 2017 through the efforts of Nigerians from the middle and lower classes who were adversely affected by the activities of SARS (Omeni 2022). The movement gained global momentum after a tweet reporting the shooting of a young boy by agents of SARS was posted on the @AfricaOfficial handle and went viral on 3 October 2020. Widespread physical protests started on 8 October and lasted until 20 October 2020 (Abimbade, Philip & Herro 2022). These physical protests were widely shared with a global audience on social media platforms such as Twitter, Instagram, Facebook, YouTube, WhatsApp, and 2go (Uwalaka 2022). Social media was used to circumvent the problem of subverted voice and to gain enough traction to challenge the discourse behind a culture of brutality and excessive force (Abimbade, Philip & Herro 2022; Couldry 2008).

Although there are no conclusive data counts as to the online participation #EndSARS garnered, NENDO (2020) recorded 8.45 million unique authors that posted on Twitter between 5 and 22 October 2020. Initial attempts to study the population as it appeared on social media platforms revealed the necessity of scaling down due to problems such as noise (irrelevant posts that used the hashtag as a marketing tool) and platform restrictions on using publicly accessible data. Furthermore, the volume of data available from such a vast population necessitated streamlining the selection process to create a manageable and information-rich dataset for analysis. To this end, a representative set had to be created from the population to serve as "a scaled-down version of the entire population, where all different characteristics of the population are present" (Grafström & Schelin 2014 p.279). Therefore, the criteria developed for selection had to take into consideration verifiable proof of engagement, authentic participation and diversity of voices from as many positions within the population as possible.

A postcolonial approach to creating a representative selection acknowledges that including only popular voices risks recreating colonial-like power imbalances, similar to the dynamics between elites and subalterns of any society. However, completely excluding these popular voices still creates monolithic narratives that feed into misrepresentations in the story of the movement (Ashcroft, Griffiths & Tiffin 1998; Said 1985). Tufekci's (2013) definition of a Networked Microcelebrity (NMC) activist served as an efficient way of identifying individuals who had potential to offer useful insight. They are identified by their use of social media, their inclination to share citizen journalism efforts albeit with an established personal bias, and the intentional use of these skills to gain attention for a movement they are aligned to. Much like spokespersons, mass media outlets may sometimes bring attention to NMC activists, but the selection is not because of any movement-designated relevance or responsibility. Rather, where it happens, the relationship is built on mutually beneficial opportunities: the mass media gains closer access to the story through the NMC activist, while the activist increases their potential for drawing attention to their cause and sometimes themselves. Without the de facto responsibility of leadership, NMC activists often express independent perspectives, although they remain accountable to the internal publics of the movement. As a result, NMC activists within the same movement can have diverse lived experiences and differing viewpoints on both the movement's progress and its overall success. In light of this, the first criterion for selection were NMC activists, popular and otherwise, who showed identifiable and varied participation with the #EndSARS movement through their activity on social media.

To streamline the selection process even further, NMC activists who had published #EndSARS visual material online were prioritised. Visual materials such as videos, images, and infographics have played significant roles in some of the most prominent protests globally (Castells 2015; Lageman 2020; Tufekci 2013). On social media, visual materials serve as succinct storytelling tools that transmit complex ideas and emotions to audiences, transcending geographical and language barriers (Jurgenson 2019; Lievrouw 2011). In Nigeria, the spark that stimulated the #EndSARS nationwide protests was the viral video of a Nigerian being killed by the Police. Abimbade et al. (2022 p.7) write that Nigerians employed the use of "personal stories, and media production (videos, pictures, and others) to create a community with #ENDSARS as the rallying point that defied the infiltration of the government". Furthermore, a unique situation with the #EndSARS protests is that the beginning of the end of the protests which occurred on 20 October 2020 featured a livestream video of Nigerian

Army officials shooting at unarmed protesters. This video went viral as the #LekkiTollgateMassacre and has become a lifeline for conversation on the protests, which continues years after any major protest was held (Adebajo 2022). This significance of video and images shared on social media establishes the relevance of visual artefacts in recounting the experiences and stories of any given movement.

Following the emphasis on visual artefacts, Instagram was selected as a highly visual social media platform engaged with during the #EndSARS movement (Uwalaka 2022). Instagram is one of the most important social networking sites globally and, in Nigeria, it is the third most-used platform after WhatsApp and Facebook (Caliandro & Graham 2020; Sasu 2023). Its infrastructure favours searchability, privacy, and datafication which, when coupled with visual affordance, aids the efficient identification of viable actors (Bossetta 2018). However, the lack of features like Facebook groups and subreddits makes it difficult to identify communities. Rather, Instagram communities are identified by hashtags, comments and follower networks (Bossetta 2018; Gomes Ferreira, Murai, Couto da Silva, et al. 2020). For this research, the hashtag and follower networks were used to identify the latent community of NMC activists. This established active engagement because it represents intentional participation in the movement that prompts ties (following/being followed) among other actors within the movement. Furthermore, Instagram's privacy features made it possible to identify individuals who wanted to remain associated with the movement years afterwards. Following the contentious nature of the movement, some activists had chosen to archive the posts that they made, or keep their entire profile private, for a variety of reasons. By avoiding such profiles, the stories collected are verifiably made for public consumption and do not violate the creator's rights to privacy (Instagram 2023; Intellectual Property Office 2014). Consequently, Instagram facilitated the clear identification of diverse activists who leveraged visual content as a central element of their online activism while engaging with the movement's community, all without infringing on the privacy of those who preferred to remain anonymous in their activism.

Finally, the whole population was crystallised into five categories, each representing distinct types of individuals based on how they presented themselves on Instagram. Richardson (2000) proposes crystallisation as a way of making sure a sample set is representative of the diversity resident in the population. The crystallisation approach acknowledges that activists who participated in this movement created and were part of a multiplicity of lived experiences depending on their activism experience, social status, perceived impact of their activism, and movement support. Crystallisation recognises both the shared characteristics and unique differences within the population, highlighting recurring patterns of individual participation. These patterns help to illuminate how each category contributes to the co-construction of a nuanced account of the lived experiences of social media activists in Nigeria. This aligns with the postcolonial ideology of establishing the diversity in any group of people by encouraging their agency. It is important to acknowledge that this can only ever be a partial account as there is always a perspective that may not be considered (Stewart, Gapp & Harwood 2021).

Table 1: Crystallisation parameters for profiles of activists involved in the #EndSARS movement

Category Type	Description	Profile Identifiers	Colour Code
Established Activists	Known activists whose prominence aligned with the NMC description but was not solely derived from their involvement in the #EndSARS movement.	Posts about previous and current social justice causes and movements.	
Circumstantial Activists	Activists whose involvement in the movement was linked primarily to the personal and public effects that police brutality had in their lives.	Viral videos featuring them or loved ones. Posts about personal experiences of police brutality.	
Celebrity Activists	Activists in this group possessed existing social status, which they utilised to draw attention to the movement by sharing content about their involvement in the protests.	High follower count. Verified badge on status.	
Low-profile Activists	Individuals whose involvement in activism is primarily tied to this movement; may become microcelebrities regardless of any inherent social capital.	Activism posts are limited to the #EndSARS movement.	
Activists in Diaspora	Individuals who participated in the movement from countries outside Nigeria. They shared visual material from local sources and original content of their participation abroad.	Locations on posts are outside Nigeria. Posts of diasporan activism.	

The selection of social media activists to create a representative sample of the population of #EndSARS sets the stage for a postcolonial application of social network analysis. The selection criteria took into consideration the versatility of the platform, the limitations of access that might be experienced with forms of communication or platform affordances, the capacity to search for and identify users who fit different positions within the population. Notably, the initial effort to gather these stories focused on YouTube for its visually driven content format. However, the prioritisation of content production over the portrayal of personal perspectives rendered YouTube less suited to capturing the lived experiences and nuanced narratives central to a postcolonial lens. Also, attempting to build the network directly from the Instagram population proved ineffective due to volume, especially as it relates to verifiable participation. Here, the initial condition of using the profiles of NMC activists proved valuable, leading to the selection of users based on their activities beyond social media. These included news interviews, blog references, and offline connections, thus achieving some degree of public/external knowledge of their involvement with the movement. The final step of the selection process involved confirming their participation by reviewing public posts related to #EndSARS on their profiles.

A total of 117 profiles were selected using these criteria, forming the foundation for a social network analysis and data visualisation. The initial search was carried out from 1/02/2023 till 07/02/2023. This population was categorised and resulted in 22 established activists, 8 circumstantial activists, 35 celebrity activists, 31 low-profile activists, and 21 activists in diaspora.

3. Social Network Analysis

Marin and Wellman (2011 p.3) note that social networks represent a “set of socially relevant nodes connected by one or more relations”. Therefore, social network analysis (SNA) provides ways to understand each node in relation to other nodes and the network as a whole. Qualitatively, social network visualisation serves the purpose of observing the network as a collective producer of narrative and the ways in which these narratives flow within the network (Williamson & Ruming 2016). Quantitatively, SNA serves to understand the nodes that play key roles towards the flow of information using density, centralisation, or composition metrics (Marin & Wellman 2011). In this project, SNA served a dual purpose of presenting the narrative around the movement as a nuanced mix of distinct perspectives as well as a probability sampling step that helps to identify prominent individuals in each of the distinct categories based on the relations that emerge within the network.

The relations identified between individual nodes are constructed based on similarities, social relations, interactions, and flows (Marin & Wellman 2011). For this project, social media relations that reflect the ties shared by disparate individuals were visualised and measured by assessing the number of in-degree connections (followers) and out-degree connections (followees) to form the network (Disney 2020; Yuen & Tang 2021). Diani (2016 p.12) writes that “movement networks emerge from discrete choices that independent actors make regarding their partners in alliances, their privileged sources of information, or, in the case of individuals, the organisations to join and the groups to be part of”. Therefore, to establish the social-relational ties among the actors, data on whom they follow is collected and visually represented to illustrate the nature of the movement’s network across the selected individuals.

Conducting research on such a scale to identify relationships and influences required an automated solution. Python programming language was used to implement various automation and machine learning algorithms. Selenium (2023), an open-source browser automation framework was used to develop a Python program to autonomously browse Instagram for publicly available information. Once all the data was acquired, Pyvis, a Python visualisation library was used to visualise the data as a directed graph showing the follower-followee relationship between the selected accounts (West Health Institute 2018). The accounts were represented as nodes in the networks and the directed edges represented the relationship. The nodes were given different colours based on the category assigned to the profile and the size of a specific node depends on the number of followers it has among the selected accounts. The nodes in the network were then made to self-organise based on a physics simulation, wherein every node experiences a repulsion from every other node while the edges act as a spring of zero length, creating an attraction between connected nodes. This creates a visualisation where accounts gravitate to the centre based on the present followers they have, reflecting their role within the network rather than their broader social media influence.

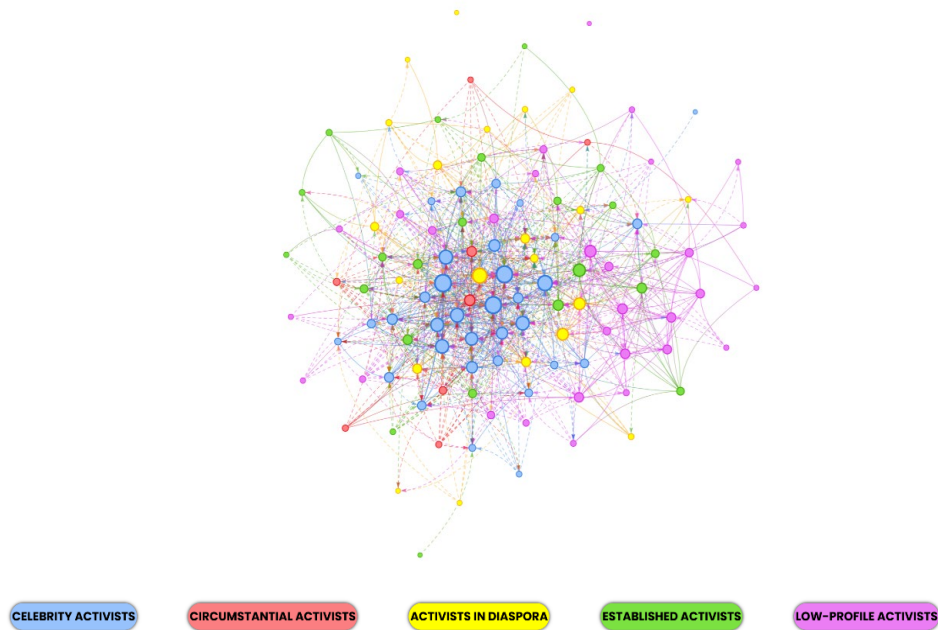


Figure 1: Social network created among 117 #EndSARS social media activists

The conditions applied to the sample selection process demonstrate how incorporating postcolonial considerations enhances the likelihood of identifying individuals who, despite lacking established social capital, make significant contributions to narrative flows through their participation in the movement. Diani (2003) uses the ‘social broker’ concept to explain how activists can serve as crucial communication links by connecting social movement actors or organisations who are not in direct relation due to political or sociological barriers. He writes that “by creating new bridges through their multiple personal involvements, either directly or indirectly, movement activists facilitate the spread of solidarity (and, plausibly, mutual trust) among different groups and organisations” (Diani, 2003, p. 118). Consequently, circumventing predictable approaches which study popular contributors and/or viral content creates opportunity to include integrated voices who might be overshadowed otherwise. A visualisation of the distribution of individuals based on their categories reveals how all categories feature on every side of the movement participation spectrum.

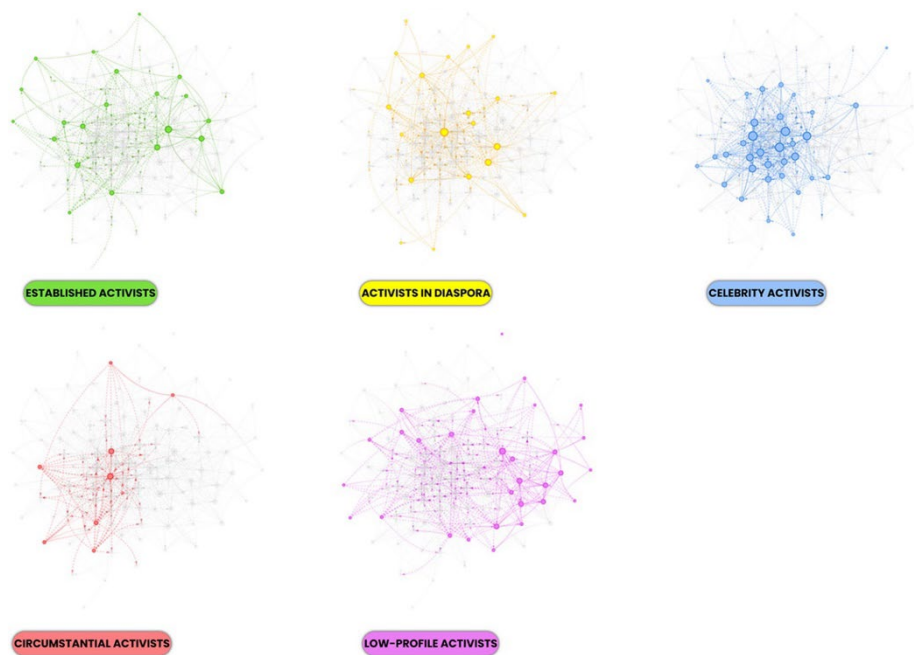


Figure 2: Distribution of individuals based on their categories

The role of the NMC activist shines in a network primed to include subaltern and dominant voices alike. Subsequently a multiplicity of narratives also becomes apparent. Castells (2015 p.9) writes that “by engaging in the production of mass media messages, and by developing autonomous networks of horizontal communication, citizens of the Information Age become able to invent new programs for their lives with the material of their suffering, fears, dreams and hopes”. NMC activists are, then, consistently constructing different and networked narratives of the movement from their experiences and those of others within it (Abimbade, Philip & Herro 2022; Davidjants & Tiidenberg 2022; Tufekci 2013). Activists’ Instagram posts can then serve as repositories of their personal experiences communicated within a community of other experiences to provide a network of narratives representative of the whole movement (Li 2022). Following the purposive sample selection of actors to include in the network, the Instagram profiles of selected accounts were searched for posts in the date range 1/10/2020 to 31/12/2020. The captions of posts were searched for the following terms: #EndSARS, #EndSARSToday, #EndSWAT, #EndPoliceBrutality, and #lekkitolgate – all of which were popular hashtags used during the movement. Every qualifying post was downloaded using an application program interface (API) called Instaloader and catalogued as a representation of the participant’s narrative of the movement (Graf & Koch-Kramer 2023). Furthermore, because these terms sometimes appear in the posted image, Tesseract (2023), an optical character recognition (OCR) framework, was used to identify text within the images and search for the relevant terms.

To illustrate the flow of narratives across the movement network, the content shared on Instagram is displayed in an Instagram-like format. This includes the images, accompanying captions, and like counts at the time of download, which are all shown side-by-side with the network visualisation. The username of each actor was however anonymised and replaced with their assigned category. Integrating the posts with the network, can produce insights into the role of individuals and the movement of stories across the wider network. The resulting webpage can then display posts collated from an actor’s account in an Instagram-style viewer when their node is selected, alongside their connections within the network. This setup allows the flow of narratives to be traced by following the paths taken by repeated or reposted content within the network.

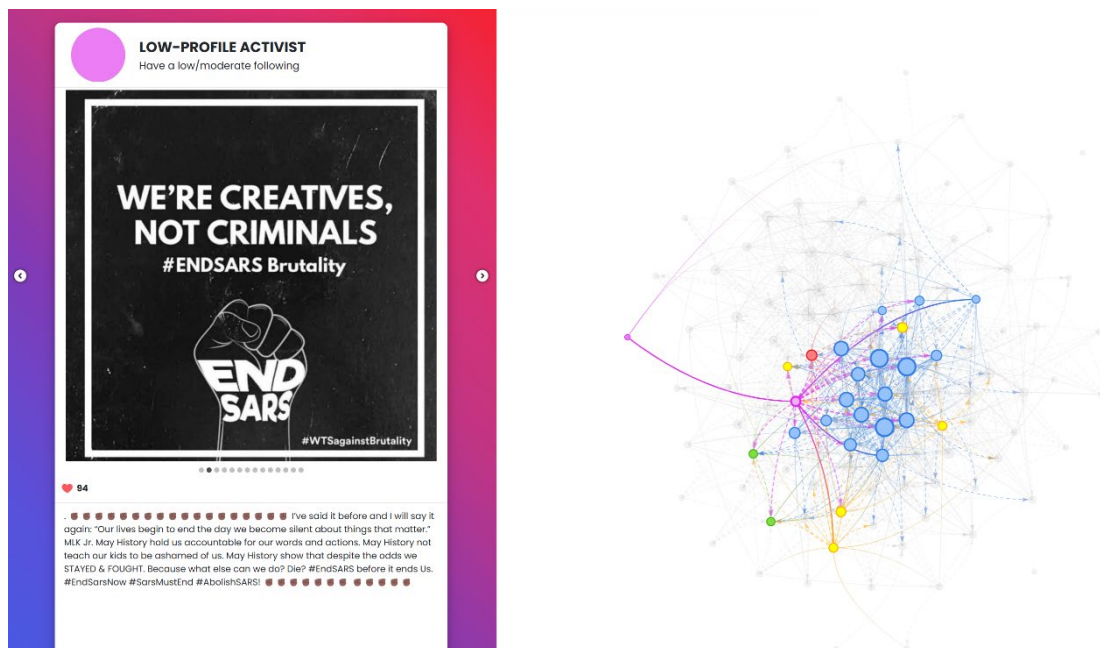


Figure 3: Screenshot of a post alongside the actor’s connections within the network.

4. Discussion

The use of SNA adapted to a postcolonial framework facilitated the creation of a webpage where many and diverse voices could be heard. Although not exhaustive, the multiplicity of lived experiences curated from social media provides sufficient context to deconstruct monolithic narratives and amplify subaltern voices. As part of a larger project collecting and contextualising the stories of social media activists in Nigeria, this webpage facilitated an inclusive selection of 12-20 participants to engage in a participatory video research process (Guest, Bunce & Johnson 2006). SNA metrics like betweenness and closeness centrality, which prioritise linkages over

popularity, helped identify key players while resisting the marginalisation of any perspective (Nouh & Nurse 2015). By combining inclusive selection criteria with probability measures that highlight connections, this approach ensured a representative analysis of the #EndSARS movement, reducing bias while resisting the dominance of any single narrative (Williamson & Ruming 2016).

This collation of voices reflects African epistemologies, where knowledge is shared, preserved, and reinterpreted through communal networks (Hamminga 2005). By highlighting participants who articulated their lived experiences directly through social media, this approach mirrors oral storytelling traditions, where no single individual speaks for the group, rather the collective stories reveal the community's shared realities. Martindale et al. (2018), note that both social media and oral traditions foster participatory networks, bringing together memories and new ideas to create cultural meaning. In adapting SNA through a postcolonial lens, this research not only challenges dominant frameworks but also reaffirms decentralised, participatory networks as central to African ways of creating and sustaining collective meaning. However, it is crucial to acknowledge that the social media platforms underpinning this work originate in predominantly Western contexts, often embedded with colonial constructs. While these platforms provide a space for subaltern voices, their design risks privileging metrics that can impact on data curated from them.

The use of an adapted SNA to the study of social media activism offers significant research potential, particularly in understanding movements characterised by leaderless, horizontal, and decentralised structures. Without any recognised centre, narratives are unevenly distributed across various parts of the movement (Mundt, Ross & Burnett 2018; Tufekci 2013). The inclusivity and probabilistic insights offered by this method allow researchers to uncover the roles of NMCs and the flows of information they facilitate (Diani 2003; Nouh & Nurse 2015). Furthermore, by keeping posts in their original form, this approach resists erasing individual agency and instead amplifies authentic voices, challenging the dominance of homogenising narratives.

Beyond its research significance, an artefact like this holds broader applications, including use in digital art exhibitions, educational resources, and historical archiving. As an educational resource, it introduces Western audiences to the nuances of activism in the Global South, which are often overlooked by traditional media organisations. Through the webpage, students gain insight into activists' motivations, connections, and the frames they adopt to express their discontent and lived experiences. As an interactive art installation, audiences have noted its ability to offer accessible and nuanced understandings of the movement.

This paper explores the potential of adapting social network analysis to a postcolonial framework. Using #EndSARS as a case study, it demonstrates how data visualisation amplifies diverse, decentralised voices. By integrating lived experiences and leveraging visual storytelling, it challenges dominant methodologies and underscores the importance of inclusive representation in social media analytics. While limitations such as API restrictions and dynamic media persist, this approach offers a nuanced, interactive lens for understanding social movements. Future work could extend these methods to non-social-media participants, enriching insights and advancing the field of qualitative data visualisation and visual analytics.

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Note: The digital artefact can be accessed at storiesofendsars.postdigitalcultures.org

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Scroll, Share, Sustain: The Impact of Social Media on Social and Environmental Sustainability

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Abstract: Global development agendas such as the Sustainable Development Goals are focused on sustainability as a tool to improve the multi-faceted dimensions of human lives. Social media is one technology at the forefront of research into sustainability due to its social nature and ability to monitor human behaviour. Social media has become an integral part of society with a far-reaching impact that extends beyond our personal lives. Since its inception in the early 2000s, social media has grown exponentially and transformed in the variety of platforms available, usage and influence. It has become a powerful tool for sharing information, influencing behaviours and opinions and starting global movements. In this regard, these platforms are essential in shaping our understanding and actions around sustainability. However, there is a lack of comprehensive research on both the positive and negative impact of social media on sustainability and how exactly social media influences sustainability. This systematic literature review (SLR) paper aims to explore the impact of social media on social and environmental dimensions of sustainability, examining both the negative and positive implications of its pervasive use. The SLR assessed 70 studies using the *Web of Science* and *Science Direct* databases. The results of this study show the dual impact of social media on social and environmental sustainability. Positive impacts include promoting sustainable consumer behaviour, facilitating corporate social responsibility campaigns, improving brand perceptions and increasing engagement with sustainability topics. However, unintended consequences of social media can propagate issues like greenwashing, overconsumption, promotion of extremist views, and misinformation. The implications of this study might be used by digital policymakers, organisations and individuals who seek to exploit these platforms for sustainable development.

Keywords: Social Media; Sustainability; Social Media Impact; Social Media Effects; Environmental Sustainability; Social Sustainability

1. Introduction

The Internet, and social media (SM) in particular, have evolved from simple networking platforms into influential channels for disseminating information (Alosaimi *et al.*, 2023). These platforms shape consumption patterns and play a crucial role in raising awareness about important social and environmental issues. SM platforms such as Facebook, Twitter, Instagram, YouTube, and TikTok have become instrumental in spreading information about topics like climate change and resource conservation, fostering greater public engagement (Zhang and Gong, 2023). Consequently, SM can drive collective action and inspire more sustainable behaviours by increasing awareness of environmental and social sustainability challenges. While fostering awareness, SM has the potential to significantly influence user behaviour by addressing all three pillars of sustainability: environmental, economic, and social (Hyan and Reilly, 2014).

Sustainable development is defined in the Brundtland Report (1987) as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Environmental sustainability, as described by Khan *et al.* (2021), emphasises the conservation of natural resources, the preservation of ecosystem health, and the assurance of long-term planetary well-being. Social sustainability can be understood as "a life-enhancing condition within communities and a process within communities that can achieve that condition" (McKenzie, 2004). In this context, platforms like Facebook, Instagram, and TikTok play a crucial role by providing a space for promoting sustainable lifestyles.

SM campaigns highlight ecological issues, promote conservation efforts, encourage eco-friendly behaviours, showcase sustainable businesses and responsible consumption, and foster economic growth while respecting environmental limits. Moreover, SM facilitates community engagement and raises awareness about social issues related to sustainability. Campaigns and influencers frequently serve as pivotal agents in the formation of consumer preferences and the promotion of environmentally conscious decision-making among individuals (Dekoninck and Schmuck, 2022; Severo *et al.*, 2023).

Nevertheless, SM's potential to promote sustainability is limited, as it can also reinforce negative behaviours (Dekoninck and Schmuck, 2022). For example, influencers' recommendations may lead users to purchase

products that are trendy but not genuinely sustainable. This can result in increased demand for products that encourage over-consumption (Apostol *et al.*, 2024). Another issue is greenwashing, whereby companies present products as environmentally friendly when they are not. These misleading marketing practices erode consumer confidence in genuinely sustainable products, causing confusion (Breves and Liebers, 2022).

Therefore, a comprehensive overview of SM's influence on sustainability is essential. This paper provides such a review, aiming to clarify the various factors that shape consumer behaviour and their broader implications for environmental and social sustainability. The objective of this systematic literature review (SLR) is to collect and synthesise existing research findings on the effects of SM on environmental and social sustainability while excluding ecological considerations to maintain a more focused scope. To achieve this objective, research questions (RQs) have been formulated, as summarised in Table 1. The first question focuses on identifying the impact of existing SM applications on sustainability, while the second question aims to establish criteria for measuring this impact. To address these questions, a comprehensive literature review is conducted to evaluate the current state of knowledge in this field, and the findings are analysed accordingly.

Table 1: Research questions

Id	Research Question
RQ1	What is the evidence of the impact of existing SM applications on sustainability?
RQ1.1	What is the impact of existing SM applications on environmental sustainability?
RQ1.2	What is the impact of existing SM applications on social sustainability?
RQ2	What criteria can be employed to assess the impact of SM applications?

This paper will identify gaps in current research and highlight challenges that future studies must address. Furthermore, this SLR will serve as a basis for the development of a framework to assess the sustainability impact of SM apps, for which a comprehensive overview is essential.

2. Related Works

In recent years, research on SM and its influence on sustainable practices has gained attention. The following analysis presents five relevant studies that explore various aspects of the interaction between SM and sustainability. The studies were selected based on their insights into both the transformative potential of SM in advancing sustainable practices and the challenges it poses, such as maintaining measurement consistency and ensuring discourse integrity.

Vladimirova *et al.* (2023) analyse how SM has evolved from platforms for personal interactions to crucial channels that influence consumer behaviour and drive social change. Through a SLR, 92 relevant articles were identified from an initial selection of 422. The findings reveal that SM plays a significant role in shaping perceptions and behaviours related to sustainable fashion practices. Notably, direct brand communication and the influence of SM personalities help raise consumer awareness and engagement in sustainable consumption habits.

Similarly, Brennan *et al.* (2022) examine the effectiveness of SM in campaigns aimed at reducing food waste. The results highlight that while various strategies were employed, there is a lack of consistent methods to assess actual behaviour changes. This highlights the challenge of adequately measuring the effectiveness of SM in driving behavioural change.

Bjersér *et al.* (2023) examine how social bots on Twitter affect discussions on climate change and sustainability. Using an SLR based on Denver and Tranfield's five-step approach, they analysed 14 studies on bot detection, impact assessment, and normative evaluations. It notes a lack of research on social bots in climate discussions. Existing studies primarily show that bots negatively influence discourse by spreading misinformation and increasing polarisation, which distorts scientific debates and skews public perception.

The work by Adenle *et al.* (2022) explores the integration of SM into current tools for assessing campus sustainability. This study comprises two phases: an extensive search of the Scopus database, and a detailed content analysis of selected campus sustainability appraisal (CSA) tools. The results show that SM is minimally used in these evaluation tools. The study suggests leveraging user-generated content to better align sustainability indicators with community needs, which could enhance the tool's effectiveness.

The study by Zhao et al. (2023) analyses the relationship between sustainable luxury branding and consumer purchase intent. Through an SLR of relevant articles from 2000 to 2021, it highlights the importance of integrating sustainability promises into luxury brands' marketing strategies. The findings emphasise that brands can increase consumer loyalty by employing targeted marketing strategies and creating a strong connection between sustainable practices and brand identity. Notably, luxury brands should focus their marketing more on consumers' psychological needs and motivations rather than solely on charitable activities. The promotion of social responsibility and sustainability values by influencers enables brands to effectively navigate the tension between luxury and sustainability while simultaneously strengthening consumer loyalty.

In summary, these studies highlight the transformative potential of SM in promoting sustainable practices across a wide range of sectors, from fashion and food waste reduction to luxury branding. However, they also reveal important challenges in evaluating the effectiveness of SM, particularly concerning consistent measurement methods and the impact of social bots on discourse integrity. Engaging community perspectives through SM is considered crucial for strengthening the relevance and effectiveness of sustainability initiatives. Building on these findings, this paper conducts a comprehensive SLR to investigate the broader impact of SM on society and the environment.

3. Data and Methods

This paper employs a systematic methodology for conducting literature reviews, as outlined by Kitchenham and Charters (Kitchenham and Charters, 2007). This approach outlines three key steps for performing an SLR. In the *planning phase*, the research questions are defined, and a review protocol is developed. In the *conducting phase*, relevant studies are identified, primary studies are selected, quality criteria are applied, and relevant information is extracted. Finally, in the *reporting phase*, a review protocol is drafted and approved to ensure consistency in the review process. Furthermore, the methodology is enhanced by the PRISMA guidelines (Altman *et al.*, 2011), which ensure a structured and transparent process that facilitates the comprehensive identification, evaluation, and analysis of relevant literature.

3.1 Identification

To identify relevant studies, the databases *Web of Science* (WoS) and *Science Direct* (SD) were used as the primary sources of information. A search string was constructed using keywords such as "social media," "sustainability," "impact" and "environment". Due to the limitations of SD, which only allows eight operators, the final search term for each database was refined as shown in Table 2.

Table 2: Search string and results

Database	Search String	Results
WoS	TS = ("social media" OR "social networks" OR "social media app") AND TS = (sustain*) AND TS = (impact OR effect OR influence OR repercussions) AND TS = (environment*)	587
SD	TITLE-ABS-KEY (("social media" OR "social networks" OR "social Media app") AND sustain AND (impact OR effect OR influence OR repercussions) AND (environment))	326
	Total	<u>913</u>

Initially, 587 results were identified in WoS and 326 in SD, with two duplicates. After removing duplicates, 911 studies entered the screening process. To ensure relevance, specific criteria were set, and studies not meeting the inclusion criteria in Table 3 were excluded.

3.2 Screening

The screening process involved two stages. In the first stage, studies that did not examine the influence of SM on social or environmental sustainability (EC4) or focused on SM Analytics (EC5) were excluded. In the second stage, studies where the full text was not available (EC6) were excluded. Following the initial screening and exclusion criteria, 79 studies from WoS and 3 from SD were deemed eligible for further assessment (Eligibility Check). Studies that were literature reviews themselves were excluded at this stage (EC7), leading to the exclusion of 9 studies from WoS and 3 from SD. A total of 70 relevant studies were included for analysis, with results presented according to PRISMA guidelines and illustrated in Figure 1. No studies were excluded based on

EC1 to EC3, as a pre-filtering process in the utilised databases ensured that only English-language, peer-reviewed articles and studies published between 2018 and 2024 were included.\

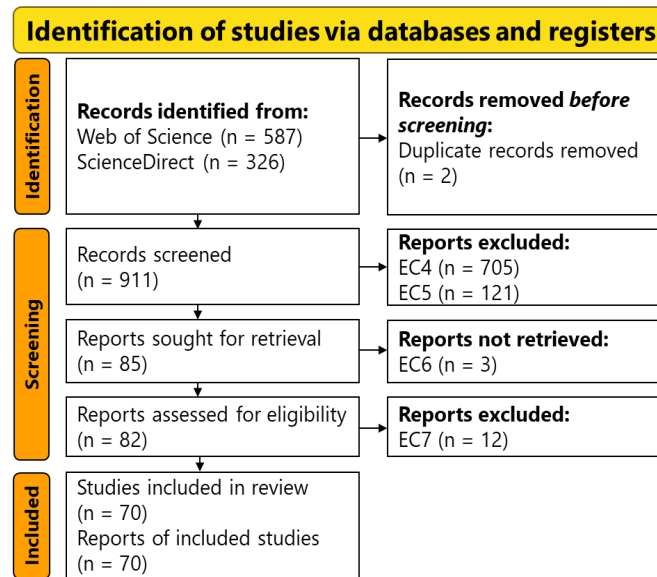


Figure 1: PRISMA flow diagram

Table 3: Inclusion Criteria and Exclusion ID

ID	Inclusion criteria
EC1	Paper is written in English.
EC2	Published between 2018 - 2024.
EC3	Has been peer-reviewed.
EC4	Examine the influence of SM on social or environmental sustainability.
EC5	Not focused on SM data analytics.
EC6	Full text is available.
EC7	Relates to a primary study only.

3.3 Quality Assessment

The quality assessment is part of the SLR methodology in the *conducting phase* to ensure that only methodologically valid and relevant studies were included in the analysis. Studies judged to be methodologically weak were excluded.

The papers were independently assessed by the three authors of this paper and discrepancies in the assessments were discussed until a consensus was reached. The final score was calculated as the mean of the three individual ratings, based on a scoring system on a set of 10 criteria, detailed in Table 4. These criteria were adapted from (Dermeval et al., 2014; Kitchenham and Charters, 2007), with some modifications to fit the scope of this SLR. Each criterion was scored on a scale of 0 (no) to 1 (yes), with a maximum quality score of 10 points per study. Higher scores indicated greater methodological rigour and relevance. The criteria covered aspects such as research design, data collection methods, quality of analysis and credibility of conclusions.

Five studies received a score below 6, indicating low quality according to the established evaluation criteria. Despite their low scores, these studies were not excluded from the analysis. The decision to include them was based on the need for a comprehensive exploration of the topic. For instance, Mohd, Azlan, and Yunos (2019) provide insights into terrorism, which no other study addressed. Similarly, while the other studies are methodologically limited, they contribute to a broader understanding of the research field, even if they do not offer new or substantial findings.

Table 4: Study quality assessment criteria

#	Quality Criteria
1	Is there a clear statement of the goals?
2	Is there an adequate description of the context and technology in which the research was carried out?
3	Is there evidence of attention to ethical issues?
4	Are the data collection methods adequately described?
5	Are the sample design/target selection of cases/documents well-defined?
6	Were the basic data and subjects adequately described?
7	Was statistical significance assessed, or bias discussed?
8	Are the assumptions/theoretical perspectives/values and output of the evaluation described clearly?
9	Are the findings credible?
10	Are the limitations of this study explicitly discussed?

3.4 Data Extraction and Synthesis

A systematic data extraction was conducted from the selected studies. The essential details, including context, research questions, methodology, significant findings, and scientific contributions, were collated and recorded in an Excel spreadsheet¹. The classification of studies was based on their focus, as determined by whether the study directly examined the influence of SM on sustainability or addressed it as a secondary effect.

4. Results

This analysis addresses the research questions guiding this review by building on their key findings. The results will be discussed in terms of two main aspects: the impact of SM on both social and environmental sustainability and the criteria used to assess its effectiveness in influencing sustainable behaviour. The analysis incorporates the various influence factors of SM, as identified in the sources consulted, to provide a comprehensive overview of the subject matter.

4.1 Impact of SM on social and environmental sustainability (RQ1)

Building on the preceding overview, the subsequent analysis will focus on the six key sources of influence that have been identified in the relevant literature. It was determined that each source exerts influence over users with respect to awareness, behavioural change, attitude formation, and consumerism.

4.1.1 Influencer

Influencers, particularly "greenfluencers" are playing an increasingly important role in promoting sustainable consumer behaviour. Through their credibility, they can significantly influence their followers' attitudes towards green products and their purchase intentions (Cavazos and Melchor-Ascencio, 2023). In sustainable tourism, influencers can also play a strategic role in promoting less competitive or rural destinations, thereby supporting local economic growth and encouraging the preservation of the environment, history and culture in these areas. Their ability to elevate such destinations makes them valuable assets in transforming the tourism industry toward sustainability (Palazzo *et al.*, 2021). Key factors like trustworthiness, credibility, and engagement of influencers strongly contribute to their followers' environmental involvement and ultimately guide purchasing behaviour towards sustainable products (Boerman *et al.*, 2022; Nazir and Wani, 2024). Influencers' self-disclosure and environmental awareness positively impact followers' willingness to buy sustainable food (Liu, Wu and Yang, 2023; Zorell, 2022). Followers with strong parasocial relationships with influencers tend to view them as more trustworthy, which in turn reinforces their intentions to purchase sustainable products (Breves and Liebers, 2022). Additionally, influencers can positively influence their followers' political and environmental behaviour by spreading pro-sustainability messages, fostering both online and offline engagement (Dekoninck

¹ <https://zenodo.org/records/14849738> contains the Excel spreadsheet

and Schmuck, 2022). These findings underscore that influencer, particularly those with a clear sustainability focus, play a key role in promoting green behaviour.

4.1.2 Social Media Marketing

Social Media Marketing (SMM) has a significant impact on consumer behaviour by increasing environmental awareness and promoting the purchase of green products. It plays a key role in increasing product knowledge and crisis awareness, which, especially after the COVID-19 pandemic, have become crucial factors in influencing green purchasing decisions (Leng, Sun and Xiong, 2022). SMM also positively impacts both altruistic and egoistic motivations, leading to stronger intentions to buy sustainable products (Alam *et al.*, 2023). Additionally, it improves attitudes towards eco-friendly purchasing by increasing green product knowledge, which in turn boosts purchase intentions (Fekete-Farkas *et al.*, 2022). Furthermore, SMM strengthens brand loyalty and engagement, particularly when the content is perceived as credible and useful (Chuang and Chen, 2023). These effects highlight SMM's effectiveness in promoting sustainable consumption by shaping consumer attitudes and knowledge. Research also shows that SM priming and cause-related marketing (CRM) framing can influence sustainable consumer behaviour. Positive Instagram priming and CRM framing lead to more favourable hotel images, increasing booking intentions and willingness to pay more for environmentally responsible choices (Kim, Kim and Tanford, 2020). Similarly, informative and persuasive green SM campaigns positively impact consumer attitudes toward sustainable tourism, especially when environmental concerns are involved (Bashir *et al.*, 2023). This demonstrates that SMM can effectively drive both product purchases and sustainable tourism choices. Furthermore, the impact of sustainability communication on luxury and non-luxury brands differs. One study shows that sustainability messages on SM significantly improve brand perception and purchase intentions for non-luxury brands, particularly in cultures with a high level of sustainability awareness, such as Germany. For luxury brands, however, sustainability advertising can weaken brand image and reduce purchase intentions, especially when consumers feel that sustainability detracts from the exclusivity of luxury products (Kong, Ko and Witmaier, 2021). This highlights the need to tailor SMM strategies to market segments and cultural contexts.

4.1.3 User Generated Content

User-generated content (UGC) on SM significantly influences travellers' environmental behaviour in coastal tourism. Cognitive triggers (information) and affective triggers (emotions) from UGC increase environmental concerns and attitudes, promoting more sustainable practices among travellers (Badulescu *et al.*, 2021). The discussion of environmentally relevant topics on SM can potentially enhance awareness and promote responsible behaviour in the context of coastal tourism. Furthermore, pro-environmental UGC activates personal and social norms, thereby reinforcing tourists' intentions to act in an environmentally conscious manner (Chong *et al.*, 2018). Another analysis of sustainable fashion on Instagram reveals that content under the hashtag #sustainablefashion often emphasises the sale and showcasing of sustainable fashion, identifying several key communities. This shows a growing demand for second-hand fashion and illustrates how UGC can guide consumers toward more sustainable purchases (Dorrian *et al.*, 2023). Moreover, a study shows that SM-centric consumption (SMCC), driven by the desire for social recognition and identity signalling, leads consumers to engage in activities primarily to post on SM.

4.1.4 Social Networks

Social networks (SN) can both promote corporate social responsibility and raise awareness of sustainable consumer choices. However, they also risk spreading misinformation, which can diminish sustainability awareness among users (Simeone and Scarpato, 2020). A study of green SN (GSNs) found that features such as green self-identification and social endorsement enhance pro-environmental behaviour through collective intentions (Nivedhitha *et al.*, 2024). Additionally, SN amplify the link between personal concerns, such as environmental and political issues, and ethical consumption behaviour focused on eco-friendly products (Chi, 2022). SN also play a key role in promoting green innovation in agriculture by linking environmental awareness and technology diffusion, supporting sustainable development (Chi and Hien, 2023). Furthermore, research indicates that CEOs' SN positively impact corporate carbon performance. Well-connected leaders are more likely to adopt sustainability practices, especially under media scrutiny (Du *et al.*, 2023). Finally, SN contribute to household-level water conservation. An agent-based model (ABM) study found that peer support, social pressure, and encouragement significantly reduce water consumption (James and Rosenberg, 2022).

4.1.5 Gamification

A study focusing on the "Ant Forest" app in China illustrates how gamification elements can incentivise users to adopt sustainable behaviours. The results demonstrated that while gamification enhances enjoyment and intention to consume sustainably, excessive green advertising may disrupt the conversion of these intentions into actual sustainable behaviour. Although green advertising enhances the positive effect of gamification on perceived enjoyment, it does not effectively translate that enjoyment into sustainable consumption intentions (Huang et al., 2023). These results highlight the need for a balanced strategy, where gamification is paired with subtle green advertising to effectively drive sustainable behaviour.

4.1.6 Corporate Social Responsibility

Research on Corporate Social Responsibility (CSR) highlights significant impacts on consumer behaviour. One study found that sustainable CSR practices greatly enhance impulse buying intentions among university students in China. Notably, the use of SM advertising amplifies this effect concerning economic and environmental wellbeing (Akbar et al., 2023). Another investigation focused on the effectiveness of prosocial native advertisements and found that high congruence between these advertisements and SM feeds leads to greater engagement, more favourable attitudes, and higher behavioural intentions (Huang and Yoon, 2022).

4.1.7 Summary and Categorisation of Findings

Overall, a 4-quadrant diagram was created to present the results of the synthesis. The studies were categorised according to whether they addressed environmental or social sustainability. In addition, the key findings and analyses of the studies were divided into positive and negative impacts according to their potential contribution to sustainable development. Figure 2 provides a presentation of the study results in the context of research questions 1.1 and 1.2.

RQ 1.1 ENVIRONMENTAL SUSTAINABILITY		Positive	RQ 1.2 SOCIAL SUSTAINABILITY	
[22] [49] [25] [28] [55] [8] [21] [38] Promotion of CSR communication and well-designed media campaigns can strengthen green values e.g. acceptance of waste separation.	[22] [34] [12] [7] [65] Improved brand image and connection to environmental innovation.	[3] [17] [18] [37] [36] [59] [5] [42] Influence through recommendations, trust, and engagement can drive consumer behaviour and increases participation in environmental discussions.	[11] [44] [2] [30] [62] [61] [20] Can positively influence green product purchase intentions.	
[56] [53] [57] [43] [14] [16] [27] [30] [63] [64] [70] [29] [33] [40] [46] [66] [4] [37] Support for sustainable tourism, fashion, intention to book sustainable hotels and consumption habits.	[1] [3] [4] [9] [58] [15] [61] [19] [13] [14] [32] [34] [26] [28] [48] [51] [52] [68] [69] [19] [50] [38] Promoting environmental awareness and sustainability by sharing knowledge about sustainable products and sustainable practices.	[11] [32] [45] [54] [39] Promoting sustainable mindsets, achieving goals, and fostering collective action in social issues.	[22] [23] [47] [60] [67] [7] [42] Strengthening brand image and building long-term relationships with consumers, business partners, investors, and employees through sustainability.	
		Negative		
[1] [24] [58] Consumption-promoting content and Marketing strategies leading to higher consumption levels.	[56] [57] [25] Promotes overtourism.	[31] [58] [6] [10] Induced impulse buying and comparison-shopping behaviors, which ultimately lead to increased consumption.	[44] [59] [2] Promotion of pseudo-green products and excessive green advertising can foster distrust, scepticism, and hinder translating intentions into sustainable behavior.	
		[35] [49] [41] Exploitation of SM for illegal activities, propaganda, manipulation of youth, threats to public safety, and the spread of misleading information can negatively influence sustainability behavior.		

Figure 2: Categorisation of findings based on social and environmental sustainability

4.2 Criteria for Assessing the Impact of SM (RQ2)

Assessing the impact of SM applications on consumer behaviour, particularly regarding sustainable practices, requires a nuanced analysis of various criteria. One key aspect is the existing awareness and knowledge about sustainability issues and how much SM platforms enhance this awareness. Platforms like Instagram and Twitter can be effectively utilised to disseminate information about eco-friendly products. However, it remains unclear to what extent this knowledge translates into actual behaviour change (Leng, Sun and Xiong, 2022). Many studies document an increased awareness, yet they struggle to measure tangible behaviour changes, indicating an often-absent direct correlation between knowledge and sustainable action (Huang et al., 2023). Another criterion is user engagement with content on SM. Likes, shares, and comments serve as indicators of users'

interest in specific topics. Finally, the quality of information shared on SM is critical (Simeone and Scarpato, 2020). Misinformation or distorted representations can negatively influence consumer behaviour and should therefore be considered a significant criterion. In this context, the spread of disinformation on digital platforms can also affect individuals' well-being and decision-making related to sustainability. Digital disinformation can undermine the quality of life (QoL), and misinformation on SM can reduce people's trust in sustainable initiatives and decisions (Bartak *et al.*, 2024). This highlights the importance of not only promoting accurate information but also addressing the harmful effects of false or misleading content online. Overall, the effectiveness of SM in influencing consumer behaviour toward sustainability can be evaluated through several criteria. These include awareness and knowledge, engagement with content, the translation of awareness into behaviour changes, and the quality of information shared. Each of these aspects provides valuable insights into how SM applications shape sustainable practices.

5. Discussion

The analysis has shown that SM not only provides a platform for promoting sustainable practices but also presents challenges regarding the visibility and perception of this content. A key issue to discuss is the impact of algorithms on the visibility of sustainability-related content. Algorithms prioritise content that generates high interactions, such as likes and shares, which can distort the visibility of sustainable practices. This underscores the need for more transparent algorithms that balance sustainability visibility.

While studies show increased awareness of sustainability, behavioural changes are often absent suggesting that knowledge does not always translate into action. (Huang *et al.*, 2023). This presents a significant challenge that must be addressed to maximise the effectiveness of SM in the field of sustainability. Similarly, while SM promotes knowledge about waste separation, it does not directly impact the perceived importance or intention to separate waste, indicating that its influence is largely indirect (Ai, Li and Wang, 2021). Additionally, two control variables, age and education, showed a significant correlation. Younger people demonstrated stronger pro-environmental intentions, and those with higher educational backgrounds expressed a greater sense of responsibility toward the environment (Chong *et al.*, 2018).

The results also confirm that the effectiveness of influencers and targeted marketing campaigns can be attributed to their specific targeting of emotional and cognitive triggers relevant to sustainable behaviour. The findings highlight the importance of factors such as trust, authenticity and engagement.

The reliability of the results is strengthened by the rigorous quality assessment of the studies included in the analysis. All selected sources demonstrate high methodological quality and relevance, providing a sound basis for the conclusions drawn. This ensures that the findings are credible, supporting the practical applicability of the results in promoting sustainability through SM.

6. Limitations

This paper identifies several limitations that may affect the results of the SLR. Construct validity may have been compromised by the inclusion criteria, such as restricting studies to English and those published between 2018 and 2024, potentially excluding valuable research. Internal validity was ensured by rigorous quality assessments, although the criteria may have excluded studies with less detailed reporting, potentially missing unique perspectives. External validity is limited by focusing on specific databases and a narrow time frame, which reduces generalisability across cultural contexts. The review also excludes the financial pillar of sustainability, which limits the scope of the findings.

7. Conclusion

The analysis highlights that SM plays a crucial role in influencing attitudes and behaviours related to sustainability. Regarding RQ1, evidence suggests that SM applications impact both environmental and social sustainability through several key sources, such as influencers, SMM, UGC, SN, gamification, and CSR. Specifically, influencers and targeted SMM drive consumer awareness and engagement, fostering more sustainable purchasing behaviours. In terms of environmental sustainability (RQ1.1), SM contributes by promoting eco-friendly practices, particularly in tourism and consumer choices. For social sustainability (RQ1.2), SM has enhanced awareness around social issues and supported CSR initiatives, although risks such as misinformation can hinder progress. In answer to RQ2, criteria identified for assessing the impact of SM applications include users' existing sustainability awareness, the level of engagement with sustainability-related

content, and the quality of information shared. These criteria help evaluate how SM influences sustainable practices by highlighting the extent to which awareness translates into tangible behaviour change. Future research should focus on developing appropriate measurement tools to accurately assess the strength of SM's influence on sustainable behaviour. This includes both quantitative and qualitative analyses of the interactions between SM, user behaviour, and sustainable practices. This will deepen understanding and support practical approaches to promoting sustainable decisions in society.

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Fascism and Paranoia in the Market of Information

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Abstract: My paper is a theoretical exploration bringing together psychoanalysis, political theory and media studies to show how conspiracy media are expressions of paranoia that, in their attempts to resolve the contradictions present in liberalism, necessarily reproduce fascist ideology. Alternative political cultures and neoliberal media structures are posing increasingly greater challenges to the ideological authority of liberal institutions, exposing media users to the contradictions inherent in liberal democracy. Paranoia in the Lacanian structure is characterised by the radical rejection of the authoritative signifier, substituting this authority with some other, usually malevolent, omnipotent authority via a delusion. In substituting this authority, the newly formed reality retains investment in the signifiers of the old symbolic order but is imbued with new meaning. Fascism has been argued to be an ideology that attempts to purify the contradictions of liberal democracy, by either privileging the popular will over the rights of the individual or privileging the rights of the individual over the popular will. In my paper I draw on existing Lacanian analysis of fascism as containing a paranoid structure where, in confrontation with its failures, radically rejects the traditional authority of liberalism, resulting in the substitution of authority with some imagined corruptive obstruction (such as a Jewish cabal). As such, it is an ideology that distorts and gives new meaning to the discourse of liberal democracy. I will then link this argument to contemporary conspiracy theory media, demonstrating its paranoid character and how it reproduces the ideology of fascism in its attempts to reconcile the failures of liberalism by imagining some corruptive obstruction.

1. Introduction

Social media as a domain of communication has naturally developed into a space of public discourse: seeking, creating and sharing information on political issues. The structure of social media, despite attempts to regulate, “verify” and filter its content, has a neoliberal market form in which private individuals and traditional institutions of authority are bound by the same platforms and accompanying tools for attracting consumers to their content. In this form, information regarding matters of public and political interest is shared equally alongside all genres of content permissible on each platform. This has a profound impact on the relationship between the user and their relation to democracy, where despite social media embodying the manifest ideal of the public sphere, the users’ social investment in the institutions which give meaning to liberal democracy are at risk of withering away. In this chaos, a vulnerability emerges – where the emptied signifiers of liberal democracy are distorted and given new meaning through the discourse of fascism.

This paper aims to contribute to the growing body of research into conspiracy theories within social media through an interdisciplinary approach: bridging together psychoanalysis, political theory and media studies to offer an original theoretical understanding of the phenomena. By presenting existing scholarship which has accounted for the presence of paranoia and fascism in democratic discourse, this paper aims to synthesise this work by explaining the spread of conspiracy theories through a psychoanalytical approach and within a broader context of neoliberal media structures. I will first outline the Lacanian psychoanalytic framework that informs my analysis: focusing on the split subject, the three registers (Imaginary, Symbolic, and Real), and the structure of paranoia. I will then examine the neoliberal structure of social media through Jodi Dean’s concept of “communicative capitalism”, focusing on how it generates a crisis of paranoia in liberal democracy. Finally, I will draw on the analyses of fascism by Davide Tarizzo and Daniel Woodley to demonstrate how the violent conclusions of fascism are paranoid responses to the failures of liberal democracy. By exploring and unifying these theories through the Lacanian framework of paranoia, I aim to illustrate how conspiracy theories, in their attempt to reconcile the inherent contradictions of liberal democracy, inevitably reproduce fascist conclusions.

2. Theoretical Framework

2.1 The Split Subject

Lacan borrows from Freud’s discovery of the Oedipus Complex as a metaphorical foundation for the structure of the psyche (Fink, 1995). The subject’s identity and ego emerge through a process of alienation by signification, beginning from an initial state of unity in infancy before gradually mediating their self-identity and experience of the world through an externally imposed language. This external language is the discourse of the “Other”, the maternal metaphor in the Oedipal model and social domain through which experience gains meaning. In having to perceive themselves and their world through the language of the Other, the subject is therefore “split” and

fundamentally alienated (Fink, 1995). However, the language of the Other is inherently incomplete, as the domain of signifiers cannot fully account for the subject's experience. This failure creates a central gap or "lack" in the subject's identity, which becomes the primary driver of their engagement with the world as they seek validation from and reintegration with the Other.

The laws governing language and signification are established by a paternal metaphor, which Lacan terms the "Name of the Father". Through a French pun, Lacan plays on the homophony between "Nom-du-Père" (Name of the Father) and "Non-du-Père" (No of the Father), referencing the Oedipal role of the father as the figure who denies the subject access to the Mother, and emphasising the symbolic rather than literal role of the Father in this process (Fink, 1995). The Name of the Father functions as a primordial signifier: it defines the laws of signification and assigns meaning within the symbolic order. As the subject integrates into language, achieving a socially coherent identity and mediation of the world, it is this external authority which defines the laws of the Other from which the subject is split.

2.2 The Three Registers

Further terms that will recur throughout this paper are the three Lacanian registers. For Lacan, the subject's integration with their external world can be understood through three interdependent layers: the Imaginary, the Symbolic, and the Real. While the definitions and applications of these terms have evolved throughout Lacan's work, I will briefly define them here to provide clarity for the purposes of this paper.

The Imaginary register refers to the subject's conscious experience, containing sensations, thoughts, emotions, and the internal world as perceived and understood. The Symbolic register constitutes the structure of language and signification through which the subject mediates their experience—imposing order and meaning, such as the words used to describe emotions or temporal and physical phenomena. The Real register represents a fundamentally inaccessible externality, bound by the limitations of the Symbolic order (Fink, 1995). The subject's Imaginary experience is thus mediated through the Symbolic order, which structures their engagement with the Real. However, because the Symbolic order—as a domain of language—cannot fully capture the Real, this mediation remains incomplete, leaving a surplus of the Real that always eludes the subject.

2.3 Lacanian Paranoia

Paranoia, as an instance of the psychotic psychic structure, was described by Lacan in greatest detail in *Seminar 3*, where he defined it as the "foreclosure" of the Name of the Father (Lacan, 1997). For Lacan, the psychotic structure is characterised by a radical rejection of the authority that organises and gives meaning to language. For a neurotic subject, if language fails to integrate an idea or object into conscious discourse, it is repressed into the unconscious. For a psychotic subject, however, the failure is so disturbing that the process of exclusion from the psyche targets the authority of language. In this way, the core of socialised meaning and the organisation of signifiers that mediate subjectivity collapses. The psychotic subject no longer has a stable point of reference from which the mediation of their experience is organised or derives meaning. As a result, the psychotic subject experiences a breakdown in the organisation of language within the Imaginary register, struggling to articulate or interpret experience through language. Their experience of the world becomes suspended, where anything can have meaning and nothing can be taken for granted. The subject is then left to reorganise their world, piecing together the ruptured fragments of signifiers to create coherence and meaning. When this reorganisation stabilizes, it manifests as a paranoid delusion. In reframing a world shattered by contradictions in language, the paranoid subject cannot accept the void of authority governing their existence. Paranoid delusions therefore often substitute this void with some other malevolent and omnipotent entity—such as an alternative God or deep state activity—that can meaningfully account for the disturbances in their experience.

2.4 Hegel and Paranoia

Wilfried Ver Eecke (2019) explains how Lacan's formulation of paranoia was deeply influenced by Hegel's concept of paranoid aggression, as articulated through the figure of the "Romantic Reformer." Ver Eecke outlines that, according to Hegel, paranoid aggression arises through several iterative stages. It begins with the Romantic Reformer, who believes that their deeply felt personal convictions are universally shared, similarly to how logical reasoning extends particular premises to universal conclusions. Convinced that the law should reflect the heart, the Romantic Reformer misunderstands the law — denying its necessary transcendence over individuals and its demand for their submission. By positioning themselves as the enactor of the "law of the

heart” and viewing their vision as an objective good for humanity, the Romantic Reformer cannot reconcile the inevitable resistance to their ideals. Their strong identification with the law, seen as an expression of their heartfelt passions, becomes fragile. In an attempt to reinforce their identity, the Romantic Reformer responds with outward aggression, perceiving resistance as a deliberate obstruction of a natural good, motivated by tyrannical intent.

Ver Eecke explains that Lacan worked backwards from this framework, identifying the source of paranoid aggression as rooted in some disappointment or failure. Crucially, while Hegel locates paranoid aggression in a failed relationship to the law, Lacan attributes it to the defective representation of the law by the Name of the Father. As Ver Eecke notes, “For these people, the father abused the law he presented to his children” (2019). Taking the law to be the authority which governs language, paranoia is therefore “marked by a defective relationship to language”. This account of paranoia as a defence against instability in identity, particularly rooted in a disappointment of ideological organisation the subject, is especially useful for contextualising conspiracy theories as a form of paranoid discourse in the public sphere.

3. Social Media as the Neoliberal Public Sphere

Jodi Dean’s concept of “communicative capitalism” will be outlined here as it offers a critical framework for understanding how the neoliberal media economy creates a crisis of meaning. Lacan’s formulation of paranoia is an essential footing for her work as she argues that the neoliberal structure of digital media assaults the subject with competing contradictory narratives, collapsing the authority of signifiers. She argues that it is specifically the market environment which exacerbates the foreclosure of the Name of the Father, where the paranoid subject is left in an endless cycle of distrust and having to formulate conspiratorial narratives to account for their irreconcilable experience of contradiction.

In *Publicity’s Secret: How Technoculture Capitalises on Democracy*, Jodi Dean (2002) outlines the complex ways in which contemporary internet-based media fail to deliver on their promise of a Habermasian public sphere. By expanding the apparent networks through which the public can communicate, “communicative capitalism” promises to enhance democracy by fostering the illusion of an online public sphere. Social media platforms position themselves as both providers of information that the public has a right—or obligation—to know, and as the embodiment of the public sphere itself. Writing in 2002, as if anticipating the Cambridge Analytica scandal of 2015, Dean critiques the shift of political participation away from traditional institutions like political parties and unions toward “the domain of financially mediated and professionalised practices centred on advertising.” This critique remains strikingly relevant in 2025, as political campaigns increasingly resemble public relations exercises on social media platforms, leveraging the same algorithms designed to maximise profitability through consumer data trading and targeted advertising.

She draws on Slavoj Žižek’s explanation of the function of ideology, which argues that ideology is not merely a distorting mask or crude propaganda to be deconstructed. Rather, even when maintaining some awareness or critical distance from the source of ideology, it is impossible to be immune to its influence. For example, an individual might reject the reasoning behind a system or even recognise its exploitative nature yet continue to participate in its consumption and reproduction. It is this participation, rather than the individual’s beliefs or attitudes, that sustains the ideology. As such, despite alternative, antihegemonic, and pluralistic ideas existing within this media environment—which often even challenge it—it is the act of participating in communicative capitalism and the implicit investment in its promises that reinforces its hegemonic ideological hold as the public sphere.

Dean further explains that the existence of this “public sphere” creates the reassuring illusion of a unified site for democratic engagement. “Democracy appears convincing,” she writes, “in other words, because of the fantasy that we are all part of the same thing, members of the same public.” Ideology, in this sense, operates on a phantasmatic level, relying on an imagined external legitimisation of its language of signifiers. However, democracy contains an inherent untenability. Drawing again from Žižek, Dean explains that the democratic subject is necessarily split in their public engagement: “I know very well (that the democratic form is just a form spoiled by stains of pathological imbalance), but just the same (I act as if democracy were possible).” While Dean’s account of Žižek argues that it is the acknowledgement of this contradiction that gives democracy its strength, she also highlights how liberalism’s denial of this contradiction results in a self-consuming distrust.

Using Jeremy Bentham’s defence of the democratic public as an example, Dean argues that “disavowing” this split and insisting on the public’s right to know generates a necessary suspicion “that no one has to, or should, believe.” The democratic concept of the “public,” or things being “open to the public,” simultaneously implies

the existence of things “hidden from the public.” Thus, the public sphere depends on the assumption of some “secret” that must be revealed. Democracy, then, is caught in a contradiction: it must continuously reveal the truth while simultaneously doubting it. By disavowing this inherent contradiction, the myth of a corruptive “secret” as the primary obstacle to democratic cohesion takes hold.

Dean argues that communicative capitalism thrives on the imagined “secret-that-must-be-revealed.” Driven by the fantasy of a democratic public sphere, contemporary digital media profits from the endless pursuit of knowledge, which is itself fuelled by perpetual suspicion and distrust of the information already accessed. As Dean argues, the “technocultural subject is the conspiring subject”—that is, the ideal consumer of contemporary media is a conspiracy theorist. In this way, Dean demonstrates how the untenable fantasy of liberal democracy produces a necessary surplus of paranoid subjects.

In *Democracy and Other Neoliberal Fantasies*, Dean (2009) further expands her psychoanalytical critique of communicative capitalism by demonstrating how the form lends itself to the proliferation of paranoid media due to a decline in symbolic efficiency. A term borrowed from Žižek, symbolic efficiency refers to the strength of a subject’s investment in accepting the value and meaning of signs. She explains that in a form which proliferates indiscriminately competing alternatives of information, there is a natural decline in symbolic efficiency in traditional media. Before the expansion of this form, a subject might have taken for granted that information directly from a government website was a credible source, without giving much thought to verifying or seeking alternative views on presented content. In the advent of a boundless market of information, the collision of alternatives creates doubt, a desire to verify, and an endless search for some seemingly more legitimate truth.

Dean attaches to this argument Eric Santner’s “crisis of symbolic investiture,” extending the decline of symbolic efficiency to the extremity of paranoid psychosis. Drawing on Santner, she describes how, in “excessive proximity to authority”—that is, the immediate awareness of the violence necessary to impose an artificial symbolic order—the subject cannot reconcile this presence into their existence. The subject denies the social necessity of buying into this fiction, instead substituting it with the certainty of an intrusive authoritative presence. It is under these conditions that conspiracy theory media thrives—by deteriorating the subject’s investment in socialised symbols, seizing them in an endless circuit of distrust and an overwhelming sensation of some external, overbearing force.

4. Fascist Discourse

While the market-driven structure of social media confronts the subject with the irreconcilable contradictions inherent in liberal democracy, the authority governing the signifiers of liberal democracy risks foreclosure. In substituting the void left from foreclosure, the paranoid subject is forced to construct an alternative discourse that reconciles the contradictions from this destabilising encounter. The following section positions fascist discourse as an ideology that specifically serves to resolve the inherent tensions in liberal democracy, and as such is an organic tendency for the paranoid subject in this context.

In *Fascism and Political Theory*, Daniel Woodley (2010) discusses numerous approaches to understanding fascism to build a robust critical theory, accounting for the inconsistencies present in its various theoretical manifestations that problematise its categorisation. He asserts that one of the fundamental characteristics of fascism is, despite the protestations of some of its advocates, that it is a product of modern capitalism. Woodley argues that fascism is the political commodity resulting from the failures of liberalism, quoting McCormick: “We need to address the deficiencies in liberalism which make fascism possible.” Drawing on the Marxist theory of commodity form, he explains that in fascist ideology, the material relations created by capitalism are obscured, and instead, there is an investment in the commodity fetishism established by social relations. For example, before capitalism, labour had no abstract value outside of itself; however, under capitalism, it began to represent potential exchange value, mystifying it as a commodity.

Woodley emphasises that fascist ideology operates on the level of commodity fetishism, affirming the ideological social relations created by capitalist conditions. It establishes itself through symbols, rituals, language, and aesthetics—investing in abstracted and idealised images while denying any contradictory relations at the base of the ideology. Fascist ideology thus maintains a strong investment in symbolic social roles as a basis for identity and the organisation of society. For instance, the labourer and the capitalist are each assigned their necessary role for the harmony of capitalism, much like the supposedly harmonious oppositional roles of the man and woman in a nuclear family, as an attempt to reconcile contradictory material interests.

Where the universalising forces of capitalism and modernisation have created instability in social identities, Woodley states that “fascism offers a false reconciliation of ... cultural contradictions.”

In *The Unconscious Foundation of Modern Democracy*, Davide Tarizzo (2021) also argues that fascism arises out of an attempt to stabilise the inherent contradictions present in democracy and the principle of a social contract. He identifies a dysfunction in the discourse of democracy, where it must fulfil the will of the “nation” and the will of the “citizen” as if they were one and the same. This ambiguity opens the door to two interpretations, both of which represent a psychotic response in the Lacanian sense: either “absolutising popular sovereignty at the expense of individual rights” or “absolutising individual rights to the detriment of popular sovereignty.” Tarizzo classifies the former as “old fascism” and the latter as “new fascism.” While the term “nation” grammatically implies homogeneity within a populace, there is a distinct gap between the abstract concept of a homogeneous nation and the existing heterogeneous state of reference. Tarizzo illustrates this by examining how the Nazi party attempted to close the gap between sign and referent by conflating the metaphorical with the literal. They sought to reconcile the impossibility of this contradiction through measures such as promoting scientific evidence to define what constituted the nation’s “people”—namely, the Volk, or master race, as a unifying ideal. In their attempt to purify popular sovereignty into a truly unified, homogeneous nation, an excess of violence targeted the margins of society—Jewish people, travellers, homosexuals, and disabled people—in pursuit of an interminable logical circuit that could never be fulfilled.

“New fascism,” according to Tarizzo (2021), is the inverse form of old fascism, where the absolutising of individual rights erodes popular sovereignty through depoliticisation. Whereas individual rights were traditionally manifested through affiliation with a political entity (such as a nation-state), the post-war period saw the abstraction of natural human rights as independent of politics—belonging to everyone by virtue of being human. This created a contradictory position: while rights are awarded to every individual regardless of state or political affiliation, they can only be articulated through affiliation or membership to a political entity. Tarizzo argues that under new fascism, the attempt to resolve this contradiction involves dissolving the definition of socially contracted popular sovereignty into its constituent individuals. The universalisation of individuals as private, independent actors with independent interests transforms the social contract into an ineffective anti-society of individuals. With nothing binding them, the population is redefined as an abstracted mass of “everyone,” denying the existence or responsibility of any collective political power. Tarizzo highlights that, while this differs from old fascism in that the nation does not proactively purge impurities from itself, it instead becomes passive and apathetic toward the extreme violence perpetrated by private entities through its own degradation. This “new fascism” allows individuals to observe violence yet remain powerless against it, as any unifying power that might have provided the impetus for transformation is dissolved, compromising the democratic means to achieve any popular will. In this way, popular sovereignty dematerialises, and humanity is left without institutions to protect or defend against extreme violence or to manifest their so-called natural human rights.

Woodley and Tarizzo demonstrate how fascism emerges in opposition to liberal democracy, but only insofar as it attempts to resolve its inherent contradictions. In a structure that replicates paranoia, fascist ideology forecloses and substitutes the traditional authority of liberal democracy with an alternative discourse that seeks to purify the sign by removing the tensions inherent in its meaning. In doing so, fascist ideology denies the inherent impossibility of signification, instead striving to restructure an account of the world through a heavily aestheticised language seemingly free from contradiction.

5. Paranoia and Conspiracy Theories

Conspiracy theories, particularly in the contemporary media environment, have been strongly associated with radicalisation and populism, and the historical link to antisemitism is well-documented (Butter and Knight, 2020). It is important to emphasise, however, that the scale of conspiracy media propagated through social media represents an extreme response with profound consequences for democratic engagement.

As described, the neoliberal structure of social media undermines the authority of social signifiers and, in doing so, compromises the liberal democratic institutions that rely on this authority. Users of social media, confronted with endlessly contradictory content and lacking effective discriminatory measures, face the inauthenticity of the hegemonic ideology underpinning social order. This confrontation can have traumatic consequences, manifesting as paranoia, where the subject’s adherence to socialised authority collapses. In a desperate defence of their identity, which depends on liberal democratic values, they are left attributing its failure to some deliberate obstruction. Like Hegel’s Romantic Reformer, advocates of conspiracy theories fundamentally cannot

accept that the ideology of liberal democracy is inherently contradictory and refuse to concede the fictional nature of the abstracted concepts to which they are tied—such as democracy, freedom, and justice. By insisting on these ideals, they reconfigure them through an alternative narrative in which democratic dysfunction is caused by corruption from a hidden, malign, and intrusive force.

By refusing to acknowledge the contradictions of liberal democracy and attempting to forcibly reconcile them, conspiracy theorists are fated to reproduce the conclusions of fascist ideology. Central to most conspiracy theories is the belief that the proper functioning of society is compromised by some hidden corruptive influence—whether targeting individual freedoms, cultural identity, or the popular will. Theories focusing on individual freedoms tend towards conclusions aligned with new fascism, where state institutions are seen as inherently corrupt, enslaving individuals through alienating laws—a view most prominently demonstrated in the sovereign citizen movement (Matza, 2020). Conversely, theories focusing on cultural identity or the popular will habitually align with old fascism, reviving ancient tropes such as a shadowy Jewish cabal wielding omnipotent power for malevolent ends, or some other depraved entity attempting to deteriorate national culture (Becker et al., 2024). There is little coherency or utility in systematising these theories, perhaps because paranoia is fundamentally an isolating phenomenon in subjectivity. However, a common thread ties conspiracy theorists together: the paranoid certainty of an overwhelming malevolent force. It is through the neoliberal communicative form of social media that this certainty proliferates. Ultimately, these narratives of dysfunction place the subject in a desperate position, where the only perceived means of achieving a pure form of liberal democracy is through the violent excesses of either new or old fascism.

The theoretical framework presented in this paper has significant implications for understanding and addressing the challenges posed by social media in contemporary democratic societies. The fact that the neoliberal structure of social media exacerbates the crisis of symbolic efficiency and risks triggering paranoid responses demonstrates the urgent need for regulatory interventions that go beyond superficial measures such as content moderation or algorithmic transparency. Although platforms have implemented policies to combat misinformation and hate speech, these efforts often fail to address the deeper structural issues that fuel distrust and enable the proliferation of conspiratorial and fascist discourses. Furthermore, the psychoanalytic dimension of this paper highlights the fragility and limitations of subjectivity that renders individuals susceptible to radicalisation. That is, individuals are not radicalised by conspiracy theories merely through malignant brainwashing or repeated exposure to extremist content, but rather through a destabilising confrontation with the inherent fraudulence of the narratives that mediate their world. Addressing this issue raises significant political, economic, and ideological questions. However, given that paranoia is triggered by the collapse of authority through contradiction, efforts could be made to foster an appreciation of the tensions and constraints inherent in liberal democracy, thereby mitigating their destabilising effects. Participatory democracy, which enables effective engagement in institutions such as unions, political parties, and civil society, can reduce the distance between the language of liberal democracy and the experience of the individual. By transforming political and democratic expression into more engaged practices—where the individual is not merely subordinate but also an active contributor to democratic discourse—the public sphere can become more resilient to the appeals of fascism.

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Social Media and Enterprise Password Reuse Problem: Password Security Guidelines for Manufacturing Enterprises

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Abstract. The widespread use of the same passwords for social media and enterprise accounts presents a significant risk to organisational security. Through social engineering attacks such as phishing, hackers can try and gain information from users, using this information to try and guess your password to your social media accounts and attempt to see whether it is the same for your enterprise account. This study aims to create campaign guidelines for raising awareness amongst social media users about password security. The following Secondary Research Objectives have been used to aid the Research Question. Secondary Research Objective 1

(SRO1) was to assess security risks, preventive measures, best practices, and challenges related to password reuse across various platforms. Secondary Research Objective 2 (SRO2) aimed to identify key elements for successful password security campaigns. Using these Secondary Research objectives, we will be able to address the Research Question and apply critical reasoning to come up with guidelines that can help users learn about password security and raise awareness about safe password security practices. In essence, the study emphasises a layered approach that combines strong policies, user education, and balanced usability to enhance password security effectively. Through these efforts, this study aims to develop personalised social media campaign guidelines to improve employee's understanding of password security, encouraging a culture of proactive cybersecurity practices and safeguarding organisational data.

Keywords: Password Security, Social Media, Awareness Campaigns, Cybersecurity Education, Employee Awareness.

1. Introduction

Passwords are essential for securing both personal and professional accounts, serving as primary access credentials for various systems, applications, and devices. The structure of an effective password—typically a mix of characters, numbers, and symbols—intends to minimise unauthorised access. However, the repetitive creation and management of multiple passwords across platforms can lead to “password fatigue,” a major reason for risky practices like password reuse (Juozapavičius et al., 2022). In the case of social media, where security protocols are often less stringent than in corporate environments, users may unknowingly expose both personal and work accounts to exploitation (Aichner et al., 2021).

Phishing and social engineering are common attack methods leveraged on social media, where attackers extract non-sensitive personal information to deduce or guess users’ passwords. Such information can then be used to compromise accounts with reused credentials, facilitating unauthorised access to enterprise systems. Studies underscore that an integrated approach combining multi-factor authentication (MFA), regular password updates, and cybersecurity training can counteract these risks effectively by enhancing user awareness and password hygiene (Chaudhary et al., 2019; Jain et al., 2021). Thus, creating distinct, complex passwords for each account, paired with awareness initiatives, is crucial in minimizing vulnerabilities arising from password reuse.

1.1 Social Media and Password Security

As the use of social media is becoming increasingly intertwined with daily life, employees inadvertently expose themselves and their organizations to the threat of cyber-attacks. For instance, access to personal and work accounts on social media tends to be so convenient that caution is thrown to the wind, hence the possibility of successful phishing attacks. According to Alharbi et al. (2022), employees also tend to reuse the same passwords across accounts. The transition to working from home, for example, during the COVID-19 pandemic increased the usage of personal devices, which supposedly may not be as tightly controlled in terms of security controls compared to enterprise devices. The trend has increased the need for security awareness among employees, especially for organizations that depend on employees' access to social media or online resources to operate.

Effective security awareness programs educate employees on recognizing and avoiding threats, like phishing and social engineering. They emphasize the need for unique passwords for each account and the role of privacy settings in managing personal data exposure (Ifpo, 2010; Khando et al., 2021). These programs are essential in manufacturing enterprises, where shared networks and third-party application integrations are common, creating additional security concerns (Aslan et al., 2023). By promoting a culture of security awareness,

organizations can empower employees to maintain secure practices, thus reinforcing both individual and organizational defences against cyber threats.

1.2 Manufacturing Enterprise

Password protection and cybersecurity threat awareness among employees are gradually gaining importance in the manufacturing sectors as most of them are adopting digital manufacturing processes and systems connected over the Internet. Manufacturing enterprises have frequently been at the receiving end of unique security challenges as their operations depend on operational technologies that are less adaptable to frequent password changes or multi-factor authentication due to operational constraints (Chaudhary et al., 2019). Employees frequently access a mix of personal and work-related accounts on the same network, increasing the likelihood of password reuse across social media and enterprise systems (Jain et al., 2021). The result is that critical production and intellectual property data then become highly vulnerable, as even unauthorised access to one weakness disrupts the operational networks of an organisation.

Not to mention general password reuse risks, manufacturing companies quite often provide third party applications with access to supply chain and production management, hence adding more vulnerability to credential-based attacks. Breaches of social media or phishing attacks on employees' accounts result in unnoticed access to critical systems due to password reuse (Alharbi et al., 2022). Thus, comprehensive training programs in password hygiene, multi-factor authentication, and cautious social media usage must be prioritized by a manufacturing organization. In turn, this would

protect operational continuity and security.

1.3 Research Objectives

The primary objective centres on creating awareness campaign guidelines aimed at educating social media users on password security. To support this goal, the secondary objectives explore distinct areas of research, from evaluating existing literature to gathering empirical data on user behaviour and awareness.

Primary Research Objective (PRO): To create campaign guidelines for raising awareness among social media users about password security.

Secondary Research Objective 1 (SRO1): Conducted a literature review to assess prevalent security risks, best practices, and challenges related to password reuse across different platforms.

Secondary Research Objective 2 (SRO2): Through a systematic literature review to assess security risks, preventive measures, best practices, and challenges related to password reuse across various platforms.

The remainder of this paper is structured as follows: Section 2 details the methodology used to construct the Password Security Awareness Guidelines, including the systematic literature review and criteria selection processes. In Section 3 and 4, the research findings are outlined and discussed. Section 5 presents the proposed guidelines. Finally, Section 6 concludes the paper by summarising the key findings, outlining future research directions.

2. Methodology

This study employed a systematic literature review (SLR). A Systematic Literature Review (SLR) is a rigorous academic procedure that systematically examines, assesses, and combines research in an impartial manner relating to a particular field or topic. The review is designed to be thorough, clear, and replicable compared to traditional narrative reviews. The principle of SLR is to minimise bias and enhance the credibility of results through a structured approach to conducting literature reviews. This approach assists researchers in making conclusions about the status of research on a particular question or topic. SLRs are valuable for identifying gaps in research, compiling empirical evidence, and developing theoretical frameworks for upcoming studies. It was constructed in various phases that flow seamlessly from one to the next.

2.1 SLR Process

The Systematic Literature Review (SLR) process for this study is structured to ensure a comprehensive, unbiased selection of literature relevant to the research question, "What are the key elements that contribute to effective password security initiatives?" This systematic approach is essential to understanding different aspects of

password security, including policy frameworks, multi-factor authentication, user behaviour, and password complexity by analysing the latest studies in the field. The SLR aims to produce well-supported, evidence-based insights into best practices for enhancing password security in organizational contexts.

The SLR process, illustrated in Figure 2.1, begins with an extensive search across reputable databases: Google Scholar, ScienceDirect, and ResearchGate. Using search terms such as "password" and "password in security," the initial search yielded 122 studies. There was 113 from Google Scholar, 5 from ScienceDirect, and 3 from ResearchGate. This wide-ranging search is designed to capture a broad array of perspectives on password security, ensuring that the dataset is comprehensive and relevant.

The first filtering step, Primary Screening and Filtering applies specific inclusion criteria to the initial dataset. Only studies published in English, within the years 2021 to 2024, are considered to ensure the review focuses on recent findings applicable to modern security challenges. This primary screening eliminates 73 studies that do not meet these standards, reducing the pool to 40 studies that align more closely with the study's organizational focus. Following this, Duplicate Removal is performed to ensure each study in the dataset is unique. This step removes 10 redundant entries, leaving 40 studies for further analysis. This refinement helps ensure that each selected study provides original content without repetition, making the dataset more efficient for the subsequent stages.

The Secondary Screening for Relevance involves a more detailed evaluation of the remaining 40 studies. Titles, abstracts, and keywords are reviewed to determine each study's direct relevance to the research objective, which is focused on password security initiatives within organizations. Studies that do not specifically address this context are excluded, narrowing the selection to 10 studies that more accurately reflect the study's goals.

These 10 studies then enter the Shortlisting for Final Review stage, where each study undergoes a rigorous review to confirm it contains substantial empirical data or in-depth evaluations of password security strategies. Studies that lack the necessary empirical focus are excluded, leaving a final, refined set of 10 studies that offer the most relevant insights for the research.

The Final Selection and Inclusion step concludes the SLR process, establishing a core set of 10 studies that provide the most robust evidence and valuable insights into effective password security practices. This selected body of literature serves as a strong foundation for subsequent analysis, helping to identify best practices and inform the development of security guidelines. Through each carefully structured stage, as outlined in Figure 1, the SLR process progressively refines the literature set, ensuring a focused and reliable basis for synthesizing findings and advancing password security research, these papers were compiled in Table 1.

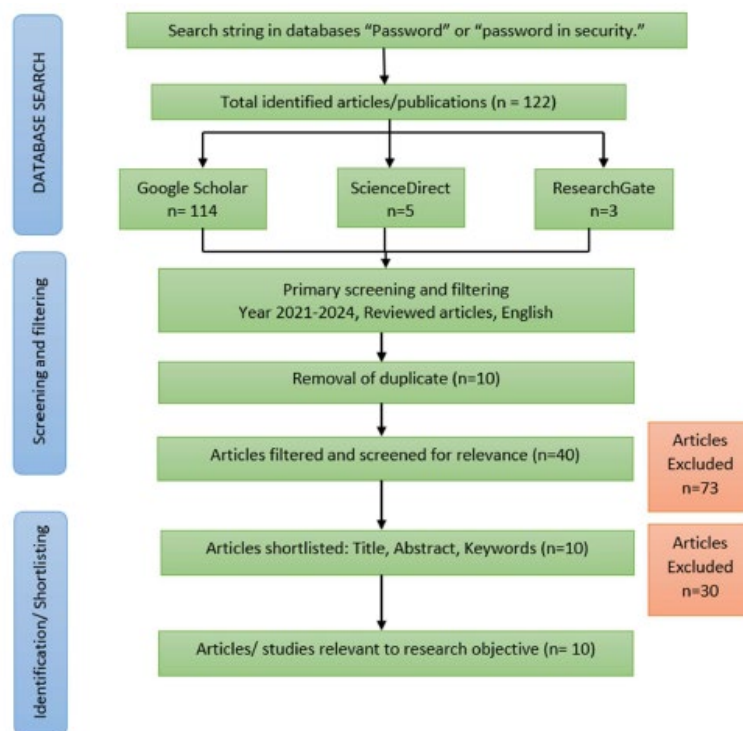


Figure 1: Systematic Literature Review Process

3. Findings

The Analysis Results showcase the main discoveries of the chosen studies in the SLR database, emphasising central topics related to password security in enterprises as seen in Table 1. The themes identified are password complexity, user education, password management tools, security policy adherence, and balancing user convenience and security.

Table 1: Themes identified through SLR

Theme	Articles
Password Complexity Requirements	(Lee et al., 2022); (Shin and Woo, 2022)
User Education and Awareness	(Kanta et al., 2020); (Guo et al., 2020)
Password Management Tools	(Chaudhary et al., 2019); (Tian, 2024)
Security Policies and Compliance	(Lee et al., 2022); (Chakraborty et al., 2022)
User Convenience vs. Security	(Atzori et al., 2024); (Thomas et al., 2019)

4. Discussion

Understanding password security is crucial for manufacturing enterprises, given the increasing cyber threats targeting industrial systems. This study investigated the existing password security practices, highlighting critical gaps and areas for improvement. This section discusses the themes identified through the SLR in detail.

4.1 Password Complexity Requirements

Password complexity requirements, as proposed by two seminal articles, are primarily concerned with the principles and criteria that dictate the minimum level of difficulty that a password must have to offer robust security, according to Lee et al. (2022), in their study, "Password policies of most top websites fail to follow best practices," they critically examine the password policies that are currently in place on well-known websites, highlighting the differences between suggested standards and actual implementation. Complementing this, Shin & Woo (2022), in "PasswordTensor: Analysing and explaining password strength using tensor decomposition," presents a fresh analytical approach to determining the strength of a password. Their study sheds more light on the best way to construct complex passwords to thwart attempts at cracking them and improve overall security.

4.2 User Education and Awareness

To prevent breaches and ensure best practices are followed, users must be taught about password security. Two papers address this subject. Kanta et al. (2020), in "A survey exploring open source Intelligence for smarter password cracking," highlights the weaknesses that result from inadequate user awareness. Their research highlights how advanced password-cracking methods take advantage of these ignorance gaps, highlighting the significance of user education. Meanwhile, Guo et al. (2020), in "Nudging personalized password policies by understanding users' personality," suggest that adjusting password policies to suit the individual personalities of users can improve the efficacy of training. By considering user behaviour, security measures can be tailored to be more successful in promoting secure habits and engaging users.

4.3 Password Management Tools

For users to manage their credentials securely and conveniently, password management tools are essential. This subject is covered in two papers. For users to manage their credentials securely and conveniently, password management tools are essential. This subject is covered in two papers. Chaudhary et al. (2019), in their study "Usability, security, and trust in password managers: A quest for user-centric properties and features," Look at the delicate balance between security and usability found in password managers. They emphasize how important it is to design these technologies with user-centric features in mind to boost confidence and acceptance. Similarly, Tian. (2024), in "Unraveling the dynamics of password manager adoption: a deeper dive into critical factors," investigates the factors influencing the use of password managers. This study provides recommendations on how to increase users' adoption of these technologies by illuminating the factors influencing their choices to accept or reject them.

4.4 Security Policies and Compliance

Strict adherence to security policy and industry standards is necessary to ensure password protection. Two studies support this idea further. As previously noted, Lee et al. (2022), also belong to this group since they raise doubts about the extent to which password rules follow recognised best practices. Their research identifies significant flaws in current policies and advocates for their modification. Additionally, Chakraborty et al. (2022) provide a comprehensive overview of honeyword-based strategies in "Honeyword-based Authentication Techniques for Protecting Passwords: A Survey." By ensuring that authentication processes adhere to stringent security guidelines and protect users from potential threats, these solutions aim to improve password security.

4.5 User Convenience vs. Security Trade-offs

A key challenge in password management is finding a balance between user convenience and security. Two papers address this problem. Thomas et al. (2019), discuss the challenge of safeguarding users against credential stuffing attacks without compromising usability in their article, "Protecting accounts from credential stuffing with password breach alerting." They stress how important it is to find a balance between offering robust security and ease of use. In a similar context, Atzori et al. (2024), explore in "Evaluating password strength based on information spread on social networks: A combined approach relying on data reconstruction and generative models" how data from social networks might be used to assess and enhance password strength. Their approach is to provide a method that is both safe and simple to use by striking a balance between the needs for simplicity and security.

5. Proposed Password Security Guidelines or Manufacturing Enterprises

To enhance cybersecurity within manufacturing enterprises, it is essential to establish clear guidelines on password security. Table 2 outlines key recommendations that organizations should implement to strengthen password policies, educate users, promote secure password management, and maintain a balance between security and usability. These guidelines are directly informed by the findings of the study, which highlighted common weaknesses in password policies, the effectiveness of user education, the role of password management tools, and the challenges of balancing security with user convenience. By adopting these best practices, enterprises can mitigate security risks and improve overall cyber resilience.

Table 2: Password Security Guidelines or Manufacturing Enterprises

Guideline	Description
Enforce Strong Password Complexity Requirements	- Establish policies requiring a mix of uppercase and lowercase letters, numbers, and special characters. - Set a minimum password length (e.g., at least 12 characters). - Regularly review and update password policies to align with best practices. - Implement password strength analysis tools to enforce complexity.
Conduct Regular User Education and Awareness Campaigns	- Provide ongoing training on password security and common threats like phishing and social engineering. - Customize training programs to consider user behaviours and personality traits. - Use real-world case studies to demonstrate the risks associated with weak passwords. - Reinforce security habits through interactive learning and simulations.
Promote the Use of Password Management Tools	- Encourage employees to use password managers for secure storage and generation of strong passwords. - Select password managers that balance security and ease of use. - Provide guidelines on choosing reputable password managers and avoiding unsafe storage practices. - Regularly assess adoption rates and address concerns regarding usability and trust.
Implement Robust Security Policies and Compliance Measures	- Enforce organization-wide security policies that align with industry standards. - Conduct regular audits and updates to address emerging threats.

Guideline	Description
	- Consider implementing honeyword-based authentication to enhance security. - Ensure compliance with data security regulations and best practices.
Balance User Convenience and Security Effectively	- Implement security measures that protect against credential-stuffing attacks while maintaining usability. - Encourage the use of multi-factor authentication (MFA) for added security. - Leverage AI-driven techniques to evaluate and improve password strength. - Continuously assess security protocols to ensure a balance between ease of use and protection.

6. Conclusion

This study contributes significantly to the understanding and promotion of password security awareness in the manufacturing sector by establishing a structured approach to campaign guidelines tailored to this industry. This research points out the risks due to password reuse and social media as an educational platform for effective motivation of people towards the core issue presented in the problem statement: organisational data are in danger because the employees use the same passwords both for personal and professional accounts. In such a context, the study performs a critical review of the related literature and hence offers a systematic review, which points out those aspects that have been hindering password hygiene, including password fatigue, a lack of awareness, and convenience regarding password reuse.

These insights form the basis for achieving the primary research objective (PRO), the creation of campaign guidelines aimed at enhancing password security awareness. The study offers a foundation for developing targeted messaging strategies that resonate with manufacturing employees, whose roles often involve interactions across both social media and enterprise systems. It emphasises practical elements like multi-factor authentication (MFA), password management tools, and regular cybersecurity education, which are essential to fostering secure password practices and addressing the unique cybersecurity challenges in manufacturing environments.

Additionally, by outlining awareness strategies that incorporate both behavioural and technological recommendations, the study supports the manufacturing sector's need for a culture of proactive cybersecurity. This approach aligns with the problem statement by proposing actionable steps that can help prevent unauthorised access and safeguard critical organisational data. In doing so, the study not only addresses immediate password security issues but also lays the groundwork for future, data-driven campaigns that can further reinforce security awareness among employees. These contributions enhance the manufacturing sector's resilience against cyber threats and provide a scalable model for password security campaigns that could be applied in other industries facing similar challenges.

Future studies should explore the practical implementation of the proposed campaign guidelines within manufacturing enterprises, evaluating the effectiveness of different awareness raising methods, such as training sessions, visual reminders, and interactive workshops, in improving password security practices. Implementing and testing the guidelines in real-world settings would allow for adjustments based on feedback and observed outcomes, further refining the approach to meet the unique security needs of the manufacturing sector. This next phase of research would help ensure that the guidelines not only align with best cybersecurity practices but also resonate with and positively impact employees' behaviour in protecting both personal and corporate accounts.

Ethics Declaration

This research did not require ethical clearance as it did not involve human participants, personal data, or any activities that posed ethical concerns. However, all research activities were conducted in accordance with ethical principles, including academic integrity, responsible data management, and adherence to best practices in research ethics.

AI Declaration

Artificial Intelligence (AI) tools were used solely for language refinement. All intellectual contributions, analyses, and conclusions were developed by the authors, with AI serving only as a supplementary aid for clarity and readability. No AI-generated content was included without human oversight and critical review.

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Digital Anti-Rationalism: Understanding the Alignment of Vitalism, Social Media, and Right-Wing Messaging

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Abstract: This paper examines the relationship between social media and fascism. The main argument is that social media and fascism share anti-rational drives. For fascism, this is due to its roots in vitalism, and for social media, it is due to its position in a continuum of media concision. Through an interdisciplinary analysis including media studies, propaganda analysis, and scholarship on fascism, the paper will expand on the concept of concision in the media as elucidated by Noam Chomsky, applying it to social media to demonstrate how it limits evidence-based argumentation. This will be done by situating social media within a larger trajectory of concision, showcasing how social media platforms like X, TikTok, and more, are concise by design. The paper will then trace the anti-rationalist roots of fascism, focusing on the connections to vitalism and its dependence on intuition and emotion instead of evidence and rationality. By linking those elements to social media, the paper will ultimately articulate the ways in which the concision of social media and the anti-rationalism of fascism align, creating a media ecosystem that privileges fascist rhetoric due to its inherent irrationality. This examination will look at those pieces in conjunction with the “firehose of falsehood” propaganda model, which relies on rapid, high-volume media content. The ultimate argument of this paper is that social media, in their concision, limit discourse in a way that undermines rationality, presenting significant implications for politics around the world.

1. Introduction

In recent years, there has been an observed decline in democratic governance around the world. International IDEA (2024), an official United Nations Observer, argues that with regard to democratic measures, “four in nine countries were worse off in 2023 than they had been in 2018” (p. 1). Many authors from diverse political perspectives have explored this decline as a return to authoritarianism including organizations as different as The Cato Institute and *The Nation*. Those discussions often broach a more challenging question to answer, which is whether these authoritarian and strongman resurgences should be considered fascism or not. To point, noted scholar of fascism, Robert O. Paxton, has been called on multiple times since the election of Donald Trump in the US to weigh in on if the Trump administration should be considered fascist, even as recently as the 2020 US election (Zerofsky, 2024). Though there is no consensus on what fascism is, fascism is a persistent part of contemporary discourse. This paper suggests that any discussion of fascism in current regimes should necessarily include social media.

Some research has been conducted on social media that can help to inform discussions of fascism. These range from analyses of the dissemination of false news (Vosoughi, Roy and Aral, 2018) to more complete discourse analyses of fascist rhetoric through digital means (Fuchs, 2022). Those studies demonstrate the ways that social media can interact with fascism and fascist rhetoric, but the argument of this paper takes a different approach. This paper contends that social media inherently privilege fascist ideologies.

This paper will demonstrate this claim first by exploring the ways in which social media have continued an historical trajectory of concision in media. Next, the paper will examine the ways in which fascist regimes have traditionally been driven by anti-rationalism. Lastly, the paper will look at how concision in social media aligns with anti-rationalism, an intersection which privileges right-wing ideologies. These elements will demonstrate an intersection of social media and fascism at the junction of anti-rationalism.

2. Concision and Social Media

Social media are well known to be brief in their structure. X, formerly Twitter, TikTok, Snapchat, Instagram and more are all designed to let users quickly process a high volume of content. Following the work of Marshall McLuhan, who argued that the form of the media was more impactful than the content, this paper seeks to understand how that brevity shapes the user experience beyond the media themselves. For that reason, this paper will situate the brevity of current media as part of a larger continuum of concision in media.

Concision as an analytic term for media was explored in detail by Noam Chomsky in a film called *Manufacturing Consent: Noam Chomsky and the Media* (1992). Although the film shares the same name as the book Chomsky co-authored with Edward S. Herman, Chomsky and Herman use the book to explain a propaganda model that they argue was functioning in corporate media in the US at that time. The book does not explore concision in

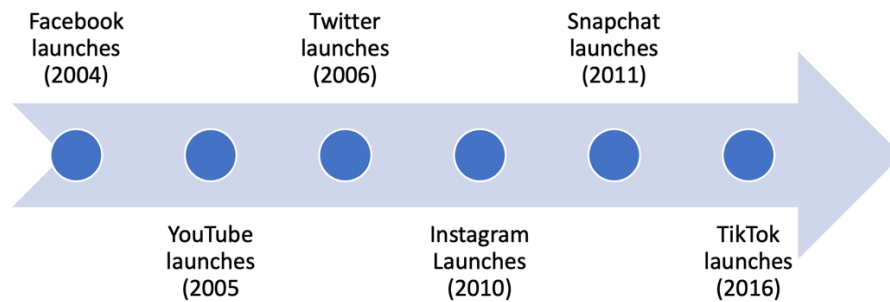
great detail. In the film, however, Chomsky expands on the concept, observing that concision was a feature of nightly news programs in the US, where the news segments had to fit “between two commercials or in six hundred words” (*Manufacturing Consent*, 1992). In practice, this meant that no matter how large the scope a particular issue was, one had just a few minutes to express a position. Chomsky saw concision as a “structural constraint” that only permitted the perpetuation of already accepted positions because evidence is needed to support different or novel positions. While Chomsky places the focus on how media were “regurgitating conventional pieties,” his ancillary point is the focus of this paper, which is that “you can’t give evidence if you’re stuck with concision” (*Manufacturing Consent*, 1992). In the decades since Chomsky made that statement, the rise of social media has seen a shift toward even more concise media. To understand the effects, it is useful to examine theories regarding the impact of volume on media.

In the early 1970s, Herbert A. Simon put forth his notion of what has subsequently been termed the attention economy. In his formulation of it, he saw that an increase in media outlets would create competition for attention since attention is capped by hours in the day; attention, therefore, was the limited resource, not information. As he framed it, “a wealth of information creates a poverty of attention” (Simon, 1971, p.40). The two major potentials for this situation are that consumers would either engage with fewer outlets in depth or consumers would engage with more outlets in less depth. Jean Baudrillard, writing in 1981, approached a similar idea and suggested that the choice users made was to engage with less depth.

In a discussion titled “The Implosion of Meaning in the Media,” Baudrillard (1994, p. 79) declared that “we live in a world where there is more and more information, and less and less meaning.” For him, the rise in the amount of information media process means that media function in different ways. The implosion he refers to is that “electronic mass media” no longer mediate “between one reality and another” (Baudrillard, 1994, p. 82). While Baudrillard shapes this statement within his larger theory on simulation, he still connects his discussion to the larger theoretical landscape, specifically drawing on McLuhan, observing that “the medium is the message...is the key formula of the era of simulation” (Baudrillard, 1994, p. 82). Indeed, it is useful to examine McLuhan in more detail at this point, as the “message” of social media is concision.

For McLuhan, all media and technology shape human experience. They function as extensions of humanity, permitting people to experience the world in different ways, and, importantly, defining how the world is experienced. For instance, before the written word, the preservation of knowledge relied on the oral tradition. The written word enabled humanity to engage with knowledge and memory in different ways, expanding the human experience. McLuhan concisely argues with his famous aphorism that the focal point of a medium is not the content, but the way it mediates content. As he terms it, “the ‘message’ of any medium or technology is the change of scale or pace or pattern that it introduces into human affairs” (McLuhan, 2003, p. 8). However, it is important to not understate the impact of those changes. As Neil Postman (1993, p. 18) notes in a similar discussion on technology, “A new medium does not add something; it changes everything. In the year 1500, after the printing press was invented, you did not have old Europe plus the printing press. You had a different Europe.” It is easy to consider social media as simply an outgrowth of related technologies that use computer or device screens, or even a variation, but social media must be considered new media. Accordingly, when social media rose to prominence in the early 21st century, you did not have the old 21st century and social media, you had a new 21st century. To better understand that appropriation of Postman, it is necessary to look at code.

Writing both in the initial dot com boom and in its aftermath, Lawrence Lessig (2006) argued that “code is law” (p. 5). While he acknowledges the boldness of that claim and is clear that code and law are not actually the same, the thrust of his argument is that programs must be coded to function, and code is a collection of choices that control the user experience; users can only do what the code allows, whether that is intentional or unintentional. The larger point Lessig is making frames code as a form of regulation, ultimately asking who is regulating and what liberties are being coded away. However, Lessig, writing the second edition of his book in 2006, did not have the frame of social media to aid his argument. For social media, if code is law, then the law is concision. While a timeline of major social media platforms can be useful to appreciate the growth of the now-ubiquitous social media applications (Figure 1), the law of concision can be better understood by examining some of the defunct applications.

**Figure 1**

Launched in 2012, the now defunct Vine was a video app that sought to compete with sites like YouTube in the realm of Internet video. The difference with Vine was that videos could be a maximum of 6 seconds in length. As the existence of YouTube demonstrated, there was not a technological limitation that required 6 second videos. In fact, the developers of Vine have openly stated that the 6-second limit, while tested with users, was essentially arbitrary (NPR.org, n.d.). They wanted to create a medium that emphasized quick content, particularly for how quickly those videos could be shared; they traded length for the ability to rapidly disseminate content. Thus, at the level of code, the law of Vine was concision. However, Lessig also discusses social norms and market pressures. It seems likely that Vine was too concise, as it survived in the media ecosystem for only four years, being eclipsed by other media such as Twitter, the parent company of Vine. Other media filled the gap, most notably Douyin and its international version, TikTok, both of which debuted in 2016 with an expanded but still concise content limit of 60 seconds.

Despite the concision that was evident in the architectural choices of many social media at their launches, most of those media have since either advanced to accommodate longer content or relaxed their limits to allow for longer content. X launched with a 140-character limit to accommodate SMS limitations. Since then, it has raised its limit to 280 characters for most users, up to 4,000 characters for Blue subscribers, and up to 25,000 characters for Premium users. Similarly, TikTok, which, as noted above, launched with 1 minute video limits, now permits videos of up to 10 minutes if created within the platform, and 1-hour if uploaded to the platform. While there are certainly users who make use of the longer lengths, some research suggests that content still skews toward concision (Gligorić, Anderson and West, 2018). However, any study of social media datasets must come with caveats.

The first caveat is that social media are huge. In a single day, there are hundreds of millions of tweets posted; there are hundreds of thousands of hours of videos uploaded to YouTube; there are tens of millions of TikToks uploaded each day. While the userbase is worldwide, the percentage of adults in the United States alone using various platforms in 2024 suggests the enormous scope of social media (Table 1). In short, the amount of content that must be analyzed is beyond the means of most researchers.

Table 1 (Gottfried, 2024)

Percentage of U.S. adults who say they ever use ...							
YouTube	Facebook	Instagram	Pinterest	TikTok	LinkedIn	SnapChat	X
85%	70%	50%	36%	33%	32%	27%	21%

The second caveat is that social media are produced by profit-seeking companies. It is not in their business interest to make their data publicly and freely available. Even if one had the necessary analytical tools, access is a separate issue. For those reasons, much of the analysis of social media platforms is either done with the support of the companies, which could potentially introduce a bias, or it is done without the support of the companies, which could suggest reliability and validity issues possibly due to a restricted sample size. With those caveats in mind, the research that is available can still be utilized to understand the normative concision of social media.

Much research on social media focuses on content. Typical research includes studies on user engagement with fake news (Sui, Hawkins and Wang, 2023), studies on the rate of false news spreading (Tandoc et al., 2022), and the relationship between length and various engagement metrics such as fact checking (Tandoc et al., 2022). This is of course only a small fraction of the full scope of research. However, those citations are presented here

as a sample of content-based research. Again, the focus of this paper is concision in social media, as it is through concision that a link to right-wing ideology can be found. To understand that link, it is necessary to look at fascism in more detail, particularly its ties to vitalism.

3. Fascism & Vitalism

Vitalism is generally a belief that there are parts of humanity that cannot be rationally explained. While this has been a line of thinking through much of human history, it started to take more specific shape in the 17th and 18th centuries as scientific inquiry began to take a more mechanistic approach toward analyzing and quantifying humanity, the work of Charles Darwin being an important example here. As a result, there was an increasing counter-push to maintain the inscrutability of that which is essential to humanity. Eventually, this push manifested itself in the vitalism movement, which posited that there is a unique quality of human life that no other life has. A key proponent of ideas connected with vitalism was Henri Bergson (1998), who argued in favor of the *élan vital*, which described an unquantifiable life force that guided human development and evolution. One argument he built is that knowing something required duration, and that intuition, not intellect, was required to understand duration; evidence was not necessarily required to know something. While the work of Bergson can be widely interpreted, it helped to drive the vitalism movement, which generally rejected scientific inquiry and modernism in favor of arguments about humanity that eschewed evidence. It is that anti-rational element that aligns with historical fascist regimes.

There is no single accepted definition of fascism. This is due to the very different implementations by various regimes, most notably the Italian Fascists and the Nazis. As a result, the most functional definitions are those that attempt to define conceptual elements that might loosely apply to different manifestations of fascism. Both Paxton and Eco define parameters that seem to be common among different regimes, and both include elements of anti-rationalism. Eco defines 14 features of fascism that fascist regimes will draw upon, and he specifically calls out irrationalism (Table 2). For him, this stems from a strong sense of traditionalism that is syncretistic. Eco (1995, n.p.) notes that fascism “must tolerate contradictions” as the opposing traditions are seen to be “alluding, allegorically, to the same primeval truth.” While not directly connected with vitalism, Eco places a similar prioritization on intuitive knowledge over reason. Paxton highlights similar points.

Table 2 (Eco, 1995)

14 Features of Ur-Fascism	
• Cult of tradition • Irrationalism / Rejection of Modernism • Cult of action for action's sake • Disagreement is treason • Fear of difference • Appeal to a frustrated middle class • Obsession with a plot	• Enemies too strong and too weak • Life is permanent warfare • Contempt for the weak • Cult of death • Machismo • Selective populism • Newspeak

Drawing on foundational work by authors such as Franz Neumann, Paxton makes similar claims of contradiction in fascist regimes noting that central ideologies of fascist movements are “simultaneously proclaimed as central, yet amended or violated as expedient” (2004, p. 219). As an example, he observes that fascism holds a great disdain for technology, yet fascist leaders still “adored their fast cars” (Paxton, 2004, p. 12). A more sobering example is his observation that the Holocaust was only made possible through the embracing of technology, with speed being an important quality (2004, p. 13). The contradictory elements of fascism reinforce an anti-rational view where consistency and evidence are not important. This is underscored by Paxton in his observation that fascist regimes are driven by “the superiority of the leader’s instincts over abstract and universal reason” (Paxton, 2004, p.219). Both authors point toward the principles of vitalism, but do not fully address it by name.

A more direct connection with vitalism is made by Stanley G. Payne, who elucidates the connection between fascism and vitalism in much more detail, arguing that the rejection of modernity for fascists saw the movement embrace “philosophical vitalism and idealism and the metaphysics of the will” (1996, p. 8). Throughout these definitions, which are quite diverse, anti-rationalism is a commonality. As the research shows, the claim that fascism is irrational is not a novel claim. It is restated here in such detail because the connection to concision in social media relies on a clear understanding of how intertwined those concepts are with fascism.

4. Anti-Rationalism in Social Media

As outlined previously, social media are concise. Following the definitions from Chomsky on concise media, social media operate within structural constraints that limit discourse. While his argument is that concision is part of a larger propaganda model that disallows evidence, the propaganda model is a theoretical framework used to describe a possible driver of concision, and concision exists independently of that model. Similarly for social media, the propaganda model does not factor into the demonstrable facts that social media are concise at the level of code. The effects of concision in social media are important to analyze, since, as Chomsky (1992) observed with nightly news, “you can’t give evidence if you’re stuck with concision.”

Like US nightly news, social media exist without the expectation of evidence. While there are relaxed limits and longer form content, even most of those relaxed limits are themselves concise—280 characters do not offer much more space than 140 characters. As noted previously, research has shown that shorter content is still common despite those longer limits (Gligorić, Anderson and West, 2018). To better understand the effects of concision, it is useful to consider how they have been mobilized in contemporary propaganda strategies.

The firehose of falsehood is a propaganda strategy formally identified by the RAND Corporation in 2016, although it had been in use around the world for many years at that point. It describes a propaganda model primarily used to overwhelm information networks, making it challenging for users to discern what information is real and what is false, often by mixing real and fake news. In their report, Christopher Paul and Miriam Matthews (2016) describe the strategy as focusing on four main qualities, which are that it is high-volume and multichannel, rapid, continuous, and repetitive, lacks commitment to objective reality, and lacks commitment to consistency (Table 3). Even in that description, the connections to social media should be clear, as their concise nature situates them to process high volumes of content continuously with great speed.

Table 3 (Paul and Matthews, 2016)

Distinctive Features of the Contemporary Model for Russian Propaganda	
• High-volume and multichannel • Rapid, continuous, and repetitive	• Lacks commitment to objective reality • Lacks commitment to consistency

Expanding on the point of rapidity, Paul and Matthews observe that due to the lack of any critical requirement in the messaging, those spreading the propaganda “do not need to wait to check facts or verify claims; they just disseminate an interpretation of emergent events that appears to best favor their themes and objectives” (2016, p.4). This aligns with the argument Baudrillard makes regarding the “implosion of meaning in the media,” as the strategy is to have such a high volume of content, that it is not possible to fully research or verify any of it. In fact, it is for this reason that the firehose of falsehood draws comparisons to the “Gish Gallop,” which is a strategy in debating wherein one participant tries to overwhelm the opposition with a volume of claims and no evidence. The respondent then is not able to refute all claims in the given time, suggesting that the unrefuted claims are valid. Social media accomplish this same strategy in volume.

Paul and Matthews observe of the firehose of falsehood method that “repeated exposure to a statement has been shown to increase its acceptance as true” (2016, p.4), a statement that is also suggested by the social media research mentioned earlier regarding the spread false news stories, but a statement which also points toward intuitive responses rather than research or evidence-based responses. One reason this might function in that way is that true and valid information look the same as fake and invalid information. On X, for instance, no statements exceed 280 characters. For social media, concision renders all arguments and positions equal; there is no evidence, and without evidence, intuition can become a larger factor than critical thinking. Indeed, Paul and Matthews also note that the firehose of falsehood also focuses on “information that connects with group identities or familiar narratives—or that arouses emotion” (2016, p.6). With regard to emotional appeal, one might also consider research on the phenomenon of Fear of Missing Out, often called FoMO. Research in that area suggests that FoMO drives rapid and high-volume engagement with social media (Fioravanti et al., 2021; Gupta and Sharma, 2021). After all, if one stops to evaluate content, one potentially misses even more content.

While the authors do note that a variety of media outlets are used to accomplish the firehose of falsehood strategy, given the volume of content, as well as the necessity for speed and repetition, social media are clearly drivers of this model. To point, the authors observe that although this strategy likely originated in 2008, it was showcased in the 2014 Russian annexation of the Crimean Peninsula (Paul and Matthews, 2016), a timeline that does closely align with the growth of social media platforms, as illustrated in Table 4, which shows the two largest platforms at that time, Facebook and YouTube (Ortiz-Ospina, 2019).

Table 4 (Ortiz-Ospina, 2019)

Social Media Growth from 2008 to 2014		
Year	2008	2014
Facebook	200 million users	1.4 billion users
YouTube	100 million users	1.3 billion users

The point being made here with the firehose of falsehood is simply that in their concision, social media separate evidence from arguments and position in ways that render engagement wide, but not deep. This is illustrated through the success of strategies like repetition and the presence of phenomena like FoMO. The result of these points is that social media are structured in ways, and used in ways, that do not align with rational thinking. Social media, thus, become key elements in the so-called post-truth world, as they devalue evidence in favor of intuition. However, “post-truth” does not mean no truth.

Social media can indeed be used to promote democratic causes. This is perhaps most well known in the success of the #MeToo movement, and there are numerous other cases where social media helped to signal boost issues that helped to advance equity (Jackson, Bailey and Foucault Welles, 2020). Those successes point toward the fact that the lack of evidence in social media does not mean that users are without critical thinking tools, a point suggested by some research (Ejue and Etim, 2024). Nevertheless, concision in social media ultimately puts the onus on the user to conduct valid research, and there enough instances of fake news stories dominating the media cycles to suggest that users are not always vigilant in verifying information, and fascist rhetoric, in its anti-rationality, fares much better in anti-rational spaces than does democratic rhetoric.

5. Conclusion

The concision of social media, coupled with the sheer volume of content, aligns with fascist principles. This is not to say that they are inherently fascist, as there are certainly democratic principles and ideas that come out of social media content. However, social media operate at volumes and speeds that preclude reliable use of evidence. In so doing, rational, logical arguments appear to be the same as anti-rational, illogical arguments, often resulting in intuitive rather than evidence-based reactions. In the space of an academic paper, the complexity of an argument can be explored, the research to support that argument can be discussed, and the readers can pursue their own lines of academic inquiry through citations. In the space of social media, an argument like the one being made in this paper might appear as the following tweet

Social media are concise and therefore antirational because they are too short to contain evidence. Anti-rationality is a key element of fascist regimes. The concision of social media makes social media align with fascism.
(221 characters)

Whereas a counter-tweet might look like this

Social media are neither concise nor antirational. They contain ample evidence, and fascism is not antirational. There is no alignment between fascism and social media.
(170 characters)

The aim of this paper has been to present evidence to demonstrate the first and to refute the second. In the domain of social media, they exist on their own with no evidence to support the claims. The argument presented in this paper is that regardless of the content in social media, normalizing anti-rational media ecosystems privileges anti-rational systems, and fascism is a system that thrives on anti-rationalism.

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Microintervention Strategies on Social Media to Protect Women's Body Image: A Review & Future Research Directions

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Abstract: This review examines findings from 23 studies published between 2013 and 2023, offering a comprehensive understanding of the impact of social media interventions, such as body-positive content, self-compassion messaging, and realistic portrayals of beauty. It evaluates how these strategies affect women's cognitive and emotional processes. It provides a detailed explanation of the visual inputs used, including various types of imagery or videos and their corresponding effects. Furthermore, it identifies significant research gaps, particularly concerning early adolescence—a critical period for body image development—and emphasizes the need for further exploration into the long-term impact of these interventions on a diverse range of demographics. The study serves as a useful resource for practitioners, delivering evidence-based insights into effective and harmful visuals. By doing so, it encourages a responsible approach to the visual content employed in marketing efforts, fostering the promotion of positive body image and emotional well-being in online environments.

Keywords: Social media, body image, beauty standards, social comparison, body satisfaction, body positivity

1. Introduction

The rise of social media platforms has created a dynamic landscape where content sharing, particularly visual images, exerts significant influence on users' perceptions of themselves and others (Cohen, Newton-John and Slater, 2018). This pervasive digital environment plays a profound role in shaping body image, emotional well-being, and social comparison behaviors, especially among women. In this context, the increasing exposure to idealized beauty standards has raised concerns about its negative effects, including heightened body dissatisfaction, self-objectification (*individuals evaluate themselves based on appearance rather than abilities or other qualities*) and appearance anxiety (Holland and Tiggemann, 2016). While traditional media has long been scrutinized for promoting unattainable body ideals, the interactive nature of social media intensifies these challenges by allowing users to curate their personas in comparison with others, amplifying the impact (Meier and Gray, 2014).

Existing literature provides ample evidence linking social media use with adverse body image outcomes. Numerous studies highlight that exposure to thin-ideal content and beauty-focused images correlates with negative emotions and psychological distress, particularly in younger female populations. However, these studies primarily focus on the effectiveness of specific interventions aimed at countering these harmful effects, such as how body-positive (*embracing and accepting all body types*) messages and self-compassionate (*encourages being kind to oneself*) narratives.

This paper systematically reviews the effectiveness of various social media-based microinterventions that aim to protect women's body image. By analyzing interventions such as body-positive content, realistic portrayals of beauty, and self-compassion strategies, this review investigates their potential to reduce body dissatisfaction, social comparison (*evaluating oneself by comparing to others*), and appearance anxiety. Additionally, the study assesses whether these interventions foster positive emotional states and broaden individuals' conceptualizations of beauty.

The findings from this review contribute to the broader understanding of how social media content can either harm or protect women's body image. By evaluating the relative success of various intervention strategies, this paper identifies which approaches are most effective in fostering positive body image outcomes. Furthermore, it outlines critical areas for future research, such as the underrepresentation of early adolescence—a crucial period for body image formation—and the need for more diverse participant samples across age, gender, and cultural backgrounds.

Finally, the paper provides practical recommendations for improving the design and implementation of social media-based interventions. These include fostering media literacy, promoting realistic and diverse representations of beauty, and ensuring that content strategies are tailored to individual differences in susceptibility to social comparison. By offering these insights, this study aims to inform policymakers, educators, and content creators on how to effectively counter the negative impacts of social media on body image, paving the way for healthier online environments.

2. Methods

This systematic literature review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to ensure a comprehensive and transparent selection process. The objective was to investigate the impact of social media on body image, specifically focusing on beauty ideals, across the past decade.

2.1 Eligibility Criteria

To be included in the review, studies had to meet the following inclusion criteria: (a) published between 2013 and 2023, (b) written in English, (c) focused on the relationship between social media and body image or beauty ideals, and (d) present as peer-reviewed journal articles. Studies were excluded if they were not directly relevant to the research question or if they employed the wrong study design.

2.2 Search Procedure and Study Selection

The article selection process involved three databases: PubMed, APA Psyc, and Scopus. For PubMed, a text-word search was conducted using the terms "social media," "body image," and "beauty," limited to studies published between 2013 and 2023. In APA Psyc, the same terms were applied within the field search function. A keyword search was conducted in Scopus, restricting results to journal articles within the same timeframe. Only English-language articles were included (see Figure 1 for the PRISMA flow diagram).

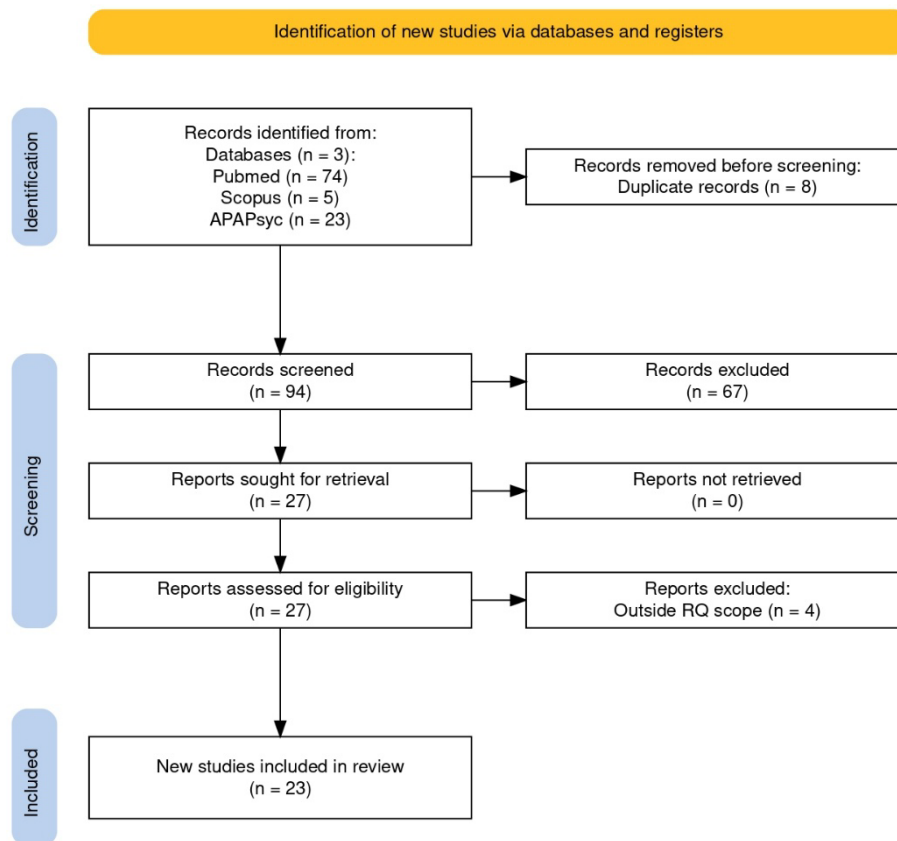


Figure 1: PRISMA flow diagram

The study is guided by two key research questions emphasising the **cognitive** and **emotional** aspects of body image intervention through social media:

RQ1 (Cognitive aspect): *How do social media-based microinterventions influence women's cognitive perceptions of beauty standards?* This question explores how these interventions alter the way women process and internalize societal beauty ideals, particularly focusing on critical thinking, social comparison tendencies, and the development of broader conceptualizations of beauty.

RQ2 (Emotional aspect): *To what extent do social media-based microinterventions mitigate the negative emotional effects of idealized content on women's body image?* This question examines the emotional outcomes of these interventions, such as changes in body dissatisfaction, appearance anxiety, and overall mood.

By addressing these questions, the study investigates the dual mechanisms through which social media interventions influence the cognitive frameworks and emotional well-being of women exposed to idealized beauty standards.

The initial search across the three databases yielded 102 records. After removing 8 duplicates, 94 unique studies were screened. Titles and abstracts were reviewed, leading to the exclusion of 67 studies primarily due to irrelevance to the research questions, such as focusing on unrelated topics or not addressing the impact of social media on body image or beauty ideals. Following this screening, 27 reports were retrieved for full-text assessment. All 27 were evaluated without retrieval issues. Four studies were excluded after full-text review: three were irrelevant to the research questions, and one had an unsuitable study design. In total, 23 studies met all eligibility criteria and were included in the systematic review.

2.3 Data Extraction and Risk of Bias

Data extraction was conducted by the first author, reviewing each study for sample characteristics, research design, and outcomes. The American Dietetic Association Quality Criteria Checklist (QCC), consisting of 10 items assessing scientific validity (e.g., research question, unbiased sample selection, valid outcomes), was used to evaluate each study's quality (Shagar et al., 2017). The quality assessment was carried out by the first author and their supervisor, an associate professor, to ensure objectivity.

The QCC assessed 23 studies, revealing that most had a defined research question aligned with their aims. Sample selection was often homogenous, relying on young, female university students, limiting generalizability. Random assignment was used in experimental studies, but not in all correlational studies. Participant withdrawal or response rates were commonly recorded, though exclusions were sometimes unclear. Blinding was rare due to the nature of social media exposure.

Data collection methods were well-defined, with most studies using online surveys or controlled social media exposures. Validated scales with strong internal consistency were used, and appropriate statistical methods (e.g., ANCOVAs, ANOVAs, mediation models) were applied, though some studies could benefit from more advanced techniques.

Results generally supported study conclusions, but cross-sectional designs limited causal interpretations. Most studies reported no commercial support or conflicts of interest, minimizing funding bias. Overall, the quality rating was excellent, though sample homogeneity, lack of blinding, and short-term interventions limited generalizability.

3. Types of Social Media-Based Microinterventions

A range of social media-based microinterventions has been employed in recent research to address the negative effects of appearance-related content on body image. These interventions aim to promote more inclusive and diverse conceptions of beauty while countering unrealistic portrayals commonly seen in media. **Table 1** provides a detailed summary of each intervention, including the author, intervention name, a brief description, and the corresponding effects, such as positive, negative, or no changes. The interventions are grouped into seven categories: *'Body-Positive Content'*, *'Realistic or Non-Idealized Images'*, *'Self-Compassion'*, *'Parody and Humor'*, *'Media Literacy and Awareness'*, *'Contrasting Idealized and Realistic Content'* and *'Sexualized Body-Positive Content'*. The interventions are analyzed through two lenses, assessing their impact on both **cognitive** and **emotional** processes on the participants post-exposure to the intervention.

Table 1: Overview of Microintervention Strategies, Explanations and Effects

Nr.	Study	Strategies	Explanations	Effects
1	Arendt et al. (2017)	Awareness Intervention Video	A video showing how lighting, makeup, and editing transform an average woman into a glamorous model.	Reduced social comparison by promoting a more realistic ideal self.
2	Robinson et al. (2017)	Image Exposure to Thin, Athletic, and Muscular Ideals	Thin images showed slender women, athletic images featured toned women with moderate muscle, and	Thin and athletic ideal images increased body dissatisfaction, with athletic images

Nr.	Study	Strategies	Explanations	Effects
			muscular images depicted strong, defined physiques.	causing the most. Neither affected exercise behavior. Muscular images had no effect.
3	Slater et al. (2017)	Fitspiration and Self-Compassion Instagram Content	Three Instagram content types: fitspiration (toned body) images with motivational captions, self-compassion quotes on neutral backgrounds, and combined posts.	Fitspiration images reduced self-compassion without affecting body satisfaction or mood. Self-compassion images improved both. Combined images mitigated fitspiration's negative effects.
4	Fardouly & Rapee (2019)	No-Makeup and Idealized Makeup Selfies	A mix of no-makeup selfies showing natural features (e.g., blemishes) and idealized makeup selfies from Instagram makeup artists.	Reduced negative effects of idealized selfies on facial satisfaction and face, hair, and skin discrepancies but no impact on mood or overall satisfaction.
5	Tiggemann & Zinoviev (2019)	Enhancement-Free Images and Hashtags	Enhancement-free Instagram images (no makeup or edits) were compared to idealized images, some with hashtags like #nomakeup.	Enhancement-free images reduced facial dissatisfaction, but hashtags increased appearance focus. No effect on body dissatisfaction.
6	Cohen et al. (2019)	Body-Positive Instagram Posts	Featuring diverse women with captions promoting body acceptance, compared to thin-ideal and appearance-neutral posts.	Improved mood, body satisfaction, and appreciation (<i>positive attitude towards one's body, appreciation for its function and capabilities</i>) but increased self-objectification compared to appearance-neutral posts.
7	Slater et al. (2019)	Parody of Thin-Ideal Celebrity Images	Parody images of thin-ideal celebrity Instagram posts paired with originals, humorously highlighting their unrealistic nature.	Increased body satisfaction and happiness compared to thin-ideal posts but had no effect on appearance comparison or social media literacy.
8	Stevens & Griffith (2020)	Body Positivity (BoPo) Content	Examined Body Positivity (BoPo) exposure on social media, featuring diverse and realistic body portrayals promoting body acceptance and appreciation.	Improved body satisfaction, increased positive affect, and reduced negative affect, with Instagram being the primary platform.
9	Tiggemann et al. (2020)	Body Positive Captions	Instagram images of thin and average-sized women with captions promoting body positivity and self-acceptance.	Had no effect overall. Thin images increased dissatisfaction; average images improved appreciation for women with high thin-ideal internalization.
10	Tiggemann & Anderberg (2020)	Instagram vs. Reality	Side-by-side Instagram vs reality images, showing idealized depictions of women alongside more natural, unedited versions.	Reduced body dissatisfaction compared to idealized images but no effect on body appreciation. Social comparisons were less harmful.
11	Ogden et al. (2020)	Portrait Positive Campaign	Portrait Positive campaign images of women with visible facial and bodily differences in confident, celebratory portraits.	Increased body and face satisfaction, body compassion, and negative attitudes toward thin-ideal images. No effect on positive attitudes.
12	Selensky & Carels (2021)	Dove and Aerie Real Campaigns	Videos promoting body acceptance featuring diverse women without retouching, emphasizing empowerment, and challenging weight stigma.	Increased self-esteem and positive affect. No significant effect on weight bias, internalized weight bias, or body image.
13	Manning & Mulgrew (2021)	Diverse Body Positive Imagery and Captions	Instagram images of diverse women with and without body positive captions promoting self-love and acceptance.	Increased appearance satisfaction (greater with captions). Body appreciation and mood improved in all conditions. No effect on social comparisons.
14	Rattwatte & Mattacola (2021)	Fitspiration YouTube Content	Fitspiration videos on YouTube showcasing fitness tips, exercise routines, and appearance-focused advice emphasizing thin and toned bodies.	Promoted appearance-oriented goals and unhealthy behaviors like over-exercising. Viewers expressed body dissatisfaction and often replicated advice. No emphasis on health over appearance.

Nr.	Study	Strategies	Explanations	Effects
15	Vendemia et al. (2021)	3.1.1 Sexualized and Digitally Modified Body-Positive Images	Body-positive Instagram images, sexualized or digitally modified, compared to non-sexualized and unmodified versions.	Sexualized and modified images increased beauty ideal endorsement and self-objectification. Non-sexualized and unmodified images reduced these effects.
16	Danthinne et al. (2022)	Dove Real Beauty ID Video	Dove Real Beauty ID video, featuring Japanese high school girls transforming from dissatisfaction to confidence in their ID photos.	Increased body/facial dissatisfaction and negative mood in participants with high thin ideal internalization, with no effect on social media exposure.
17	Klier et al. (2022)	Fitspiration Social Media Content	Sport-related social media content, specifically Fitspiration images, showcasing athletic and muscular body ideals from fitness influencers.	Increased body dissatisfaction and social comparison, especially among women, with emulation of idealized body types.
18	Lenne et al. (2022)	Non-Idealized Media Content on Various Platforms	Non-idealized content from Instagram influencers, companies, TV series, movies, and magazine articles.	Instagram influencers and magazine articles increased broad beauty conceptualization through inspiration. No effect from TV series or movies.
19	Cowles et al. (2022)	Body Positive vs. Thin-Ideal Instagram Posts	Body positive Instagram posts featuring diverse women and body acceptance messages.	Increased body satisfaction and improved mood, especially with images and captions. No effect on self-objectification or broad beauty concepts.
20	Rousseau (2023)	Body-Positive Social Media Exposure	Body-positive Instagram content, focusing on diverse body types and encouraging broader beauty ideals.	Increased body appreciation and decreased body surveillance, with positive outcomes linked to lower upward appearance comparisons (comparing oneself to others perceived as more attractive) and broader beauty conceptualization.
21	Michele et al. (2023)	Sexualized and Non-Sexualized Body-Positive Social Media Videos	Body-positive Instagram and TikTok videos with sexualized and non-sexualized portrayals of women, showing either sexualized beauty ideals or body-positive content.	Body-positive content improved body satisfaction and mood; sexualized beauty ideals reduced body satisfaction. No effect on self-objectification or surgery intentions.
22	Seekis & Lawrence (2023)	Body Neutrality Content on TikTok	Body neutrality (respecting and accepting the body for what it can do rather than how it looks) content on TikTok, focusing on body functionality and self-respect.	Increased body satisfaction and functionality appreciation, with higher positive mood and fewer upward comparisons compared to thin-ideal content.
23	Seekis & Kennedy (2023)	Beauty, and Self-Compassion TikTok Videos	Beauty TikTok videos with makeup tutorials and skincare routines, and self-compassion videos on self-care and managing appearance distress.	Beauty videos increased appearance shame, anxiety, and negative mood. Self-compassion videos improved self-compassion and reduced appearance shame.

3.1 Body-Positive Content

A substantial number of studies have explored the impact of body-positive content on social media (Cohen et al., 2019; Stevens & Griffith, 2020; Ogden et al., 2020; Michele et al., 2023; Seekis & Kennedy, 2023). This content promotes diverse body types and challenges narrow beauty standards by broadening viewers' perceptions of beauty. Exposure to such content has been shown to improve body satisfaction and appreciation, fostering a more inclusive and realistic understanding of beauty.

3.2 Realistic or Non-Idealized Images

Another common strategy involves the use of realistic or non-idealized images (Tiggemann & Anderberg, 2020; Lenne et al., 2022). These interventions, which feature natural, diverse appearances, aim to counter the heavily edited, idealized portrayals typically found on social media. They help normalize a broader range of body types and reduce the negative impact of comparison. Exposure to such content has been linked to reduced body

dissatisfaction and less harmful social comparisons, though there is no effect on body appreciation (Tiggemann & Anderberg, 2020).

3.3 Self-Compassion

Self-compassion strategies, seen in both Instagram posts (Slater et al., 2017) and TikTok videos (Seekis & Kennedy, 2023), focus on fostering kindness towards oneself, particularly in response to body dissatisfaction. These interventions aim to promote a more compassionate self-view, counteracting the negative emotional effects from exposure to idealized social media content. Research shows that self-compassion interventions lead to improved self-compassion, reduced appearance shame, and better body satisfaction and mood (Slater et al., 2017).

3.4 Parody and Humor

Slater et al. (2019) explored the use of parody and humor to mock unrealistic beauty standards. By exposing the absurdity of unattainable ideals, this strategy helps reduce body dissatisfaction and lessens the emotional burden of comparison. Parody encourages critical and less serious engagement with beauty-focused content. The results showed increased body satisfaction and happiness, with no effect on appearance comparisons (Slater et al., 2019).

3.5 Media Literacy and Awareness

Media literacy interventions, like the awareness video by Arendt et al. (2017), aim to educate participants about the artificial nature of much social media content. These interventions focus on enhancing critical thinking about digitally altered images and unattainable body ideals. By promoting a more realistic ideal self, media literacy interventions reduce social comparison and foster healthier social media engagement (Arendt et al., 2017).

3.6 Contrasting Idealized and Realistic Content

Studies such as Tiggemann & Anderberg (2020) have used the contrast between idealized and realistic content, often through "Instagram vs. reality" posts. This strategy juxtaposes highly curated, idealized images with more natural, unedited ones to highlight the distortion of beauty standards on social media. These interventions aim to reduce body dissatisfaction and mitigate the negative effects of idealized content by promoting less harmful comparisons (Slater et al., 2017).

3.7 Sexualized Body-Positive Content

Sexualized and digitally modified body-positive images (Vendemia et al., 2021), Sexualized and non-sexualized body-positive social media videos (Michele et al., 2023). Sexualized content increased beauty ideal endorsement and self-objectification, while non-sexualized body-positive content reduced these effects. Sexualized beauty ideals reduced body satisfaction, while body-positive content improved body satisfaction and mood.

4. Discussion

The findings from the reviewed studies offer substantial evidence supporting the effectiveness of social media-based microinterventions in improving body image and emotional well-being among women. Interventions that promote body-positive content, self-compassion, and realistic representations of beauty consistently led to reduced body dissatisfaction and lower levels of social comparison. Innovative strategies such as the use of humor, media literacy, and the juxtaposition of idealized and realistic content fostered a healthier conceptualization of beauty. However, prolonged exposure to thin-ideal content remains a critical factor in exacerbating body dissatisfaction, social comparison, and appearance anxiety, emphasizing the importance of limiting engagement with such content.

Future research should explore the long-term effectiveness and generalizability of these interventions across diverse populations. While many studies have centred on short-term outcomes, longitudinal studies are needed to assess the sustained impact of body-positive content and media literacy interventions. Notably, early adolescence, a developmental stage critical to body image formation, is underrepresented in existing studies. Addressing this gap is essential to understanding how interventions can influence body image during formative years. Additionally, examining the role of influencers and content creators in promoting diverse beauty standards and investigating psychological mechanisms such as self-objectification and social comparison will deepen our understanding of how social media content affects body image and emotional well-being. Inclusive studies that consider demographic factors such as gender, age, and cultural background will also enable more broadly applicable interventions.

4.1 Short-Term vs. Long-Term Engagement

The duration of engagement with social media significantly influences psychological outcomes. Short-term exposure to body-positive content or self-compassionate messages often yields immediate benefits, such as improved body satisfaction and reduced self-objectification (Slater et al., 2019; Seekis & Lawrence, 2023). However, sustained engagement with supportive, body-positive content fosters more enduring improvements in body image and emotional resilience. Studies by Stevens & Griffiths (2020) and Cohen et al. (2019) demonstrate that consistent exposure to body-positive accounts creates a more affirming and diverse social media environment, leading to long-lasting enhancements in body satisfaction.

Conversely, prolonged interaction with idealized or thin-ideal content can compound negative effects. Participants engaging with this content over extended periods are more likely to experience worsened body image perception and heightened appearance anxiety (Robinson et al., 2017). These findings underscore the importance of content engagement duration in either mitigating or exacerbating the negative effects of appearance-based comparisons.

4.2 Cognitive Processes

Social media interventions influence key cognitive mechanisms, particularly social comparison and body image perception. Social comparison occurs when individuals evaluate their appearance relative to others, often in response to idealized content like thinspiration or fitspiration images. Studies by Slater et al. (2017) and Rattwatt & Mattacola (2021) reveal that such content increases social comparison, exacerbating body dissatisfaction. In contrast, interventions promoting self-compassion and media literacy (Seekis & Lawrence, 2023; Tiggemann & Anderberg, 2020) reduce social comparison by encouraging critical thinking and self-kindness.

Realistic portrayals of beauty, such as non-idealized images, contribute to a broader, more inclusive conceptualization of beauty (Ogden et al., 2020; Lenne et al., 2022). These portrayals help participants shift their cognitive framework away from narrow beauty ideals, fostering healthier self-perception. Fitspiration content, while occasionally inspiring, often fails to translate into behavior change, remaining limited to cognitive engagement without impacting actual actions.

4.3 Emotional Processes

The emotional impact of social media interventions is evident in changes to body dissatisfaction, appearance anxiety, and overall mood. Exposure to body-positive content, self-compassion messages, or realistic images reduces body dissatisfaction (Cohen et al., 2019; Manning & Mulgrew, 2021), while thin-ideal content increases dissatisfaction (Robinson et al., 2017; Vendemia et al., 2021). These emotional responses reflect how individuals feel about their bodies when confronted with unattainable beauty standards.

Appearance anxiety is another significant emotional outcome. Thin-ideal images often heighten anxiety about how individuals are perceived by others (Cohen et al., 2019; Selensky & Carels, 2021), whereas body-positive interventions alleviate this anxiety by promoting body acceptance. Furthermore, emotional well-being improves through body-positive and self-compassionate interventions (Slater et al., 2019; Seekis & Lawrence, 2023), which replace harmful ideals with affirming messages. Conversely, exposure to thinspiration or makeup-focused content can worsen mood and increase negative emotions like frustration and inadequacy (Robinson et al., 2017; Rousseau, 2023).

4.4 Implication

The findings of this review underscore the importance of social media-based microinterventions in mitigating the negative effects of idealized content on body image. These interventions, particularly those promoting body positivity, realistic portrayals of beauty, and self-compassion, consistently benefit body satisfaction, appearance anxiety, and social comparison. Media literacy plays a pivotal role in enabling individuals to critically engage with social media, countering the unrealistic beauty standards often perpetuated by platforms. However, intervention efficacy depends on factors such as engagement duration and individual differences in susceptibility to social comparison. Recognizing these nuances can guide the development of more effective strategies, fostering healthier online environments and promoting positive body image.

5. Future Research Directions

Several limitations in the reviewed studies highlight opportunities for future research:

- **Short-Term Focus:** Most studies focus on the short-term effects of social media interventions, leaving the long-term impact underexplored. Future research should adopt longitudinal designs to assess sustainability.
- **Underrepresentation of Adolescents:** Early adolescence, a critical period for body image development, is largely absent in the studies. Addressing this gap is vital to understand intervention effectiveness during formative years.
- **Homogeneous Samples:** Participants are predominantly young, educated, and female from Western cultures, limiting generalizability. Future studies should include diverse populations across age groups, ethnicities, and genders.
- **Focus on Body-Positive Content:** While body-positive and self-compassion interventions are effective, other innovative approaches, such as engaging influencers or integrating societal changes, require further exploration.
- **Lack of Behavioral Outcomes:** Fitspiration content occasionally inspires motivation but rarely leads to actionable behavioral changes. Understanding these dynamics can enhance intervention outcomes.
- **Individual Differences:** Variations in body image concerns, media literacy levels, and susceptibility to social comparison may moderate intervention effectiveness. These individual factors need further investigation.

6. Conclusion

The review reveals that cognitive perceptions of beauty standards are positively influenced by interventions such as realistic portrayals and media literacy strategies, which help broaden conceptualizations of beauty and reduce harmful social comparisons. On the emotional front, the interventions effectively reduce body dissatisfaction and appearance anxiety while fostering positive emotions such as self-acceptance. These findings underline the dual benefits of such micro-interventions in reducing the negative impact of idealized imagery. However, gaps remain in understanding their long-term impact and applicability to broader demographics. Future research should explore intervention sustainability, diversify participant profiles, and examine the role of influencers and content creators in fostering healthier beauty standards.

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Risks of Harm through Social Media Use: Scams and How Users Respond

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Abstract: Media reports abound of harm that can occur to the individual when using social media, from financial, emotional to psychological. To date, research around online harm and mitigation has tended to focus on specific risks such as phishing scams and identity theft. Some studies have explored the influence of factors such as age, cognitive ability, education, personality and risk propensity; while others have examined the effects of the type of attack, e.g. investment scam, on scam compliance. However, few studies, if any, have explored the individual's approach to the holistic notion of potential risk and harm that might occur through social media use, particularly scams, given that one seldom knows what sort of, when and where such an attack may occur. This study aims to address this gap in the research.

Informed by, amongst others, Protection Motivation Theory (Rogers, 1975), Reactance Theory (Brehm, 1966) and Self-Determination Theory (Deci & Ryan, 1985), exploratory interviews were conducted with a purposive sample of 25 individuals to ascertain (1) their knowledge and/or experience of scams and consequent harm in social media use and (2) their mitigation responses. Findings indicate a range of scam knowledge and experience. Financial damage occurred most frequently, and often significant emotional harm. A variety of tactics was embraced by the interviewees in order to mitigate the potential harm of social media use. These ranged from becoming expert in certain types of attacks, to adopting a head-in-the-sand approach. Various demographic, personality and contextual factors seemed to contribute to vulnerability and favoured mitigating tactics.

Suggestions are provided as to how to provide holistic guidance to users and the role of banks, social media and regulatory/advisory bodies. Areas of future research are also indicated.

Keywords: Online Scams, Scam Vulnerability, Scam Mitigation Behaviour, Personality, Context, Age

1. Introduction

In 2024, Australian scams accounted for AUS\$ 292,542,032.41 in losses (Scamwatch, 2024), and online scams cost New Zealanders an estimated \$2.3 billion in 2024 (Netsafe, 2024). While it's difficult to get an accurate picture of global costs of online scamming, because of differences in reporting and recording, and frequent non-reporting of incidences, these costs can be regarded as healthy indications of the damage that scams can cause.

Research into social media harm and mitigation has tended to focus on specific risks such as phishing scams and identity theft. Aspects such as the characteristics and profiles of the victims as well as the scammers have been studied in detail. The influence of factors such as age, cognitive ability, education, personality and risk propensity have been highlighted. However, when an individual encounters a scam, one seldom knows what sort of, when and where such an attack may occur. Few studies, if any, have explored the individual's approach to the holistic notion of potential risk and harm that might occur through social media use, particularly scams, so it's hard to know what the general preparedness of users is for these types of onslaughts. This study aims to address this gap in the research by asking two research questions: what are people's knowledge and/or experience of scams and consequent harm in social media use and (2) what are their mitigation responses.

The research reported in the following sections, records an initial exploration into the research questions by way of a literature review which informed qualitative interviews with 25 interviewees. The findings and their analysis are reported together with a discussion of directions for future research and guidance for practitioners.

2. Literature Review

A scam can be defined as "a fraudulent or deceptive act or operation" (Merriman-Webster, 2024). For many, their first experience of a scam was via email in the 1980s when the "Nigerian letter" became widespread. These scams were easily detectable through poor construction of the letter, inappropriate use of language, and also the unlikelihood of being approached by an unknown potentate (Tambe Ebot et al., 2024).

Since then scams have become more refined so that many are now difficult to detect and hoodwink many unsuspecting Internet users. Previously perpetrated via email, social media and mobile applications have enhanced the availability of pools of potential victims (Tambe Ebot et al., 2024).

Financial and romance scams are the general categories of the most prominent scams. Among the financial scams, investment scams, charity scams (Tambe Ebot et al., 2024), income tax refund scams, cryptocurrency investment feature largely (Shete et al., 2024). Romance scams encompass online dating scams, and sextortion scams. Phishing scams are very prevalent, as are vishing scams. In addition, delivery scams, lottery and prize scams are frequently reported (Shete et al., 2024). Cyberbullying is not so frequently reported but anecdotally, such scams are prevalent.

The scams that appear to be the most “successful”/effective, or most pervasive are the social engineering attacks. These include phishing (Sarno & Black, 2024), and advance fee fraud (AFF). AFF requires advance payment for reasons that range from investment, romance, pets, employment opportunities, lottery, drugs to transportation of goods.

Aspects of the messages also enhance response. These include elements of urgency – the need to respond speedily to the request or offer. In addition, the likelihood of the event occurring renders the recipient of the scam more amenable to responding, for instance, the expectation of money being deposited in one’s bank account, the expectation or the probability of a parcel being delivered, the possibility of a prize, the desire to avoid some form of punishment (such as for outstanding tax), a likely good cause requesting a donation (Shete et al., 2024).

2.1 Responses to Scams

There are two categories of responses to scams: if one suspects the message is a scam; or if one does not suspect.

For those who suspect that a message is a scam, the following are the main courses of action: the message is ignored; attachments are not opened; the message might be deleted; and the possible scam reported to friends and family and, in rare instances, to a third party such as Netsafe. However, if the potential danger does not seem so large, chances are that the recipient will be more susceptible, especially if the reward might be immediate and is appealingly described (Langenderfer & Shimp, 2001). Alternatively, if a substantial potential danger can be identified, then the severity and the recipient’s potential vulnerability to the danger are weighed up against one another, or appraised, before coping mechanisms such as response efficacy, self-efficacy and response costs are considered. Depending on the outcome, so the scam is responded to or not (Jansen & Van Schaik, 2018). This is in line with Rogers’ (1975) protection motivation theory.

On the other hand, if no scam is suspected, then influences such as knowledge and experience, personality factors, age and contextual factors (see below) play much more of a role in determining response.

2.2 Mitigation Behaviour

Awareness and knowledge of potential threats is necessary before any mitigating or protective behaviour can ensue (Mohsin & Palvia, 2024). Individuals acquire knowledge by learning about specific scams or, more often, through (often bitter) experience. Indications are that the average recipient tends to learn more about the scams of which they’ve had direct or close experience, rather than about scams in general. Attitudes towards the various threats can develop (Hong et al., 2024) and the following responses illustrate both attitudes as well as personality.

Certain mitigating responses demonstrate sometimes rash, but often rational, behaviours. For instance, psychological reactance theory (Brehm, 1966) states that the reactance that people experience when something threatens their freedom of behaviour, motivates them to restore that freedom. They do this by a fight or flight response. Risk takers tend to fight, i.e. respond to the scam; risk avoiders choose flight and don’t respond (Clayton et al., 2019). Such behaviour can be linked to self-determination theory (Deci & Ryan, 1985) which recognises the basic needs of autonomy, relatedness and competence. The need for autonomy is especially relevant so depending on how much they want guidance from others, the recipient will or will not respond.

Another way of dealing with potential danger or fear, is by threat devaluation (Thompson et al., 2024). Borrowing from the threat severity and threat vulnerability identified by Rogers (1975), such an approach is problem-focused as well as emotion-focused and seeks to minimise the threat by reducing the perceived severity of it, or one’s vulnerability to it.

A further approach is by means of adaptive emotional regulation. According to Lazarus and Folkman’s (1984) transactional theory of stress and coping, when stressful information is received, it is appraised cognitively in

order to deal with the stressor, as well as manage the negative emotions (Biggs et al., 2017). Such avoidance strategies can be regarded as burying one's head in the sand (Waldinger & Schulz, 2010).

2.3 Influences

The literature has identified many factors that can influence responses to scams. The following categories are the most relevant ones.

2.3.1 Knowledge and Experience

While an important mitigating action is to gain knowledge about scams and how to deal with them, in gathering information individuals include what they may learn about from others or from organisational actions (Li and Siponen, 2022), and what they may learn about through their own experience (De Kimpe et al., 2018).

With the rapid growth of the different types of scams, such as phishing, in particular (De Kimpe et al., 2018), individuals focus on what they're most interested in because of personal relevance or experience. They thus acquire information about one or two types of scams but remain ignorant of many of the rest.

2.3.2 Personality

Goldberg's (1992) Big 5 personality traits (extraversion, agreeableness, openness, conscientiousness, neuroticism) are one of the most popular personality trait theories and while the traits could apply in the responses to scams, other traits loom prominently. These include greed (Langenderfer & Shimp, 2001) which influences how much the recipient wishes to benefit from what is offered, and curiosity which refers to the desire to seek and learn new information (Litman, 2010). Curiosity has two main types: information seeking/cognitive curiosity and sensory curiosity, both of which stimulate exploratory behaviour (Litman & Spielberger, 2003), such as opening scam messages. In such behaviour, there is also an element of risk propensity and impulsivity, which have been identified as being influential in phishing responses (De Kimpe et al., 2018). Gullibility and susceptibility have been shown to influence online response behaviour (Langenderfer & Shimp, 2001) as has propensity to trust (Williams et al., 2017). On the other hand, scepticism also plays a role in influencing responses (Langenderfer & Shimp, 2001). Interestingly, Koning et al. (2024) did not find any clear personality profile that was more at risk of fraud, except those having low self-control.

2.3.3 Age

It has been argued that people over 64 and the young are more vulnerable because of reduced cognitive ability (Yu et al., 2023) and social isolation (Langenderfer & Shimp, 2001). However, Sarno and Black (2024) found that age did not predict susceptibility but, on the other hand, Olivier et al. (2015) found that psychosocial background, emotional vulnerability, the need for meaningful activity and opportunities for engagement were predisposing age-related factors. Gender and education are often regarded as exercising an influence together with age (Whitty, 2020).

2.3.4 Contextual Factors

Certain contextual factors, such as culture and organisations have been identified as exerting an interactional influence on response behaviour (Williams et al., 2017). The extent of elaboration needed in decision making, as with the elaboration likelihood model (Langenderfer & Shimp, 2001) has also featured as an influence.

Recipients of fraudulent messages may also be suffering from information security fatigue (Mohsin & Palvia, 2024) information security burnout (Pham et al., 2019) or reactance (Clayton et al., 2019). Information security fatigue occurs when an employee feels overwhelmed by the demands of adhering to security policies. Such fatigue may lead to risky online security behaviours (Furnell & Thomson, 2009). Burnout describes a state of mental weariness which includes two dimensions: exhaustion and cynicism. Consequent behaviour often evidences carelessness (Schaufeli & Bakker, 2004).

Extent of online purchasing behaviour and risky online self-disclosure, as well as experience of the Internet are further influential contextual factors (De Kimpe et al., 2018). Lastly, general life satisfaction has been noted as being an important influence (Hong et al., 2024).

3. Research Method

As the research was exploratory, an interpretive paradigm was adopted. Data were gathered by means of semi-structured individual interviews with 25 purposively selected participants. The participants were composed of both men and women and their ages ranged from 25 to over 65. Each interview lasted at most 40 minutes. They were recorded and subsequently transcribed for analysis. The broad categories explored with interviewees were according to the two main research questions: what is (1) their knowledge and/or experience of scams and consequent harm in social media use and (2) their mitigation responses, with opportunities to explore aspects that warranted further elaboration. Each participant was assured of the confidentiality.

The data were analysed according to the research questions. Thematic analysis was adopted in order to gain a holistic overview of response patterns. The responses were compared to the literature and unexpected and “new” insights were examined for pertinence and importance.

4. Findings

Interviewees were very forthcoming about their knowledge and/or experience of scams and consequent harm through social media use. The types of scams mentioned included the Nigerian letter, dating scams, parcel delivery, financial scams (“My husband said he just saw our money actually disappearing out of our account.”), cryptocurrency scams, investment opportunity scams (“Friends of ours were wiped out. It was tragic. All his retirement money went into the scheme), encore scams, banks/telephone companies/computer companies “checking” users’ details, adoption scams, and burglary scams (“Posting details of your trips and other “users” prompting you for details just validates when you’ll be away”)

In summary, the majority of interviewees had experienced online scams. A number had fallen prey to the scammers or had family members or friends who had had such experiences. The range of experiences seems to have been reflective of the different types of scams with those related to money being the stand-out scams by far. Another popular area of scamming noted was with regard to IT and connectivity. In other words, this would be another route to accessing data with financial details. Emotional scams, such as the adoption scam, featured strongly.

Considerable information was acquired via the media but organisations like banks and third party security agencies, such as Netsafe, that promoted online safety, played a prominent role in informing the public. However, knowledge was sketchy – possibly more extensive with regard to one or two scam types, but generally superficial.

4.1 Responses to Scams

The majority of interviewees usually exercised some form of precaution. If they were wary that a message was a scam, then they simply didn’t respond, nor did they click on links or open attachments. Aspects that alerted them to potential scams were features such as repeats of similar messages, for example parcels requiring payment for delivery. Also, if invitations sounded too good to be true, then a catch was suspected. A few checked url’s and compared them to the banks from whence they were claiming to be sent. Others actually contacted the organisation that was purportedly seeking their personal/financial details. Such actions are in accordance with advice provided by organisations such as Kiwibank (2024). The majority checked with family or friends, often showing them the message before proceeding. Interestingly, they checked for reassurance that they were doing the right thing; they checked for superior knowledge; and they checked for similarity of experience and the outcomes of subsequent actions – if there had been no negative consequences, they would follow respond to the message.

However, many interviewees had responded unwittingly to scam messages/instructions/invitations in the past as an automatic reaction. They hadn’t stopped to think – and they hadn’t suspected anything untoward. Similarly, a few interviewees had opened attachments to messages for the same reason, thereby providing opportunities for bugs to be inserted into their systems. A few had responded because the source seemed genuine, particularly in the case of messages from banks.

“It looked just like the usual messages from my bank with the same logo’s, colours and layout.”

In addition, one interviewee admitted that they couldn’t resist opening attachments because they had been curious - as Litmen and Spielberg (2003) had found - or felt they might miss out on something interesting. Another had responded to an invitation because the prize had seemed so good – as had been found by

Langenderfer and Shimp (2001). A number of interviewees admitted that they had responded to scam invitations or had opened phishing links after they had had “a few drinks” and had thrown caution to the wind. Yet others had responded because they had been in a hurry and “hadn’t had time to check through all the small detail”.

4.2 Mitigation Behaviour

The approach of a number of interviewees was to be informed and try to protect themselves as intelligently as possible. This meant taking control of the situation (Li & Siponen, 2022). However, many interviewees adopted the approach of one who indicated: “I can’t keep up so one never knows what’s going to hit you. I suppose we’ve just got to be very careful”. Others tried to become experts in certain areas for various reasons, such as: “Because I’ve lost money on a cryptocurrency scam, I suppose I’ve read up more about those and am extra vigilant”. One interviewee was practical and reported: “The safest is to spread your assets so if you’re scammed, then your loss will be only a portion of your assets.” A couple of interviewees had considered decreasing/ceasing their social media use, as suggested by Thompson et al. (2024) but were reluctant to lose the benefits.

However, the vast majority relied on some other people or institutions to advise them (Li & Siponen, 2022), for instance the “more knowledgeable members of the family”, or “I just leave all that sort of computer stuff to my husband.” Institutionally, the workplace was a prominent source of protection: “At work, they’re pretty good at distributing regular warnings about scams doing the rounds and what they’ve done to protect us.” Others relied on the government, organisations such as Netsafe, or social media, seeing it as their responsibility to protect the users.

A good portion of the interviewees adopted a rather passive approach which ranged from fatalistic resignation - “I’ll probably get zapped at some time -it seems to happen to so many people” - to a head-in-the-sand approach as suggested by Waldinger and Schulz (2010) whereby they downplayed the frequency and severity of scams – “Oh, it’s just the media. They over-exaggerate everything!” (Thompson et al., 2024).

There were also elements of reactance (Rosenberg & Siegel, 2018) where a couple of interviewees indicated that they were fed up with continual messages from their IT departments telling them what and what not to do, and they’d just thrown caution to the wind and responded if the invitation seemed appealing.

Yet others rationalised that they were not important /wealthy enough to be the target of scammers. “I just console myself with the thought that I’m just small fry and the scammers are probably more interested in far wealthier folk than me.”

4.3 Influential Factors

In their responses to potential scams, the interviewees indicated a number of factors that influenced their response decision.

Firstly, general IT knowledge and comfort of working in that sort of technological environment, played an important role. Knowledge seemed to boost people’s confidence and power to control such risky situations. Interviewees felt empowered to make appropriate decisions. This applied whether the knowledge was just general or scam-specific.

Secondly, personality emerged as a very influential factor. A number of interviewees indicated considerable curiosity about “tempting” messages and a few succumbed and responded to the scam or opened a link or attachment. This accords with Litman’s (2010) findings as well as those of Williams et al. (2017) who identified the trusting nature of people as making them more gullible.

Thirdly, the context of dealing with a scam is also important. A few interviewees noted that when they were hurried, distracted or frazzled, they acted in a less cautious, possibly quicker manner without thinking. These sorts of responses seem to indicate security fatigue (Mohsin & Palvia, 2024) or burnout (Schaufeli & Bakker, 2004) – too many security requirements when other activities seemed to require more attention. In addition, if retired, in many instances, the relative isolation implied less contact with, and advice from, others (Langenderfer & Shimp, 2021).

Fourthly, and linked to the above, as Yu et al. (2023) and Olivier et al. (2015) had found, age appears to exert an influence but more because certain conditions go hand-in-hand with advanced age. If retired, more time seemed available to spend on investigating “tempting” messages. Also not such regular exposure to cybersecurity training as in the workplace might reduce knowledge and make one more vulnerable. Furthermore, there is possibly more money in their accounts or to be invested.

Fifthly, exposure to notices from IT departments at work and training provided in that environment alerted interviewees to the existence and the danger of the different scams, as well as how to deal with them. The frequent messaging from the IT department, kept them constantly aware of potential harm (Hong et al., 2024; Mohsin & Palvia, 2024).

Sixthly, friends and particularly family members, were highly trusted and their advice was followed almost blindly. In many instances, such adherence to stereotypes of men, and the younger generation knowing more about IT matters could have been regarded as irrational.

Lastly, two aspects about social media participation and frequency of online activity stood out. In the first instance, some interviewees' views were that the more one exposed oneself to a risky environment, the more vulnerable one was. In the second instance, statements such as: "Oh, I buy lots of things online and nothing has ever happened to me" seemed to suggest an element of complacency. This is in line with De Kimpe et al. (2018) who found that extent of online activity led to (over)confidence.

5. Discussion

Findings indicate a variety of threat/harm awareness and experience. Financial damage occurred frequently, and often significant psychological harm. Various demographic and personality factors seemed to contribute to the vulnerability and also the favoured mitigation tactics.

Many influences worked in concert. For instance, age probably means eventual retirement – hence reduction in updates from IT departments, as well as reduction of exposure to colleague's anecdotes. There would also be the assumption that, despite trying one's best to stay abreast of developments, one would miss out on some. Thus, seeking information/guidance, reassurance from friends and family members was common. In addition, once retired and/or elderly, social interaction is usually reduced, and the resultant relative isolation decreases the opportunity for exposure for up to date information.

Then there is the almost blind trust in family members. Many interviewees, irrespective of how adept they might be with IT, relied on their husbands or male members of the family for guidance. The reversion to gender stereotypes of males being more competent with technical matters is surprising. An alternative was to rely on younger members of the family, the assumption being that they would know of latest developments. Overall, though, there seems to be a very strong trust in family members – whether because they're viewed through rose-coloured spectacles, or because it's assumed they would not provide harmful guidance. It places considerable responsibility on the trustees.

The views on abstinence from social media use would work, to a certain extent but it might be rather like robbing Peter to pay Paul, with an unbalanced loss in other beneficial aspects of socialisation.

Another important influence is the context in which one responds to scam messages. As noted, often alcohol consumption results in a less cautious attitude so one might be less careful in checking all the necessary details. Similarly, distraction or being in a rush might reduce caution - with lamentable results. A similar argument might be proffered with regard to online purchasing behaviour – reduction might result in reduced bargain/good buy opportunities.

It was quite clear that possessing a comprehensive knowledge of all possible scams that might assail one, is impractical, if not impossible. A sound approach might well be to equip oneself with general protective measures, rather than trying to address every type of scam. Such measures should also accommodate modern life and the personality, age and contextual factors that exert an influence on that life.

6. Conclusion

This research contributed meaningful insights into how both the theoretical approach as well as the practical approach to the risk of harm through scams might be enhanced. While support was lent to a number of theories such as the psychological reactance theory (Brehm, 1966) and Lazarus and Folkman's (1984) transactional theory of stress and coping, the main insights were with regard to the protection motivation theory (Rogers, 1995). Not only did the research strongly support the appraisal aspect of the protection motivation theory (Rogers, 1975) whereby the threat was assessed both in terms of the severity and the recipient's perceived vulnerability, but the coping mechanisms were seen as consisting of self-efficacy and response efficacy. While self-efficacy (or not) featured prominently, the response efficacy did not focus so much on the efficacy of the applications being used, but rather on the efficacy of external units, and subjective norms. Thus, proxy control was exercised by reliance

on units such as government bodies, authoritative organisations such as Netsafe, work places and social media, which the users hoped would introduce measures to protect them (Gong et al. 2020). The influence of subjective norms, whereby an individual perceives that significant others believe they should perform a certain action or not (Fishbein & Ajzen, 1975) was exercised by reference to knowledgeable family members. In addition, the moderating effects of personality, age, and context need to be considered in order to provide a more holistic understanding of users' responses to scams.

From a more practical perspective, because financial scams account for the majority of harm incurred, indications are that banks need to be proactive in providing anti-scam warnings and mitigations if response to a scam is realised. In additions, governments, third party agencies such as Netsafe, and social media can all play a significant role in contributing to such efforts. Social marketing campaigns targeted at vulnerable groups such as the elderly would go a long way to creating awareness of the dangers of scams and protective responses.

A typology of users and their scam propensity might come in handy in devising such campaigns. However, further confirmatory research would be needed in order to categorise users. Further research is also necessary into the emotional repercussions of scam victims. That would enhance such a typology.

Overall, this research has highlighted a number of areas that need further examination. Being exploratory in nature, the next steps would be to develop quantitative measures to confirm hypotheses which might develop from this research.

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Co-Creation as a Success Factor: Enhancing Customer Loyalty through Social Network Engagement

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Abstract: In the digital transformation era, businesses face mounting challenges in formulating innovative strategies to enhance customer engagement and cultivate long-term brand loyalty (Prahalad & Ramaswamy, 2004; Jaakkola & Alexander, 2014). Traditional marketing approaches are diminishing in effectiveness, necessitating alternative means of fostering meaningful interactions with consumers. Co-creation has emerged as a pivotal strategy in this regard, actively integrating customers into the innovation and product development process (Mahr et al, 2013; Sarasvuo et al, 2022). This participatory engagement fosters an emotional connection between consumers and brands, consequently reinforcing brand affinity and customer retention (Breidbach & Maglio, 2016; Oklevik et al, 2024). Social networks serve as instrumental platforms in facilitating co-creation, enabling real-time interaction between customers and brands. These digital environments empower consumers to contribute ideas, articulate preferences, and engage in collaborative development efforts (Sarkar & Banerjee, 2021). This dynamic fosters enhanced customer satisfaction and provides valuable insights for businesses, which can be leveraged to refine their offerings. Furthermore, participatory experiences engender a sense of community, reinforcing brand loyalty by fostering a perception of shared ownership in the brand's trajectory (Cossio-Silva et al, 2016). This paper examines the multifaceted impact of co-creation within social networks and identifies key success factors necessary for its effective implementation (Bogers et al, 2015; Gemser & Perks, 2015). By categorising distinct types of co-creators and analysing their motivational drivers, this study provides strategic insights for optimising customer engagement. The research delineates different co-creator personas, such as recognition-seekers, knowledge-driven contributors, and pragmatic participants, and evaluates their influence on the co-creation process. Employing a mixed-methods approach, this study integrates qualitative interviews and quantitative surveys to classify and analyse co-creator typologies. This methodological framework allows for a comprehensive exploration of behavioural drivers and the efficacy of co-creation initiatives. Findings indicate that successful co-creation initiatives must be designed to accommodate the heterogeneity of co-creator motivations. Companies should integrate both intrinsic and extrinsic incentives to ensure participants perceive their contributions as valuable. Moreover, transparency in the innovation process, explicit communication of expectations, and the cultivation of an inclusive and rewarding engagement environment are essential in sustaining long-term customer participation (Oklevik et al, 2024). Ultimately, co-creation within social networks emerges as a potent mechanism for strengthening customer relationships, driving brand advocacy, and fostering a sustainable competitive advantage (Füller, 2006). Businesses that strategically implement co-creation practices can cultivate a loyal customer base while enhancing their capacity for innovation and responsiveness in an evolving market landscape (Ramaswamy, 2009).

Keywords: Customer Engagement, Co-Creation, Social Networks, Customer Loyalty, Consumer Participation

1. Introduction

Acquiring new customers is substantially more costly than retaining existing ones (Kumar, 2022). Consequently, businesses are investing in strategies aimed at fostering enduring customer relationships. One such strategy is co-creation, which enables customers to actively participate in value creation through product development and innovation (Prandelli et al, 2006). Social networks provide an optimal platform for this engagement, offering interactive spaces conducive to customer participation.

This study explores the role of co-creation in social networks as a mechanism for enhancing customer loyalty. It investigates the determinants of customer engagement, classifies co-creator personas, and presents strategic recommendations for businesses seeking to leverage co-creation effectively.

2. The Significance of Co-Creation in Modern Customer Engagement and Brand Loyalty

Given the high costs associated with customer acquisition, businesses are increasingly prioritising strategies that enhance customer retention (Narver et al, 2004; Steinhardt, 2020). Co-creation has been identified as a key enabler of customer engagement and brand loyalty, as it facilitates active collaboration between companies and customers in value creation processes (Piller & Roberts, 2016). This interaction fosters a sense of emotional investment in the brand, strengthening customer-brand relationships (Prahalad & Ramaswamy, 2004). Co-creation is particularly pertinent in the digital age, bridging the gap between companies and consumers (Chesbrough, 2003). Traditionally, companies maintained unilateral control over product development; however, the advent of co-creation has shifted this dynamic, enabling consumers to assume an active role in

innovation (Geise, 2016). This participatory model engenders a sense of appreciation and influence, thereby augmenting brand loyalty (Perks et al, 2012).

Recent research further emphasizes the significance of co-creation in branding as a complex interaction between various stakeholders (Sarasvuo et al, 2022). The DART framework (Dialogue, Access, Risk Assessment, and Transparency) has been identified as particularly effective in driving co-creation initiatives and enhancing customer loyalty (Oklevik et al, 2024). By integrating these elements, companies can foster stronger brand experiences, improve customer satisfaction, and promote long-term loyalty.

2.1 Co-Creation, Emotional Brand Attachment, and Brand Trust

Emotional attachment to a brand is a critical determinant of customer loyalty (Fuchs et al, 2010). When customers perceive that their ideas and preferences are integrated into product development, they experience an enhanced sense of connection with the brand (Mahr et al, 2013). Co-creation facilitates direct interaction between companies and customers, fostering a sense of belonging that translates into sustained loyalty (Hazée et al, 2017).

Empirical evidence suggests that consumer participation in innovation not only fosters a positive brand perception but also increases the propensity for repeat purchases (Nishikawa et al, 2013). For instance, LEGO's "LEGO Ideas" platform has been instrumental in cultivating a community of engaged customers who contribute actively to product development (Fuchs & Schreier, 2010). Such initiatives reinforce the notion that co-creation fosters both customer retention and deeper emotional attachment to the brand (Pralhad & Ramaswamy, 2004).

In recent studies, co-creation has been shown to strengthen brand trust when customers perceive transparency and clear communication in the development process (Oklevik et al, 2024). This trust encourages long-term customer engagement and minimizes brand switching (Sarkar & Banerjee, 2021).

2.2 The Impact of Co-Creation on Brand Trust

Trust is a fundamental pillar of customer loyalty. Co-creation facilitates transparency in the product development process, thereby enhancing customer trust (Jaakkola & Alexander, 2014). When customers observe that their input is valued and implemented, their confidence in the brand increases significantly (Ramaswamy, 2009). This trust, in turn, strengthens long-term customer relationships (Steinhardt, 2020). Empirical studies confirm that customers who trust a brand exhibit lower price sensitivity and higher repurchase intent (Bogers et al, 2015).

3. The Role of Co-Creators in Co-Creation

Consumers today are no longer passive buyers; rather, they increasingly assume the role of co-creators (Ramaswamy, 2009). These consumers actively contribute opinions, ideas, and needs to the innovation process, influencing product and service development (Ranjan & Read, 2014). This shift from passive consumption to active participation has profound implications for corporate innovation strategies (Jaakkola & Alexander, 2014).

Emerging research highlights the complexity of this engagement, showing that successful co-creation requires the involvement of consumers, organizations, and even suppliers in the innovation process (Sarkar & Banerjee, 2021). By fostering a collaborative ecosystem, businesses can enhance product value, improve customer relationships, and foster loyalty (Brand et al, 2025).

Empirical evidence showcases successful examples of co-creation, such as McDonald's 'My Burger' campaign in Germany, which allowed customers to design and vote for personalized burgers. This initiative led to over 116,000 unique burger creations and a six percent increase in revenue (Hofer, 2012). This case demonstrates how co-creation enhances both customer engagement and financial performance.

4. Methodology: Classifying Co-Creators

A mixed-methods research design was utilised, incorporating qualitative focus group discussions and quantitative surveys. The qualitative phase aimed to explore the underlying motivations and perceptions of customers engaged in co-creation initiatives. In contrast, the quantitative component employed statistical analysis to classify co-creators based on their engagement behaviours and incentive preferences (Dillman et al, 2008).

4.1 Qualitative Research: Focus Group Discussions

The qualitative research phase consisted of semi-structured focus group discussions with 20 participants who had previously taken part in co-creation activities. The discussions sought to identify primary drivers of

engagement, perceived benefits, and barriers to sustained participation. A thematic analysis approach was applied to extract key insights, revealing that emotional attachment to the brand, the pursuit of social recognition, and the enjoyment of creative challenges were significant motivators. Participants also underscored the necessity of transparent communication from companies regarding the impact of their contributions.

4.2 Quantitative Research: Sample, Survey and Cluster Analysis

To systematically analyse co-creator typologies and their respective motivations, a structured online survey was conducted. The sample size was determined based on scientific recommendations and established calculation methods. Since conducting a full census of the approximately 37 million active social network users in Germany in 2020 (Statista, 2024) was impractical, a partial sample was selected instead.

To calculate the minimum sample size, a G-Power analysis was performed. This method determines the required sample size based on parameters such as the significance level ($\alpha = 5\%$), statistical power (Power = 80%), and degrees of freedom ($df = 6$) (Klopp, 2010). Based on these parameters, a minimum sample size of 341 participants was calculated. To account for an anticipated dropout rate of 15%, the required sample size was increased to 392 participants. Additionally, a sample size calculator was utilized, based on a margin of error of 5% and a confidence level of 95% (Kraus & Kreitenweis, 2020). This calculation resulted in a recommended sample size of 385 participants. Both methods produced similar results, confirming the scientific validity of the chosen sample size.

The quantitative study employed a structured online survey conducted via the SoSci-Panel platform. Participants ($n = 395$) were recruited using stratified sampling to ensure demographic diversity. The sample comprised 55.2% female, 43.3% male, and 1.5% identifying as diverse, with participants ranging from 18 to 65+ years old. Since the study focused on social media engagement, the sample included individuals who actively use social networks at least once per week.

The questionnaire consisted of five sections, covering demographic details, social media usage patterns, motivational factors, and past involvement in co-creation initiatives. Motivational drivers were assessed using a 5-point Likert scale, with items adapted from established frameworks such as the Self-Determination Theory (Deci & Ryan, 1985) and the Uses and Gratifications Theory (Katz et al, 1973). The questionnaire design was informed by previous studies on customer engagement and co-creation (Geise, 2016). Sample questions included: "I engage in co-creation for social recognition," "I participate in co-creation activities because I enjoy creative challenges," and "I engage with brands on social media to receive recognition from the community."

A preliminary test involving 50 participants was conducted to ensure the survey's reliability and validity. Cronbach's Alpha was used to assess internal consistency, with all constructs surpassing the 0.7 threshold (Nunnally & Bernstein, 1993). Additionally, an exploratory factor analysis (EFA) was performed to validate the structure of the motivational dimensions (Backhaus et al, 2021).

4.3 Key Incentives for Participation in Co-Creation on Social Networks

Social network-based co-creation allows firms to actively involve consumers in innovative processes. A principal component analysis (PCA) with varimax rotation was conducted to identify latent motivational dimensions (Klopp, 2010). Sampling adequacy was confirmed via the Kaiser-Meyer-Olkin (KMO) measure ($KMO = 0.874$), and Bartlett's Test of Sphericity confirmed the appropriateness of factor analysis (significance: 0.000) (Dziuban & Shirkey, 1974; Bühl, 2008). The analysis identified six core motivational factors:

1. **Knowledge Acquisition / Curiosity:** The motivation to gain new knowledge or face new challenges is a significant factor in co-creation. Curiosity and the desire for knowledge are intrinsic motivational factors that encourage individuals to engage with new and unfamiliar topics, thereby expanding their skills and expertise. Emotional attachment to the brand plays a central role in co-creation (Füller, 2006; Dahl & Moreau, 2007; Janzik, 2012; Bretschneider, 2012; Mühlhaus, 2013; Geise, 2016).
2. **Brand Enthusiasts:** Fans of a brand often invest time, passion, and money to demonstrate their connection and are highly motivated co-creators. Their identification with the brand is strengthened through shared experiences and social interactions with like-minded individuals (Stavros et al, 2014; Roose et al, 2017).
3. **Recognition / Acknowledgment:** The desire for social recognition and approval from the community or company is a strong incentive for many participants. Co-creators who receive public praise or acknowledgement for their contributions are particularly motivated to continue delivering high-quality input (Füller, 2006; Janzik, 2012; Bretschneider, 2012; Mühlhaus, 2013; Geise, 2016).

4. **Compensation / Monetary Rewards:** Financial incentives, discounts, or exclusive product offers can also serve as strong motivational factors for participation in co-creation processes. Depending on the effort and contribution, participants expect adequate compensation to perceive their involvement as worthwhile (Füller, 2006; Janzik, 2012; Mühlhaus, 2013; Geise, 2016).
5. **Leisure Activity / Entertainment:** Co-creation is often considered a recreational activity. Many participants enjoy the creative challenge and the fun associated with taking part in innovative processes. This intrinsic enjoyment of participation is another crucial factor that motivates co-creators (Schweiger, 2007; Rössler, 2011; Goetz et al, 2013).
6. **Product Improvement:** Another significant incentive is the interest in contributing to the enhancement of a product. Many co-creators participate in such processes to improve existing products or to bring their own ideas into development. This contribution to innovation particularly motivates technically inclined or dissatisfied users (Füller, 2006; Bretschneider, 2012; Janzik, 2012; Mühlhaus, 2013; Geise, 2016).

4.4 The Four Types of Co-Creators

A hierarchical cluster analysis using Ward's method was conducted to classify participants into distinct co-creator profiles based on their motivational factors (Janssen & Laatz, 2017). The optimal number of clusters was determined using the elbow method and silhouette analysis, leading to the identification of four primary co-creator types.

The analysis of collected data identified four main types of co-creators who differ in their motivations, demographic characteristics, and level of engagement. These types can be classified according to the following criteria: age, gender, proportional distribution within the co-creator community, and the distinction between intrinsic and extrinsic motivations.

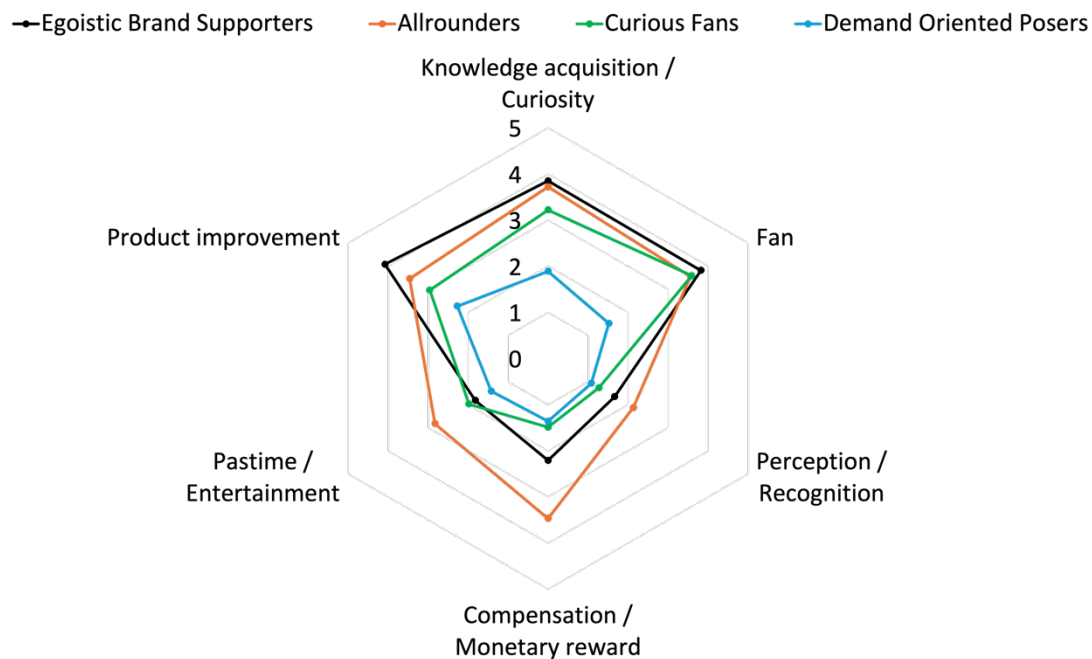


Figure 1: Cluster Centre's of the Motivation Factors of the Four Co-Creator Types as a Network Graph.
(Source: Own Representation)

1. **Egoistic Brand Supporters:** These individuals are particularly active on social networks and use their participation in co-creation processes to enhance their status and influence within the community. This group, primarily composed of young adults aged 18 to 40, represents the largest segment of the co-creator community at 30.21%. The gender distribution is predominantly female, with 56.90% women, 42.24% men, and 0.86% identifying as diverse.
2. Their motivation is predominantly extrinsic: they seek social recognition and aspire to be perceived as opinion leaders within the co-creation community. Recognition from the company or other community members is a key driver for their participation (see Fig. 1).
3. **Allrounders:** Allrounders are highly engaged co-creators who not only contribute creative ideas but also provide valuable feedback on prototypes, making them essential partners in innovation projects. They

are predominantly aged between 18 and 35, constituting 29.43% of the co-creator community. The gender distribution is well-balanced, with 51.33% women, 47.79% men, and 0.88% identifying as diverse. Their motivation is a balanced mix of intrinsic and extrinsic factors. While they have a personal interest in product development, they are also motivated by external incentives such as recognition and compensation. They appreciate contributing ideas but also value feedback and rewards (see Fig. 1).

4. **Curious Fans:** Curious Fans are mainly younger consumers who show a strong interest in the brand and seek exclusive insights into the innovation process. They typically belong to the 20 to 45 age group and are characterised by high brand affinity and enthusiasm.
5. This group, which comprises 25.52% of the total co-creator community, is predominantly female (57.14%), followed by male participants (42.85%) and a small percentage (1.02%) identifying as diverse. Their motivation is primarily intrinsic: driven by curiosity and the desire for knowledge acquisition, they participate in the co-creation process out of personal interest (see Fig. 1). They enjoy the creative process and wish to learn more about the brand and its products.
6. **Demand-Oriented Posers:** This group of co-creators focuses primarily on improving product functionality and is particularly valuable for technical innovations. Demand-Oriented Posers are generally older than other types, typically aged between 55 and 64. Representing 14.84% of the co-creator community, this group consists of 54.39% women, 40.39% men, and 5.26% identifying as diverse.
7. Their motivation is predominantly intrinsic: they are primarily interested in solving technical problems and enhancing existing products. External rewards play a minor role for this group, as they are mainly driven by their desire to contribute to product development (see Fig. 1).

5. Success Factors for Co-Creation in Social Networks

The effectiveness of co-creation in social networks is contingent upon the incentives provided and the communication strategies employed (Mahr et al, 2013). While innovators value the realisation of their ideas, pragmatists require clear and measurable improvements (Füller, 2006). Socialisers are driven by recognition within their communities, necessitating public feedback and acknowledgement of their contributions (Perks et al, 2012; Geise, 2016).

Conversely, passive participants tend to respond more positively to tangible incentives, such as exclusive offers or discounts (Jaakkola & Alexander, 2014). These distinctions highlight the need for businesses to tailor co-creation initiatives to different co-creator segments. The following strategies optimise engagement across distinct participant groups:

- **Egoistic Brand Supporters:** Implementation of status-enhancing mechanisms such as leaderboards, ambassador programmes, and public recognition initiatives.
- **Allrounders:** Creation of structured yet adaptable participation opportunities, including ideation contests and prototype testing.
- **Curious Fans:** Provision of exclusive brand insights, access to beta-testing, and educational content to sustain engagement.
- **Demand-Oriented Posers:** Facilitation of direct collaboration with research and development teams, allowing for hands-on involvement in functional product development.

6. Recommendations for a Successful Co-Creation Strategy

For co-creation initiatives to succeed, businesses must engage in strategic planning (Geise, 2016), ensuring that different co-creator types are adequately accommodated. Innovators thrive when afforded creative autonomy, while socialisers require recognition-driven motivation. Pragmatists demand transparent, result-oriented collaboration, and passive participants are best engaged through structured incentives (Ranjan & Read, 2014).

A comprehensive co-creation strategy should integrate a mix of intrinsic and extrinsic motivators, fostering sustained participation. Transparency in communication and clarity regarding participant contributions are essential to maintaining trust and commitment.

7. Conclusion

Co-creation in social networks enables businesses to position customers as active stakeholders in the innovation process (Füller, 2006). This approach strengthens customer loyalty by fostering a sense of shared ownership, allowing companies to tailor their products and services to consumer needs. By engaging customers in value creation, businesses can cultivate long-term relationships and enhance brand advocacy (Cossío-Silva et al, 2016).

Incorporating contemporary frameworks such as the DART model (Oklevik et al, 2024) and acknowledging the dynamic nature of co-creation in modern markets (Sarasvuo et al, 2022) ensures that co-creation strategies remain aligned with evolving consumer expectations. By combining theoretical insights with practical strategies, companies can effectively strengthen customer engagement and achieve sustainable growth.

The findings emphasise that co-creation initiatives must be strategically aligned with participant motivations. Businesses should implement a balanced mix of intrinsic and extrinsic incentives to ensure that contributors feel valued and rewarded. Intrinsically motivated co-creators, such as Curious Fans and Demand-Oriented Posers, seek opportunities for knowledge acquisition and product influence, whereas extrinsically driven participants, such as Egoistic Brand Supporters and Allrounders, respond to public recognition and tangible rewards. Recognising these differences allows businesses to refine their engagement strategies for optimal participation.

Additionally, social networks provide an ideal platform for fostering real-time, interactive co-creation experiences. These platforms enable customers to share ideas, provide feedback, and actively contribute to brand evolution. A well-structured co-creation initiative requires companies to moderate and manage these interactions, ensuring that they yield meaningful outcomes for both businesses and consumers.

A crucial element of long-term co-creation success is the cultivation of a strong, engaged community. When customers perceive their contributions as valuable and feel connected to a broader group of like-minded individuals, engagement levels increase. Structured participation opportunities—such as ideation contests, behind-the-scenes access, and direct R&D collaboration—enhance this dynamic. Furthermore, transparent communication regarding how consumer input influences innovation fosters trust and strengthens co-creation credibility.

Ultimately, co-creation via social networks represents a powerful mechanism for enhancing customer engagement and brand loyalty. Companies that effectively leverage this approach can gain a competitive advantage in an increasingly participatory market. Future research should explore the long-term impact of co-creation on brand equity and customer lifetime value, as well as the potential of emerging technologies—such as artificial intelligence and virtual reality—to further enhance co-creation experiences. By continuously evolving their strategies and prioritising customer involvement, businesses can unlock the full potential of co-creation, driving innovation, customer satisfaction, and sustainable growth.

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Transforming Social Media Usage Paradigms Among Millennials: Analysing Preferences, Behaviours, and Strategic Implications

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Abstract: The paper examines the current trends and usage of social media platforms by Millennials, with an emphasis on their preferences, behavioural patterns and the paradigm shift of using these platforms. This paper presents an overview of current studies addressing trends in social media usage, with a particular focus on academic and scholarly publications, as well as studies. The paper presents an analysis of self-reported data on social media use among Millennials. The author conducted comprehensive research and a series of individual in-depth interviews with the objective of determining the number of social media platforms currently utilised by Millennials, the primary reasons for their usage, the individuals they follow on social media, their preferences regarding post content, and their perceptions of the various social media platforms. Particular attention is paid to the perception of social media platforms in relation to educational institutions. The paper also offers recommendations for educational institutions regarding the use and communication through social media platforms.

Keywords: Marketing Communication, Millennials, Paradigm Shift, Social Media, Usage Preferences.

1. Introduction

The advent of social media has become an integral part of everyday life, and its impact on individuals and society is growing. However, with the rise in popularity, as well as technological advances, new trends have emerged, and changes in the overall way they are used have also been observed.

The Millennial generation, in particular, is of significance within this paradigm, as it is a demographic of young people for whom the utilisation of social media is a defining aspect of their lifestyle. A substantial proportion of Millennials (86%) engage with social media on a daily basis, thus categorising them as the "always on" generation (Rideout and Watkins, 2018).

Furthermore, they are the most prolific consumers of digital content. In comparison to non-Millennials, Millennials represent only 35% of total media consumption, with the remaining 60% being consumed through more traditional means (Palm and Pilkington, 2016).

The use of social media by Millennials is inextricably linked to leisure, entertainment, and active information-seeking. A substantial proportion of their day is dedicated to social media, with a reported average of over two and a half hours per day (MSS Media, 2024). This extensive usage is not merely for socialising but also as a primary source of news, entertainment, and brand interactions.

Furthermore, the influence of social media on the consumption habits and opinions of this generation is also evident. A recent study found that 67.9% of Millennials had made at least one purchase in the past month based on social media content (Wagner, 2023).

In contrast, there have been significant shifts in the preferences, usage patterns, and overall time spent on social media by this generation of users in recent years. It is imperative for effective social media marketing strategies to understand how Millennials utilise their time on social media (GWI, 2024).

According to Kemp (2024), the average time spent using social media by internet users aged 16 to 64 at the end of January 2024 was 2 hours and 23 minutes each day. A further breakdown of these figures reveals that individuals between the ages of 16 and 24 allocate the most time to social media, with women spending an average of 2 hours and 59 minutes and men 2 hours and 32 minutes. The world's most used social media platforms are Facebook, YouTube, WhatsApp, Instagram and TikTok. The most popular social media platforms are Instagram, WhatsApp, Facebook, WeChat and TikTok. The average number of social media platforms actively used by internet users worldwide each month is 6.7. Internet users report that they spend the most time using the TikTok platform, with an average of 34 hours per month (Kemp, 2024).

The present study examines the use of social media by Millennials, with a particular focus on the paradigm shift that has occurred in this area. The study's scope encompasses the following domains: the current number of social media platforms utilised by Millennials, the predominant reasons for their usage, the individuals they follow on social media, their preferences regarding post content, and their perceptions of various social media

platforms. A range of research techniques are employed, including an original qualitative survey and data analysis, to examine the issues under investigation and offer new insights and perspectives.

2. Literature Review

A plethora of authors in the extant literature have discussed the changes in social media use and its impact on different generations. In the context of examining the utilisation of social media by Millennials, we identify particularly pertinent authors who explore the relationship between Millennials and several interconnected factors, including digital consumption and social impact, motivation and user preferences, and technological influence and social media trends.

2.1 Digital Consumption and Social Impact

Lesmana (2024) offers noteworthy insights into the consumption dynamics of Millennials, underscoring the necessity of comprehending their preferences and concerns within the digital marketplace. His research indicates that Millennials are increasingly aware of social and environmental issues, which influences their purchasing decisions. They tend to favour brands that align with their values regarding sustainability and ethical practices.

Dwivedi and Lewis (2021) emphasise the significant role that life concerns play in shaping Millennials' social media behaviour, highlighting both the challenges and opportunities that arise from this relationship. Their research indicates that Millennials utilise social media for various reasons, including seeking information, connecting with others who share similar concerns, and raising awareness about issues that matter to them.

Bolton et al. (2013) underscored the intricate nature of social media usage and its ramifications, emphasising the necessity for a more profound comprehension to facilitate effective navigation of the progressively evolving digital terrain. Their findings indicate that social media use is influenced by a combination of environmental factors (such as economic, cultural, and technological conditions) and individual factors (like socio-economic status and personal goals).

2.2 Motivation and User Preferences

Ng and Lee-Post (2019) provide valuable insights into the motivations and behaviours of Millennials in social media contexts, emphasising the importance of enjoyment and trust in driving participation. The most significant factor identified is hedonic motivation, which refers to the enjoyment and fun derived from using these technologies. Trust in technology and trust in community are also crucial determinants.

Park, Chen, and Cheng (2021) emphasise the intricate interplay between motivation, social dynamics, and user experience in determining the continuous intention to use social media services among Millennials. Their research highlights that motivation is positively associated with both flow and social reward, suggesting that when users are motivated, they are more likely to experience engagement with the platform.

Alan and Kabadayi (2016) investigated the relationship between social media users' personality and their social media usage intention. The study's findings underscore the significant impact of personal factors, including age, gender, and personality traits, on social media engagement. Specifically, females were found to be more active on platforms that emphasise social interaction, while males may prefer platforms that focus on content sharing and gaming.

Vukmirović, Domazet, and Kostić-Stanković (2020) have drawn attention to the growing importance of Millennials in communication strategies. Their research highlights the necessity for organisations to adopt personalised, interactive, and real-time communication approaches tailored to Millennials' interests.

2.3 Technological Influence and Social Media Trends

Ardi and Putri (2020) conducted a comprehensive analysis of the impacts of social media use on Millennials' social behaviour and interactions. Their research suggests that social media has had a significant influence on social interactions and relationships within society.

Girish and Swapnil (2023) highlight significant differences in social media usage between Millennials and Generation Z. The study found that Generation Z uses social media more extensively for various purposes, including education, entertainment, and socialisation, compared to Generation Y. However, both generations use social media equally for seeking information.

Slepian et al. (2024) provide a comprehensive overview of Millennials' defining traits, emphasizing their immersion in digital technology and its impact on healthcare preferences, such as telehealth adoption.

Lee and Circella (2019) provide a thorough analysis of Millennials' ICT usage and its impact on transportation choices, offering insights into their preference for shared mobility and multimodal travel. The findings highlight that intense ICT users, many of whom are Millennials and Gen Zers, exhibit reduced reliance on private vehicles.

Alison (2013) explores generational differences influenced by social, economic, and technological factors, particularly emphasizing Millennials' and Gen Z's integration with digital technology. Early exposure to technology has shaped these generations' collaborative habits and seamless blending of work and social lives.

Lupien and Oldham (2012) critically examine the impact of Millennials on libraries and higher education, emphasizing their comfort with technology and preference for internet-based resources over traditional library tools.

Ong et al. (2024) advance psychological and marketing theories by exploring persuasion mechanisms and generational differences in information processing between Millennials and Generation Z.

Duh and Dabula (2021) emphasise that given the frequent social media use by Millennials and their ability to influence others, it is important to educate and motivate them. Social media plays a key role in shaping their attitudes and behaviours.

3. Aims and Methodology

The objective of this paper is to examine the current trends and usage patterns of social media platforms by Millennials, with a specific emphasis on their preferences, behavioural tendencies, and the paradigm shifts resulting from their engagement with these platforms. Particular attention is paid to the perception of social media platforms in relation to educational institutions.

The study adopts a descriptive research design to explore the multifaceted dimensions of Millennials' social media usage. This design facilitates the identification of patterns, preferences, and perceptions related to their interaction with social media platforms.

To this end, the author conducted a comprehensive research study, comprising a series of in-depth, semi-structured interviews with users of social media aged between 28 and 34 years. The study's objectives included the determination of the number of social media platforms currently utilised by Millennials, the primary reasons for their usage, the individuals they follow on social media platforms, their preferences regarding post content, and their perceptions of the various social media platforms.

A purposive sampling method was employed to ensure the inclusion of participants with diverse experiences and usage patterns across multiple platforms. The final sample comprised 34 participants.

The following research questions were formulated:

RQ1: What are the most common reasons Millennials use social media platforms?

RQ2: What are the current trends in following content on social media platforms?

RQ3: How do Millennials rate different social media platforms?

RQ4: What types of posts do Millennials most often prefer?

RQ5: What is the average amount of time Millennials spend using their smartphone?

RQ6: Which social media platforms are preferred by Millennials for the purpose of researching educational institutions?

RQ7: To what extent is it important for Millennials that the educational institutions where their children should study communicate through social media platforms?

4. Results and Discussion

According to the online encyclopaedia *Britanica* (n.d.), one of the defining characteristics of Millennials is that they came of age during a period of significant technological development, particularly in relation to the proliferation of the Internet. This generation is notable for being the first to have had access to computers, mobile

phones and smartphones from a young age. As young adults, they became the primary consumers of social media and streaming entertainment. However, the rapid advancement of technology has resulted in the emergence of a nuanced sub-cohort (Britanica, n.d.).

This generation is notable for being the first to have had digital technology ingrained in every aspect of their daily lives. They utilise social media platforms such as Facebook, Instagram, and TikTok to maintain connections with friends, employ dating apps like Tinder, Bumble, and Hinge, and expand their professional networks through LinkedIn. Millennials are also the generation that is raising their own children. In this capacity, they are confronted with a range of issues, including the selection of kindergarten, primary school or other educational institutions (e.g. private, language schools). In this context, it is interesting to see how this generation uses social media platforms when choosing a school or educational institution.

Our survey results yielded several noteworthy findings concerning the perception of individual social media platforms, their utilisation, and the aggregate time spent using smartphones. The findings have been categorised into distinct groups according to the specific areas of investigation.

4.1 The Duration of Social Media Platforms Utilisation

In this category, an analysis was conducted to ascertain the duration of time that Millennials have been utilising each social media platform.

A notable finding was that *Facebook* has a significant proportion of users who have been using it for more than 10 years. It is a conventional platform that gained prominence during the Millennials' formative years. A smaller number of people have been using it for five to 10 years, indicating a stable but declining popularity among younger Millennials.

In contrast, *Instagram* has emerged as a dominant platform within the 5-10 age group, suggesting that it has experienced a surge in popularity during the last decade. The adoption of Instagram by younger demographics has been gradual, with a high retention rate of users who have been active for less than a year.

TikTok, a comparatively recent platform, has the highest concentration of users in the 1-4 years category. The absence of users in the 5+ age group corresponds with the platform's recent emergence. A significant proportion of the population does not utilise it, a phenomenon that may be attributed to generational preferences.

LinkedIn, conversely, is more prevalent among Millennials, suggesting that it is less popular as a professional networking platform among this age group. Those who do use it have started using it more recently.

In contrast, the *Twitter* platform appears to be less popular among Millennials, with the majority of respondents reporting that they do not use it at all. A mere fraction has been using it for over five years.

YouTube emerges as the platform with the highest long-term popularity. This suggests that it is a universal platform for long-term content consumption.

In contrast, *WhatsApp* has garnered a more modest level of popularity among users who have been active for 5 to 10 years, and particularly among those who have been using it for the longest time.

WeChat and *Telegram* have yet to achieve widespread popularity, with the majority of respondents indicating that they do not utilise these platforms. *Snapchat* has maintained a consistent level of popularity among the 5- to 10-year-old demographic; however, a significant proportion of Millennials do not employ it.

Pinterest exhibits a distribution of users between the 5-10 age group and the "don't use" category. While it can serve as a specific platform for inspiration, its universality is limited.

The *Day by Me* platform is utilised by a minimal number of individuals, with a considerable proportion of users reporting that they do not employ it.

4.2 The Primary Rationales for the Social Media Platforms Utilisation

In this category, the primary motivations for utilising various social media platforms by Millennials were examined, encompassing activities such as maintaining connections with family and friends, utilising leisure time, staying informed about current affairs, accessing video content, and staying current with discourse.

The predominant rationale for utilising *Facebook* is to maintain communication with family and friends. However, the platform is losing its appeal for activities such as watching videos or sharing personal content, suggesting its transition to the role of a "traditional" social media platform.

The primary functions of *Instagram* appear to be the following: following celebrities and influencers, sharing personal activities, and following favourite brands. Furthermore, Instagram has emerged as a platform for Millennials seeking inspiration for purchases and maintaining awareness of current trends. This suggests that Instagram is a powerful tool for visual and trending content.

TikTok is primarily utilised for the purposes of occupying leisure time, sourcing inspiration for expenditure, viewing videos, and seeking answers to queries. The primary focus of this platform is on entertainment and the expeditious consumption of content.

X (Twitter) usage is very low, suggesting that the platform is not a primary choice for Millennials. Those who do use it do so for two main reasons: to keep up to date with current affairs and to follow current events.

YouTube: The predominant rationale for utilising YouTube is to view video content and acquire knowledge. YouTube is also utilised for educational purposes, such as finding information for school and obtaining answers to various questions. This data suggests that YouTube is the primary source of informational content for Millennials.

In the context of *WhatsApp*, the predominant usage patterns are centred around communication with family and friends. The primary function of WhatsApp appears to be for maintaining communication with family and friends. This underscores its role as a medium for direct and personal communication.

Pinterest is predominantly utilised for the discovery of shopping and leisure inspiration. It is evident that the platform's primary focus is on visual planning and creative projects.

In contrast, *Snapchat*, *Telegram* and *Day by me* have a less prominent popularity, with activities primarily occurring in isolation. For instance, Telegram is sporadically employed for the dissemination of insights and recommendations, while Snapchat and Day by me lack a discernible primary function.

4.3 Trends Within Social Media Platforms

In this category, an investigation was conducted into the social media platforms that Millennials follow.

The most prevalent social media platforms for friends and acquaintances are *Facebook* and *WhatsApp*, which serve as primary conduits for maintaining personal connections.

In the realm of *Instagram*, the focus shifted to actors, singers and influencers. Instagram has been identified as the dominant platform for following celebrities, influencers, and professionals. This platform is pivotal for entertainment, trends and professional inspiration.

TikTok and *Instagram* have become prominent platforms for entertainment content, such as memes and parodies, while Facebook is experiencing a decline in relevance in this regard.

In the realm of education and learning, *YouTube* and *Instagram* have emerged as the predominant platforms for DIY content and educational institutions. *TikTok* also boasts a relatively large following of users interested in educational content.

4.4 The Perception of Individual Social Media Platforms

In this category, an investigation was conducted into how Millennials perceive various social media platforms, with a particular focus on the positive (modern, fun, timeless, relevant) and negative (outdated, boring, irrelevant, untrustworthy) attributes.

Facebook faces challenges in terms of perceptions of modernity and relevance. Despite its continued utilisation, the platform's image of obsolescence underscores the imperative for substantial modifications or the strategic targeting of the older demographic.

Instagram is perceived as modern, relevant and fun, and is the platform with the best image among Millennials. However, it does not stand out significantly in terms of timelessness.

TikTok is regarded as contemporary, yet it faces challenges in establishing its credibility. It is increasingly being regarded as the preferred medium for entertainment.

LinkedIn is the predominant platform for professional content and is held in high regard. Nevertheless, it is not perceived as entertaining or timeless.

YouTube is regarded as a modern and relevant platform for entertainment and content, but it is not perceived as timeless.

WhatsApp is regarded as a reliable and timeless medium for communication, but it is not perceived as a source of enjoyment or modernity.

WeChat is facing challenges in terms of its modernity and relevance among Millennials.

Telegram suffers from credibility and obsolescence issues, which may be a result of its focus on smaller, more specific communities.

Snapchat maintains its image as an entertainment platform, but growing perceptions of obsolescence may signal its gradual decline.

Pinterest maintains its modern image and relevance for specific creative and visual activities.

Day by Mehas has a very weak perception among Millennials, signalling low popularity and targeting specific lower segments.

4.5 Preferred Contribution Types on the Individual Social Media Platforms

In this category, an investigation was conducted into the types of posts that Millennials prefer on each social media platform. The following were considered: statuses, photos, videos, livestreams, stories and reels, carousels, vlogs and sharing texts.

Facebook predominates in text-based posts and exhibits relevance in content dissemination. However, its usage for other content types, such as photos and videos, is significantly lower, suggesting a focus on information and text-based statuses.

Instagram is the platform that garners the highest level of user preference across all content types, including photos, stories, reels, and carousels. Its versatility and visual nature make it a key platform for Millennials.

YouTube dominates in longer videos and vlogs, but its use in shorter formats such as stories or reels is minimal.

TikTok is oriented towards videos and vlogs, suggesting that Millennials utilise the platform for content that is entertaining and dynamic.

X (Twitter) facilitates text-based posts, other forms of content are negligible.

LinkedIn is not widely used for visual content; however, the presence of visual content suggests that professional series of images or presentations are appearing here.

In the context of instant messaging applications, such as *WhatsApp*, *WeChat*, and *Telegram*, the dissemination of visual content is particularly salient. These platforms demonstrate a negligible propensity for all content types. Their primary function is communication rather than the sharing of media content.

4.6 The Significance of Social Media Utilisation by Educational Institutions

In this category, the investigation focused on the perceived importance of social media presence by educational institutions for millennial parents. The importance of these platforms was assessed on a scale of 1 to 5, with 1 representing least importance and 5 representing most importance.

The platforms that emerged as being of the greatest importance included *Instagram*, *LinkedIn*, *YouTube*, and *Facebook*.

A significant proportion of respondents considered the presence of an educational institution on *Instagram* to be very important. This social network appears to be pivotal for outreach due to its visual content and interactive formats such as stories and reels. *LinkedIn* is regarded as being of particular significance for parents who prioritise professional development and seek content that is conducive to career advancement. *YouTube* is regarded as a valuable source of information, particularly for video content such as virtual tours.

TikTok and *WhatsApp*, despite their perceived relevance, are considered important for specific purposes. *TikTok*, however, has garnered more mixed perceptions. While some respondents regard it as highly significant, others

do not engage with it. *WhatsApp* is regarded as a means of communication rather than a marketing platform, yet some respondents perceive it as a valuable source of expeditious information.

Platforms such as *WeChat*, *Telegram*, *Snapchat*, *Pinterest*, *Day by Me* and *Twitter* (X) have been identified as having low importance, either due to their limited recognition or their perceived irrelevance for educational institutions.

4.7 Finding Information about Educational Institutions on Social Networks

In this category, an exploration was conducted into which social media platforms Millennials would utilise for seeking information, recommendations and experiences related to the selection of an educational institution. The investigation revealed that *Instagram* and *Facebook* predominate in the search for information, with *Instagram* being particularly favoured for its visual content. *Facebook* retains its relevance primarily due to the presence of official institution pages and community groups. *LinkedIn* and *YouTube* are also employed for information seeking, albeit to a significantly lesser extent. In terms of recommendation seeking, *Facebook* emerges as the dominant platform due to its active communities and group posts. *YouTube* also enjoys popularity, particularly for its micro-review videos. *TikTok* is an emerging platform in this context, and it is interesting to note that it is particularly popular for fast and authentic content. In terms of search experiences, *YouTube* and *Instagram* dominate, with *TikTok* also having a strong presence, especially for fast and authentic content. *LinkedIn* also has a significant presence, although not as frequent, in this area.

4.8 Time Spent Using Your Smartphones

Finally, we focused on the amount of time Millennials spend using their smartphones. The data was collected directly from the smartphones of participants in the in-depth interviews using an application to measure usage time. To facilitate the comparison of the data, values expressed in hours and minutes per day were converted to weekly values (7 days).

The results indicated that the majority of Millennials engage with their smartphones for more than four hours daily. The mean weekly duration of smartphone usage was found to be 35 hours and 51 minutes. The minimum value recorded was 20 hours per week. The maximum value recorded was 91 hours and 28 minutes per week. The most prevalent values ranged between 28 and 56 hours per week.

5. Conclusion

The present study examined contemporary trends and the utilisation of social media platforms by Millennials, with a particular focus on their preferences, behavioural patterns, and the paradigm shift in their use of these platforms. The primary objective of this study was to reveal the transformative social media usage paradigms among this generation, which represents a significant segment of social media platform users. The research methodology involved the collection of data on the number of social media platforms currently utilised by Millennials, the primary reasons for their usage, the individuals they follow on social media, their preferences regarding post content, and their perceptions of the various social media platforms. The findings yielded interesting insights into the Millennial generation's relationship to and use of social media, as well as the behavioural patterns of this generation on social media platforms and their preferences. The analysis of these areas revealed interesting trends and behaviours that are shaping the way this generation interacts with the digital space.

In terms of the duration of social media platform usage, measured in years of active use, Millennials demonstrated consistent yet diversified preferences across various platforms. *Facebook* and *YouTube* have been identified as platforms with a long-standing presence, while newer platforms, such as *TikTok*, have demonstrated a surge in popularity.

The investigation further revealed that individual platforms assume specific roles in the lives of their users. While *Facebook* is primarily used for maintaining personal contacts, *Instagram* is used for trend tracking and visual communication, and *TikTok* dominates the entertainment sector. *YouTube*, conversely, has emerged as a predominant source of informational content, underscoring its significance in educational pursuits and facilitating the discovery of answers to a wide range of queries.

With regard to the consumption of social media content, it has been determined that Millennials are most active in following friends and family, celebrities, and entertainment or educational content. In the context of

entertainment and educational content, Instagram, TikTok and YouTube have the greatest influence, while Facebook is more oriented towards personal connections.

Furthermore, the perception of the various social media platforms is nuanced. While Instagram is regarded as modern and relevant, Facebook is perceived as outdated. TikTok, despite being regarded as contemporary, faces considerable credibility challenges. In contrast, YouTube and WhatsApp maintain an image as versatile and reliable platforms.

With regard to the preferred post types, visual formats such as photos, stories and reels predominate, particularly on Instagram. Conversely, video content such as vlogs and videos are popular on platforms such as TikTok and YouTube. Textual posts continue to predominate on platforms such as Facebook and Twitter.

In the context of selecting an educational institution, research indicates that Instagram, Facebook, YouTube and TikTok are the most significant platforms for millennials. Whilst LinkedIn is also prominent, it is used less frequently. Instagram has emerged as a universal platform. Millennials utilise this platform to seek information, recommendations and experiences pertaining to the selection of an educational institution. This platform is regarded by millennials as the most significant for educational institutions. YouTube also plays an important role, especially for its video content. Despite a decline in usage, Facebook maintains a stable position. The increasing popularity of TikTok is indicative of its potential to become a significant source of experience and recommendations, particularly due to its authentic and concise nature.

The results of the research demonstrate that Millennials allocate a substantial proportion of their time to mobile devices, with an average weekly usage duration exceeding 35 hours.

The findings that emerge from this research offer a valuable opportunity for further exploration and application in digital marketing and social media design. In the context of educational institutions, this encompasses the utilisation of social media and the manner in which we communicate, as social networks are assuming an increasingly pivotal role in the decision-making process when selecting educational institutions. Institutions are therefore advised to adapt their strategies to suit their target audiences. Visual content on Instagram and YouTube, professional content on LinkedIn and authentic experiences on TikTok have the potential to increase their appeal. The following recommendations can be drawn from the results of the research. Instagram and YouTube should be considered as key channels for educational institutions, as these platforms have been found to reach the majority of the target audience. However, educational institutions should also develop their presence on LinkedIn, especially if they focus on career-oriented education. In addition, the use of WhatsApp as a complementary channel for direct communication with parents can be a valuable strategy. While the efficacy of the social media platform TikTok is contested, the potential for creative content to reach target demographics is noteworthy.

6. Limitations of the Study

The study acknowledges potential limitations, including a reliance on self-reported data, which may be subject to biases, and the restriction to a single age cohort, which may limit generalizability across other generational groups. The study and survey results are also subject to several other limits and limitations. Firstly, the number of respondents is limited, as is the duration of the survey. Furthermore, the implementation of research was confined exclusively to the conditions of the Slovak Republic. Notwithstanding these limitations, the study's findings offer intriguing insights, necessitating further research to explore their implications.

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Impact of AI in Social Media: Addressing Cyber Crimes and Gender Dynamics

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Abstract: Integrating artificial intelligence (AI) in social media has transformed digital interactions, enhancing content moderation, user experience, and security. However, this evolution has also introduced significant cybersecurity risks, particularly gender-based cybercrimes, algorithmic bias, and privacy violations. This paper examines AI's dual role in mitigating and exacerbating cybercrimes on social media, focusing on gender dynamics and ethical concerns. It explores AI-powered moderation tools, their effectiveness in detecting harmful content, and the unintended consequences of algorithmic bias. Additionally, it highlights how AI-driven misinformation and deepfake technology contribute to online exploitation. The study evaluates regulatory frameworks, ethical AI deployment, and policy interventions aimed at reducing algorithmic discrimination and strengthening digital safety. By analyzing both technological advancements and systemic vulnerabilities, this research proposes strategies for fostering a safer, more equitable online environment. Beyond content moderation, AI significantly impacts user behavior and information dissemination. Algorithmic personalization can reinforce echo chambers, exacerbate polarization, and contribute to the virality of harmful content. Cybercriminals leverage AI for advanced phishing attacks, automated disinformation campaigns, and deepfake-based fraud, requiring adaptive security measures. The paper also discusses emerging policy frameworks that balance AI innovation with accountability, advocating for an interdisciplinary approach involving policymakers, technologists, and civil society. The findings underscore the need for transparent AI governance, improved dataset diversity, and a hybrid human-AI approach to content moderation. Ultimately, this paper emphasizes the importance of ethical AI design and proactive intervention to ensure AI-driven social media platforms serve as tools for protection rather than harm.

Keywords: AI in Social Media, Cybercrime Prevention, Gender-Based Crimes, Ethical AI, Digital Safety

1. Introduction

The widespread adoption of social media has transformed global communication, commerce, and information exchange, fostering unprecedented connectivity and opportunities for personal expression. Platforms such as Facebook, Twitter, Instagram, and TikTok have become integral to modern life, enabling individuals to share ideas, build communities, and access economic opportunities. However, this digital revolution has also given rise to complex cybersecurity challenges, including cyber harassment, misinformation, identity fraud, and gender-based violence, which disproportionately impact vulnerable populations.

Artificial intelligence (AI) has become a critical tool in addressing these challenges, offering advanced capabilities in content moderation, threat detection, and automated security measures. Techniques such as natural language processing (NLP), machine learning algorithms, and image recognition empower platforms to identify harmful behavior, flag abusive content, and detect fraudulent accounts at scale. While these AI-driven systems enhance online safety, they are not without limitations. Issues such as algorithmic bias, over-surveillance, privacy concerns, and the amplification of harmful content raise ethical and practical dilemmas that must be addressed to ensure equitable digital governance.

Beyond content moderation, AI is also shaping user experiences by influencing information dissemination, targeted advertising, and social interactions. While these advancements increase engagement and user retention, they can also contribute to the spread of misinformation and digital polarization. Cybercriminals are increasingly leveraging AI for sophisticated attacks, including deepfake technology, phishing schemes, and automated misinformation campaigns, necessitating a robust, adaptive cybersecurity framework. As AI continues to evolve, striking a balance between its benefits and risks is imperative. This paper seeks to examine these evolving dynamics, critically assessing AI's role in shaping digital safety and ethical governance in social media ecosystems.

1.1 Motivation

Despite advancements in AI-driven content moderation, cybercrimes persist at alarming rates, particularly targeting women and marginalized communities. Existing automated solutions often struggle with contextual accuracy, leading to either excessive censorship or inadequate enforcement. The presence of deep-rooted biases in AI models further exacerbates these issues, as underrepresented populations frequently experience disproportionate harm. There is a pressing need for a nuanced, ethically guided approach that refines AI's capabilities while ensuring fairness and inclusivity. Addressing these challenges is essential to fostering a safer digital environment where AI serves as a robust tool for protection rather than a mechanism for unintended discrimination. The growing incidents of hate crimes in cyberspace result in a significant economic impact (Citron, 2014; Hua and Bapna, 2020).

1.2 Contributions

This paper contributes to the discourse on AI-driven social media governance by identifying key weaknesses in existing cybersecurity frameworks and proposing strategies for improving AI's effectiveness in mitigating cyber threats. We examine how AI algorithms can be enhanced through diversified datasets, improved contextual analysis, and hybrid human-AI moderation approaches. Additionally, we advocate for policy reforms that promote ethical AI deployment, transparency in algorithmic decision-making, and international collaboration in AI regulation. By bridging technological advancements with regulatory frameworks, this study provides actionable insights into designing AI systems that prioritize fairness, accuracy, and inclusivity in combating cybercrimes on social media platforms.

2. Background

The rapid evolution of social media has transformed it into a ubiquitous feature of contemporary life, serving as a hub for personal interactions, professional networking, entertainment, and public discourse. Platforms like Facebook, Instagram, and LinkedIn have facilitated connections across geographical and cultural boundaries, enabling users to share experiences, amplify voices, and access economic opportunities. However, this ubiquity has also rendered social media a fertile ground for cybercrimes, ranging from identity theft and data breaches to gender-based harassment and exploitation.

Gender-based cybercrimes, including online stalking, revenge pornography, body shaming, and targeted harassment, have emerged as significant concerns. Women and marginalized groups are disproportionately affected, often facing severe psychological, social, and economic repercussions. Social media platforms' anonymity and global reach exacerbate these issues, making it easier for perpetrators to evade accountability. Research consistently underscores the gendered nature of these crimes, highlighting the urgent need for targeted interventions to protect vulnerable populations.

Artificial intelligence has been increasingly integrated into social media platforms to address these challenges. Technologies such as NLP and machine learning enable automated content moderation, detection of harmful behavior, and verification of user identities. Image recognition systems identify inappropriate content, while predictive algorithms help flag potentially dangerous interactions. These advancements have improved platforms' ability to respond to cybercrimes at scale, reducing the reliance on manual moderation and enabling quicker responses to harmful incidents.

Despite these technological advancements, AI-driven solutions are not without limitations. Algorithmic bias remains a pervasive issue, with studies showing that AI systems often replicate and amplify existing societal prejudices. For instance, biased training datasets can lead to the underrepresentation or misrepresentation of women and marginalized communities, perpetuating harmful stereotypes. Additionally, privacy concerns arise from the extensive data collection required to train AI systems, raising questions about user consent and data security.

Hyderabad, India, provides a compelling case study for examining the impact of AI on social media governance. As a rapidly growing urban center with a diverse population and a mix of traditional and modern societal norms, Hyderabad reflects many of the complexities emerging digital economies face. The region's digital usage patterns reveal significant gender disparities, with women often facing greater online risks and limited access to digital resources. Fieldwork conducted in Hyderabad, including interviews and surveys with victims, law enforcement officials, and social media users, sheds light on the local nuances of these global challenges.

This study situates itself within the broader discourse on the ethical deployment of AI in social media, advocating for solutions that balance technological innovation with cultural sensitivity and ethical responsibility. By examining AI's role in both perpetuating and mitigating cybercrimes, this research aims to provide actionable insights for policymakers, platform developers, and civil society organizations. The findings underscore the need for a multifaceted approach that includes regulatory oversight, ethical AI design, localized awareness initiatives, and the integration of gender perspectives into technology development.

3. Related Work

The integration of artificial intelligence (AI) into social media platforms has significantly transformed the landscape of online interactions, particularly concerning cybercrime and gender dynamics. This section reviews existing literature that elucidates the multifaceted roles AI plays in moderating content, perpetuating biases, and influencing societal norms within digital spaces.

3.1 AI in Content Moderation and Cybercrime Prevention

AI technologies, including machine learning and natural language processing, have significantly automated content moderation on social media platforms; however, challenges persist. Gorwa, Binns, and Katzenbach (2020) discuss the technical and political complexities inherent in automating platform governance, while Chakraborti, Agrawal, and Chauhan (2021) emphasize the need for robust algorithms to detect and mitigate malicious activities in the prevention of cybercrime. Despite these advancements, concerns regarding fairness and transparency remain, as Binns (2018) draws on political philosophy to underscore the ethical implications of AI deployment, and Boyd and Crawford (2012) call for a comprehensive examination of the cultural and technological phenomena underlying big data and AI integration. The rise of AI also causes increased and sophisticated phishing attacks as discussed by Kumar et al. (2024). West, Whittaker, and Crawford (2019) argue that AI systems must be designed with gender and racial equity in mind to avoid perpetuating discrimination. Research by Smith and Duggan (2018) illustrates the prevalence of online harassment on social media platforms, underlining the importance of AI in content moderation. AI-driven techniques for identifying gender-based cybercrime, as explored by Sharma and Kumar (2021), offer promising advancements in automated threat detection.

3.2 Algorithmic Bias and Gender Dynamics

The deployment of AI in social media has inadvertently perpetuated existing societal biases, particularly concerning gender. Noble (2018) examines how search engines reinforce racism and sexism, revealing the deep-seated biases encoded within AI algorithms. O'Neil (2016) echoes this sentiment, discussing how big data exacerbates inequality and threatens democratic processes. Vincent and Hecht (2021) specifically investigate algorithmic bias in social media platforms, focusing on gender representation. Their study highlights the underrepresentation and misrepresentation of women, attributing these issues to biased training data and algorithmic design. Kumar, Prakash, and Jaiswal (2022) delve into the intersection of AI and gender dynamics in digital spaces, advocating for more inclusive and equitable AI systems.

3.3 Technology-Facilitated Gender-Based Violence

The proliferation of AI technologies has also facilitated new forms of gender-based violence online. Parks (2021) discusses how social media amplifies online harassment, disproportionately affecting women and marginalized groups. The rise of deepfake technology, which uses AI to create hyper-realistic but fake images and videos, has been particularly concerning. Reports indicate a surge in non-consensual explicit deep fakes, often targeting women, leading to severe emotional and psychological harm.

In response to these challenges, governance efforts have been initiated to mitigate technology-facilitated gender-based violence. The United Nations University Centre for Policy Research highlights the impact of AI and cybersecurity on women, peace, and security, emphasizing the need for gender-responsive approaches in AI development. Additionally, the U.S. Agency for International Development (USAID) underscores the importance of integrating gender considerations into cybersecurity policies to address the unique vulnerabilities faced by women online.

3.4 Ethical and Regulatory Considerations

Ethical and regulatory considerations are paramount for the effective deployment of AI in social media. McCarthy (2019) highlights the need to expand transparency requirements under the GDPR to ensure accountability, while Gillespie (2018) examines platforms' role as internet custodians, revealing the covert decision-making processes in content moderation. Equally critical is the integration of gender perspectives, as demonstrated by Chatham House's toolkit (2023) and the guidelines proposed by the Association for Progressive Communications (APC), which call for the amalgamation of policy, research, and technical standards to mitigate gender-based harms. Complementary studies by Singh and Singh (2022) on predictive policing and the analysis by the Women in Tech Network further illustrate that, although AI can enhance cybercrime prevention, it may inadvertently perpetuate biases and facilitate new forms of gender-based violence, thereby necessitating a multifaceted, ethically grounded approach.

4. Methodology

This study employs a quantitative, data-driven approach to examine the intersection of artificial intelligence, social media, and cybercrime with a particular emphasis on gender dynamics. Two publicly available datasets underpin this investigation. The first, the Hate Speech and Offensive Language Dataset (Davidson et al., 2017), comprises a curated collection of tweets categorized as hate speech, offensive language, or neutral content. The second dataset, the Toxic Comment Classification Challenge Dataset (Jigsaw, n.d.), contains annotated user comments from diverse online platforms, enabling a comprehensive assessment of online toxicity and harassment trends.

The methodology integrates advanced statistical analysis with automated content evaluation. Quantitative techniques are employed to assess frequency, distribution, and co-occurrence of cybercrime indicators, while natural language processing (NLP) algorithms facilitate sentiment and semantic analyses across the datasets. In addition, image recognition tools are applied to detect visual cues indicative of gender bias and cyber harassment. Data triangulation is achieved by cross-referencing outputs from statistical models with those from automated content analyses to ensure the reliability and validity of the findings.

Furthermore, machine learning algorithms are utilized to identify latent patterns in cybercrime trends and gender-related biases, offering a multi-dimensional perspective on AI's impact on social media governance. This comprehensive and replicable framework not only enhances the robustness of the research findings but also establishes an ethically sound methodology for future studies in the domain.

5. Key Findings

5.1 Gender Aspects of Social Media Crimes

5.1.1 *Hate Speech and Offensive Language Dataset Summary*

The Hate Speech and Offensive Language Dataset, compiled by Davidson et al. (2017), offers a collection of tweets categorized as hate speech, offensive language, or neutral. This dataset has been widely used to study online harassment and gender dynamics. Analysis of the data reveals significant patterns, such as a higher incidence of hate speech targeting women and minority groups. It provides a valuable benchmark for evaluating natural language processing algorithms and content moderation tools. Findings from the dataset highlight both the prevalence of harmful language and the challenges of automated detection, emphasizing the need for refined algorithms and inclusive training data.

5.1.2 *Toxic Comment Classification Challenge Dataset Summary:*

The Toxic Comment Classification Challenge Dataset, curated by Jigsaw, contains user comments from various online platforms annotated for toxicity and abusive language. This dataset is a robust resource for analyzing cyberbullying and gender-based online harassment. Studies using this data reveal patterns in language use, identifying trends in online abuse, particularly against vulnerable groups such as women. This dataset aids in developing machine learning models to detect harmful content and offers insights into online communication dynamics. The dataset's comprehensive annotations enable researchers to significantly improve automated moderation tools and enhance the accuracy of predictive models in cyber safety research.

5.2 Evolution of Threats with AI Advancements

Before AI integration, social media platforms had limited personalization, showing mainly content from users' direct networks. Content moderation was performed manually, which, while avoiding some automated biases, often resulted in delayed responses to harmful content. This allowed hate speech and cyber harassment—particularly against marginalized groups—to persist without timely intervention. In contrast, the introduction of AI technologies has revolutionized content curation and moderation. Starting with Facebook's early adoption of friend recommendations and ad targeting in 2008, followed by facial recognition features in 2010, AI has enabled platforms to process vast amounts of data rapidly. However, this evolution has brought its own set of challenges.

Datasets such as the Hate Speech and Offensive Language Dataset (Davidson et al., 2017) and the Toxic Comment Classification Challenge Dataset (Jigsaw, n.d.) have been instrumental in revealing the complex landscape of online abuse. Analyses using these datasets show that AI-driven systems can detect offensive language at scale but often inherit biases from their training data. These biases can lead to disproportionate targeting of certain demographics, thereby reinforcing existing inequalities. Moreover, recent research by Gorwa, Binns, and Katzenbach (2020) indicates that while AI enhances the speed of threat detection, it also tends to create "echo chambers" by continuously reinforcing users' pre-existing views, contributing to the spread of misinformation. Vosoughi, Roy, and Aral (2018) further demonstrate that misinformation spreads more rapidly in such over-personalized environments, making it challenging for users to distinguish fact from fiction. Tufekci (2015) adds that the increased reliance on AI for content moderation can inadvertently narrow the diversity of information users encounter, which may intensify polarization and diminish critical public discourse.

The shift from human-led to AI-powered content moderation marks a significant transformation in managing cyber threats. While AI enhances the efficiency of harmful content detection, it also brings risks like algorithmic bias, over-personalization, and misinformation spread. Addressing these challenges will require continuous refinement of AI algorithms and the development of robust regulatory frameworks. Future research should focus on mitigating these risks while leveraging the strengths of AI to create safer, more balanced digital environments for all users.

5.3 Preventive Measures

As AI becomes increasingly embedded in social media governance, it is crucial to develop and implement preventative measures to mitigate cybercrimes, especially those that target marginalized populations. Key strategies involve leveraging AI for content moderation, implementing robust regulatory policies, and fostering community-led initiatives. AI-powered moderation tools allow harmful content to be identified and removed much more efficiently. Through improving natural language processing and machine learning models, it can enhance the detection of cyber harassment and gender-based violence online. However, there must be transparency and accountability in the AI algorithms to mitigate the unintended harm caused by AI bias. The systems must be trained on diverse datasets representing different cultures, languages, and social contexts to do this. Companies must also regularly audit and monitor the AI models to ensure they do not accidentally reinforce discrimination. To address online gender-based violence, robust legal frameworks should be established by governments and international organizations. Laws must be implemented to hold perpetrators accountable while ensuring that moderation on AI-generated exploitative content is criminalized. Countries like the UK are already taking steps to criminalize such practices, which will be expanded on further in the paper, and similar policies should be extended globally. Public awareness and digital literacy programs can help users recognize online threats and protect themselves and their loved ones against AI threats. By encouraging and normalizing proactive safety measures like two-factor authentication and optimizing privacy settings, individuals can feel more confident in navigating digital spaces. By integrating these strategies, the intersection of AI and social media governance can become a safer space for everyone by shifting towards a more ethical and inclusive approach, ensuring digital platforms remain safe for all users.

6. Case Studies: Grooming Crimes in the UK

The intersection of AI and social media has introduced a new dimension to the prevalent issue of grooming gangs in the UK. "Grooming gangs" in the UK refer to groups of individuals who manipulate and exploit vulnerable people, often young girls, for sexual abuse and exploitation. These gangs typically operate through a process of grooming, where perpetrators build trust with their victims through attention, gifts, or promises of care and love, only to abuse them later. Such cases have sparked widespread outrage, leading to extensive media

coverage, public debate, and legal reforms. One of the most notable pieces of evidence of this activity is the Rotherham Scandal, which occurred from 1997 through 2013. Over these 16 years, approximately 1,400 children were abused, with authorities failing to act despite being aware of the abuse prevalent around them. Now, AI has been leveraged by perpetrators to facilitate their operations and by law enforcement to combat these grooming crimes. Perpetrators already utilize the anonymity and vast reach of social media to access victims, but now AI-driven tools can also analyze user data on these platforms, enabling predators to pinpoint potential victims based on their posts, usage, and online interactions. Individuals showing vulnerability—like loneliness, low self-esteem, or family conflicts—are more easily identified and targeted by groomers. Groomers can then create fake profiles and befriend vulnerable individuals to identify and contact potential victims to manipulate them.

Additionally, the ability to create deep fake images and videos with AI has equipped blackmail and coercion as fool-proof ways to threaten victims into complying with groomers' demands. These targeted approaches can be tailored to facilitate the grooming process, making detecting and protecting victims from harm more difficult (Child Rescue Coalition, 2025). However, law enforcement agencies are also employing AI tools to detect patterns of grooming behavior online. These tools can analyze enormous data sets to identify suspicious accounts and user interactions, helping flag any exploitation and curb malicious activity before it causes harm. Legislative approaches to limiting the role of technology in exploitive crimes have also emerged recently. In February 2025, the UK became the first country to pledge to make AI-generated child abuse images illegal, which would strip perpetrators of an exploitative method to reach vulnerable individuals online. The public response to grooming scandals, as documented by Vaughan (2018), highlights the need for AI tools to identify and prevent such exploitation.

Several disturbing features mark grooming gangs. They often target vulnerable individuals—typically young people, those who are socially isolated, or from disadvantaged backgrounds—and use psychological manipulation, gifts, and coercion to trap victims in abusive relationships. These gangs operate in organized networks where multiple offenders share victims or work together in abuse. Many cases remain hidden for years due to social stigma, fear, or institutional failures. Notable examples include the Rotherham scandal, in which approximately 1,400 children were abused over 16 years (Linsley and O'Rourke, 2014); the Rochdale case involving the grooming and abuse of underage girls in Greater Manchester (BBC News, 2012); and the Telford abuse scandal, which revealed decades of systemic failure in protecting vulnerable populations (BBC News, 2016).

7. Discussion

AI in social media governance presents both advantages and challenges in combating cybercrimes and gender-based violence. AI-driven moderation enhances content detection but suffers from biases, disproportionately impacting marginalized communities.

This study's findings align with Vincent and Hecht (2021), who highlight algorithmic bias in social media platforms, leading to the underrepresentation and misinterpretation of women in digital spaces. Similarly, Noble (2018) underscores how search engine algorithms reinforce societal biases, exacerbating discrimination online. Our research echoes these concerns, demonstrating that AI-driven moderation, though efficient, risks amplifying biases present in training datasets.

A key challenge is AI's dual role—improving cybercrime detection while perpetuating biases due to flawed training data. As seen in Hyderabad, AI's effectiveness depends on digital literacy and access, highlighting the need for localized solutions rather than one-size-fits-all approaches.

Regulatory oversight is essential to balancing AI's capabilities with ethical considerations. Policymakers, developers, and civil organizations must collaborate to minimize algorithmic harm and ensure ethical AI deployment.

Additionally, AI-driven misinformation spreads gendered disinformation, reinforcing stereotypes and online abuse. Hybrid moderation—combining AI with human oversight—can mitigate this risk.

In conclusion, AI governance must balance innovation with ethical safeguards, addressing biases and promoting fairness. Future research should refine AI frameworks, integrating insights from critical studies like those of Vincent and Hecht (2021) and Noble (2018) to develop safer digital spaces.

8. Future Work

In a future study in Hyderabad, India, we will examine a unique partnership between the Society for Cyberabad Security Council (SCSC) and the Cyberabad Police Commissionerate. We will look at how using AI and simple safety programs can help reduce cyber crimes, especially those against women. We plan to explore if this approach can work in other regions and for different groups of people. We will also improve our tools to spot threats and make our awareness programs even better for women and older adults. Additionally, we will strengthen rules and work closely with both public and private groups to build safer online communities. IRB and Ethical human studies approvals shall be obtained for such future human interactions or surveys/interviews.

9. Conclusion

In conclusion, the paper underscores AI's complex role in social media governance, highlighting its capacity to both mitigate and exacerbate cybercrimes. Fieldwork in Hyderabad illustrates that while AI-driven tools enhance content moderation and threat detection, inherent algorithmic biases pose significant ethical challenges, particularly for women and marginalized groups. The study advocates for culturally sensitive, ethically designed AI systems supported by robust regulatory frameworks. Ultimately, balancing technological innovation with ethical oversight is essential for creating safer, more inclusive digital environments. Future efforts must prioritize transparency, community engagement, and continuous adaptation to evolving cyber threats. These steps will ensure lasting digital safety.

Ethics And AI Considerations

This research uses publicly available anonymized hate speech datasets. No individuals were contacted directly for this research, and there was no identifying information in the datasets. We have applied for IRB (Institutional Review Board) approval to conduct a survey and fieldwork. Since those may take time, such work shall be conducted in phase two after the IRB approvals are obtained. No AI tools were used for this paper.

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Dimensions of Youth Interaction on TikTok: Exploring Creativity, Multimodality, and Digital Literacy

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Abstract: This paper explores youth perceptions of TikTok, looking for how this platform influences their daily experience and how they build their relationship with technology. We rely on qualitative research using interviews as a method to search for evidence. Based on the analysis of data collected from 19 participants between 11 and 23 years old, interviewed by 4 researchers, individually or in groups, during seven interviews of approximately one hour, during a school year. This study addresses how users interpret their activities on the social network TikTok—after transcription of the interviews, using HappyScribe, which were subsequently reviewed manually, a total of 71 documents were obtained. A double coding process, automatic and manual, was carried out. This combination of quantitative and qualitative methodology allows for a broader understanding of the trends and patterns that mark the youth experience on TikTok. A closer look at this technique shows that it was carried out by analyzing the terms, considering the context in which each of the codes appears. This function uses an algorithm to generate a hierarchy of codes based on recurring phrases in the data. The results show that TikTok is not only an entertainment platform, but also a space for the production and negotiation of shared meanings among the platform's users, who employ different linguistic strategies. Young people generate content by adapting to algorithms and re-signifying trends based on their cultural experiences. Likewise, there is a constant interaction between creativity and algorithmic regulations, which influences which meanings consolidate or disappear. The common perceptions identified in this work reveal not only the relevance of TikTok as a tool for social interaction among young people but also how it is configured as a creative space related to the acquisition of multimodal skills and even capable of enhancing various forms of literacy.

Keywords: TikTok, Automatic and Manual Coding, Social Media, Creativity, Multimodality, Literacy.

1. Introduction

TikTok, one of the most popular digital platforms among people (Ceci, 2025 01 17), has transformed their interactions in the digital world. Its format of short videos, combined with accessible interactive and editing tools, has given rise to a dynamic in social relationships where creativity, entertainment, and social connection are intertwined. Such resources include, for example, the AI-supported Symphony assistant (TikTok, 2024, May, 06). This article focuses on exploring young people's perceptions about TikTok, seeking how this platform influences their daily experience and how they build their relationship with technology.

We rely on qualitative research using interviews to search for evidence (Roulston, 2024). Emergent themes, identified through automatic (Iliev et al., 2015, Zhang et al., 2023, FAB_Builder_Code_Generation, 2025) and manual (Saldaña, 2021, Braun and Clarke, 2024) coding processes of interactions in TikTok, are analyzed using NVIVO 15 (Windows). By focusing on youth perceptions, the article aims to highlight how this platform reflects their values, aspirations, and challenges in the context of an increasingly digitized world. These contributions enrich knowledge about the platform and open new avenues for exploring its impact on youth from an inclusive perspective.

The general objective is to explore young people's perceptions of TikTok in order to delimit how this platform influences their daily experience and the construction of their relationship with technology. The creative and discursive practices that emerge in this environment are examined. Moreover, the purpose of this paper is to highlight the study's methodological contributions, based on the integration of automatic and manual coding through the use of NVivo to analyze the qualitative data obtained.

The following sub-objectives are proposed to achieve this goal

1. Analyze the role of different types of videos and their contents in youth expression and creativity within TikTok.

2. To investigate how young people use multimodal discourses in the elaboration of videos, including editing practices and the use of the resources offered by the platform.
3. Examine how TikTok practices relate to the development of digital literacy, including aspects such as security awareness and critical thinking.

Considering it, the most relevant contributions of the study, unlike industry trend reports, such as GWI's (2022), which take a large-scale survey approach, providing a quantitative analysis of social media usage patterns, this study takes a qualitative approach that allows for an in-depth exploration of how young people experience TikTok in their daily lives. While the GWI report provides data on digital consumption habits and social media behaviour based on large samples of internet users, our research analyses the construction of meanings around the platform, considering the interaction with algorithms and the creative and discursive processes that emerge in this environment. Furthermore, by integrating automatic and manual coding using NVivo, an innovative approach is offered to identify patterns in youth discourses, allowing not only to quantify trends but also to interpret the context and sociocultural dynamics that shape their participation in the platform.

2. Theoretical Framework

From a theoretical perspective, this study is framed within debates on digital creativity, multimodality, and literacy in interactive environments. Creativity on TikTok not only involves the production of original content but is also based on the reconfiguration of discourses and cultural trends in a process that aligns with the notion of remix (Navas, 2012; Delfanti & Phan, 2024) and participatory culture (Jenkins, 2013). In this context, multimodality (Bezemer & Kress, 2016) plays a key role by allowing young people to construct visual and audio narratives that integrate various expressive resources—from visual effects to the strategic use of sound and text—thus configuring new forms of communication and digital learning. Digital literacy on TikTok involves technical skills and allows young people to interpret and redefine content in an ecosystem mediated by algorithms.

2.1 Creativity: Generating and Transforming Content

Creativity on TikTok emerges as a central dimension in teens' interactions with the digital world as creators and consumers (Kaye et al., 2022). The platform provides a unique ecosystem that combines accessible video editing, music, and visual effects tools with a dynamic social environment where young people find immediate validation, inspiration, and feedback (Zeng et al., 2021). In this context, creativity is not limited to content production but extends to how teenagers reinterpret, re-signify, and dialogue with the videos they consume. (John-Steiner, 2000). Currently, something that qualifies as creative involves both people and productions, also considering the environment in which they arise. These ideas were suggested by (Chomsky, 1965), for whom creativity is the core of language itself, its essential property. What we can understand happens when teenagers create in TikTok; it is necessary to acquire new discourses that become the creation instrument.

Creativity is associated with specific practices, knowledge construction, and even certain forms of power that involve control of discourse and emotions (Ivcevic et al., 2023). Moreover, creativity is part of a social system that involves knowing, being, and acting (Kaye et al., 2022). To some extent, to be recognized by a close or distant audience with whom they share values and ways of acting, a set of cultural practices. TikTok's culture is closer to popular culture than to culture with a capital letter. When adolescents reflect on the videos on TikTok, they highlight aspects related to originality, adaptability, and the ability to connect emotionally with other users.

Relevant in this context is the work of Henry Jenkins in relation to the concept of participatory culture (Jenkins and Scott, 2013), which defines culture as a set of creative and shared human experiences. Those who create in TikTok reconstruct what others have done and rely on the platform's resources (Bigly-Sales, 2023, December 23). At this point, these resources are mediated by artificial intelligence. Also helpful in this regard are the comments of Henry Jenkins (Brinck, 2023), who highlights the ability of AI to democratize visual representations, as they allow people to express themselves in innovative ways that were unthinkable only a short time ago. In this context, the idea of remix (Delfanti and Phan, 2024; Navas, 2023), related to creativity, makes sense. Remix means to reconstruct by transforming what is already there—for example, part of a video or even a video game. If we look at the early works of (Navas, 2012), *creation implies design and transformation, which is impossible without reference to rules, instruments, codes, and procedures*.

The above reflections also allow us to understand better the contributions of Abidin and his collaborators (Zeng et al., 2021), for whom creativity on platforms such as TikTok operates as a hybrid process, where users mix

visual, auditory and textual elements in unique ways while adapting their productions to the cultural and aesthetic norms of the digital community. TikTok acts as a creative laboratory where young people not only generate content but also evaluate and reinterpret others' productions.

2.2 Multimodality and Video Creation

Creativity in TikTok is essentially multimodal, as their discourses combine different forms of representation (visual, auditory, textual) to produce complex narratives. Teenagers use tools such as transitions, special effects, and musical fragments to embellish their creations and communicate meanings. **Multimodality can be considered a tool to represent reality; we have to take into account that young people's contributions in TikTok involve a reconstruction of their daily life or that of others using multimodal discourse** (Bezemer and Kress, 2016). In digital platforms such as TikTok, the principles of multimodality become especially evident. TikTok is characterized by organically integrating moving images, sound effects, text snippets, and visual transitions, creating narratives that combine different modes of communication into a cohesive and highly impactful experience (Leaver et al., 2020).

Moreover, it should be noted that although the modes of representation can be kept discrete, the rules of multimodality make it possible to combine them to build complex productions. In TikTok, this combination reaches its full potential. The platform's built-in editing tools allow users to synchronize sounds with images and text, creating an immersive experience that reinforces the message. This integration highlights how affective aspects of humans, such as empathy or emotion, are not separate from cognitive and communicative activity (Cho et al., 2022).

Finally, the grammar of multimodal discourse underlines the need for conscious reflection on the resources used and the messages conveyed in contemporary communicative contexts (Bezemer et al., 2020). Understanding how different modes of representation contribute to the construction of reality enriches our ability to interpret complex messages and gives us tools to participate actively in a constantly evolving social and digital environment.

2.3 Digital Literacy: Resources and Skills

Digital environments have democratized access to global communication, allowing people to publish, produce, and share information with broad and diverse audiences, something that a few years ago was reserved for a few elites (Fastrez and Landry, 2024). In TikTok, this democratization translates into the ability of young users to connect with broad audiences through short videos using multimodal resources that integrate images, music, and text. However, this active participation requires more than technical skills; it demands a critical understanding of digital discourses and their construction conventions (Marsh, 2019). We can elaborate on these competencies. First, from an operational perspective, users must use advanced editing tools to create videos that combine visual, textual, and sound modes. Smooth transitions, special effects, and precise synchronization between music and images require technical skills and a deep understanding of the platform's functionalities (Housse, 2024 12 13). In this context, TikTok offers a space where teenagers can experiment and hone these operational competencies while participating in digital social dynamics.

Second, digital literacy's cultural dimension is reflected in how users adopt and adapt community norms and values, such as the strategic use of hashtags, participation in viral challenges, and incorporation of music trends (Zappavigna and Logi, 2024). These practices reinforce shared cultural values and allow users to position themselves within the digital community. For example, a video that uses a popular hashtag or follows a viral trend can generate a sense of belonging while amplifying the creator's visibility within the platform.

Finally, regarding the understood critical dimension, TikTok users must develop an ability to evaluate how digital narratives can reinforce or challenge social and cultural structures (Gee, 2017). We will point out the contributions of Cho et al. (2022) that extend this perspective, emphasizing the importance of understanding how digital platforms shape the user experience through their algorithmic architectures and dynamics of participation. While not specifically referring to TikTok, we can consider their contributions to understand better how literacy can be developed within the framework of this social network. It will be necessary to consider, first, the presence of the self, in that as a sender it must understand both its own motivations and those of the audiences to whom it directs its messages

In short, fostering the literacy of TikTok users can become a goal in non-formal educational scenarios. It implies developing it by emphasizing how it is possible to consciously create productions that are shared using multimodal discourses within the social network framework.

3. Methodology

3.1 Methodological Approach

This study adopts a qualitative research design aimed at analyzing the digital practices that young people between 11 and 23 years old carry out in the social network TikTok. We also analyze their conceptions about the functioning of TikTok and the communicative environment created there. We seek to describe and understand the meaning that young people construct about their interactions with the TikTok platform. We understand qualitative research as a way to explore in depth the lived experiences, perceptions, and practices of participants (Denzin et al., 2024).

The study's design was inspired by various approaches, giving special importance to interviews as a method of data collection (Roulston, 2024). It has been complemented with others inspired by ethnography (Kozinets and Gretzel, 2024), as an approach interested in discovering the meanings that the participants attribute to their practices, which are reinterpreted by the research team. We also consider the analysis of cases, which we relate to the systems and information management (Simeonova and Fitzgerald, 2023) used by young people. Considering the role played by the context of each participant, the contributions of (Clarke et al., 2024), who speak of a situational approach, are also relevant.

A dual approach inspires the analyses. On the one hand, automatic (Lumivero, 2024, Zhang et al., 2023) and manual coding processes (Braun and Clarke, 2022).

3.2 The Data Set and Interviews

We worked with 19 participants between 11 and 23 years of age. All of them, except one, are Spanish and live in the community of Madrid, except for two who belong to nearby communities. A relevant feature in selecting the participants was their commitment to participate in a study that would last one school year, which required them to maintain contact with one of the researchers at least once a month and observe their participation in TikTok. Each of the researchers selected a small group of participants who accepted this commitment.

As indicated, the interviews played a fundamental role in research design. Despite the apparent simplicity of the interviews, there is an exchange of subjectivities between interviewer and interviewee that we cannot disregard (Roulston, 2024). In this study, the interviews lasted approximately 45 minutes to 90 minutes. They were individual or in groups, considering the friendship relationships that existed among the participants. We sought to know not only what the participants think about TikTok and their approaches to the social network from a global perspective, but also their daily practices and the changes that had occurred in its use between interviews. These were semi-structured interviews (Brinkmann, 2018)..

Once the interviews were conducted, they were transcribed using HappyScribe softwareⁱ And then manually reviewed by a project collaborator hired for this purpose. Subsequently, and with regard to the data analysis presented in this work, an automatic coding process was carried out using NVIVO 15 for Windows.ⁱⁱ . Automatic coding of themes does not replace the researcher's interpretation of the data. Automatic coding is limited to coding by keywords, and the program cannot interpret concepts from the data or detect humor or sarcasm, for example. The result of this first automatic coding was 3925 references coded in seven thematic cores, as the results will show in detail. The automatic coding has been complemented by another manual, which consists of defining thematic groups, considering the semantic relationships of the key terms and the context in which they appear. In other words, the subcodes were grouped manually. As mentioned above, it has adopted the perspective of thematic analysis that provides a rigorous process through which patterns are located within the data through familiarization with the data, coding, and the development and review of themes (Wilson et al., 2023). Specifically, we have assumed Braun and Clarke's approach (Braun and Clarke, 2022), which, according to the authors, requires reflexivity, creativity, and theoretical commitment.

4. Results

In this section, we reflect on the construction of shared meanings in TikTok and its connection to cultural and social dynamics.

4.1 Identify Dynamics in Groups of Participants

A significant finding was the absence of substantial differences between the groups. Despite the diversity in the sample (with groups conducted by different researchers and both individual and group interviews), perceptions of TikTok use were strikingly similar. We developed this idea based on an analysis of the most frequent terms used in each of the groups coordinated by the different researchers, the results of which are summarized in Figure 1.



Figure 1: Cloud of the most frequent terms in the groups coordinated by each researcher.

The graph shows that the most relevant words were "interesting," "followers," and "different." According to the frequency percentages, "interesting" appears especially in the interviews of Interviewer 1 (10%), Interviewer 3 (11%), and Interviewer 4 (11%), while "followers" is more significant in the data of Interviewer 3 (15%) and Interviewer 2 (13%). The word "different" appears highly frequently in all four groups, standing out in Interviewer 2 (17%). Complementary words include terms such as "influencers" (mentioned between 7% and 8% in several groups), "comments" (with 6% in the interviews of Interviewer 1 and 4% in Interviewer 3), "application" (10% in Interviewer 4 and 6% in Interviewer 1), and "entertainment" (6% in Interviewers 2 and 4). The overall analysis of these words enriches the context of the analysis. It shows how the dialogue throughout the sessions is structured around the key elements of TikTok and the dynamics within the platform.

In summary, all groups seem to follow similar patterns in terms of consumption, creation, and editing, reinforcing the idea that in TikTok, group differences are diluted as a function of digital dynamics. Content popularity does not seem to depend on group membership but rather on how it aligns with trends and algorithms. Delving deeper into how participants conceive of algorithms and how they work could be interesting for future analysis.

The analysis was carried out in two phases: the first phase of automatic coding and a second phase of manual coding.

4.2 Automatic and Manual Coding

4.2.1 Automatic Coding

Table 1 shows the result of the automatic coding performed with NVivo software.

Table1: Themes created automatically

Name	Archives	References
things	67	464
account	66	524
of/from tiktok	61	284
people	68	598
have	68	421
type	63	354
videos	67	1280

There is great variability in the number of references, with videos standing out the most, with 1280 references, a very high number compared to the others. Together with "account," this category highlights technical and structural aspects of the platform, linking closely with content creation and consumption practices. The mention of "From TikTok" underlines the importance of the platform itself, positioning it as the central frame of the narratives that emerged in the interviews. To provide further meaning and structure to these data, we manually coded these categories and subcategories, allowing for a more precise interpretation.

4.2.2 Manual Coding

From the previous analysis, we chose to establish "Videos" as the main macro category, given its central role in the context of young people's interactions and practices. Video is not only the central format in TikTok but also the axis through which users' practices and relationships with algorithms are configured.

Manual coding facilitated a more specific analysis, making it possible to identify the themes that reflect the socio-cultural aspects of the interactions within the platform. Table 2 shows the results of this coding, in which the categories found and some examples of subcategories appear.

Table 2: Subjects obtained in manual coding.

Name	Archives	References	Examples of Subcategories
Analysis and evaluation	53	179	It makes a lot of sense, different videos, depends on the video
Consumption	36	59	watch the video, search for a video, watching videos
Content	40	69	video content, trendy video, own video
Creation and editing	59	187	duration of videos, I make a video, short videos
Distribution and popularity	52	144	interaction, some videos out, choose a video
Security problems	5	9	report some videos, remove videos, deleted videos
General references & pronouns	63	360	some videos, that video, each video
Have	27	40	has lots and lots of videos, I have private videos, I have saved videos
Type	62	266	type of video, funny videos, original video

4.3 Thematic Cores

From the analysis of the subcategories, we identified three thematic cores, which are developed in more detail below:

4.3.1 Creativity, Consumption, Content

Creativity plays a central role in the production of digital content, where young people consume information and actively generate it. The subcategory "type of video" reflects the diversity of formats and styles used on the platform, suggesting a creative process influenced by both emerging trends and algorithmic recommendations. This idea is mentioned by one of the participants about an influencer's video:

"Yes, she used to do a type of videos, maybe from a makeup video she became famous, maybe since then she did start posting more makeup but if her account created it as a makeup target and such and started like that, or suddenly one became famous but she continued, well it will be the same content always."

The adolescent's answer reveals that, despite the new possibilities offered by digital tools, they can limit the autonomy of creators due to the restrictions imposed by algorithms. The text raises whether young people create content freely or adapt to what the algorithm favors. Moreover, creativity in these environments is not an exclusively individual process but occurs in digital communities where cultural references and narrative strategies are shared. Young people employ specific language and use shared cultural references in their content, strengthening the construction of collective digital identities. At the same time, the platform acts as a space for experimentation where new narrative and audiovisual formats are explored.

4.3.2 Multimodality

Creativity occurs in a multimodality context, where combining images, music, effects, and texts allows the construction of meanings innovatively. This process is conditioned by the algorithmic dynamics of TikTok, which influences their "creating and editing" strategies. This subcategory highlights the importance that young people give to content production, as expressed by some participants:

"Of course, no, let's see, maybe it takes a little bit more, because you have to think about which one is good, which one shows the light well, which one is well understood, the text.... Above all, the hardest thing is to think about what you are going to put. But then it takes 50 seconds to publish it, to launch it for people to see it, because it uploads by itself, then you click on publish for everyone and it uploads. So it doesn't usually take long."

Thanks to the editing tools offered by TikTok, interaction is enhanced, turning users into active creators and blurring the boundaries between creators and viewers. Likewise, cultural perceptions are redefined as emerging trends, challenges, and formats that reflect and shape contemporary sociocultural dynamics.

4.3.3 Literacy

The analysis reveals that young people develop specific linguistic and cognitive strategies to interact on TikTok, highlighting the need to understand their digital literacy skills better. Given that communication on TikTok is mediated by algorithms, it is critical to analyze how these factors transform users' interactions and creative practices.

The subcategory "Analysis and evaluation" is directly linked to young people's ability to interpret, criticize, and reflect on the content they consume, which makes them active participants in the construction of digital discourse. Users consume content and evaluate it, discuss it, and contribute to creating digital trends and norms, a fundamental practice in platforms such as TikTok, where the dynamics of virality and popularity are constantly changing. In addition, young people evaluate influences and trends, which involves a critical understanding of content and reflective work on what they consider relevant or authentic. This critical capacity is influenced by their prior ideas about TikTok and digital culture in general, which are formed from their previous experiences with online platforms, media, and discourses.

Finally, "Security Issues" indicates concerns about privacy, exposure to inappropriate content, and other risks associated with using social networks. Participants commented that TikTok has a powerful filter for inappropriate behavior, as reflected in the following quote:

"[...] You can say something, some word or whatever... being a minor, they won't let you have the account and they can take it away, they can take away your video, you know?"

While safety does not appear to be a priority issue in participants' responses, its inclusion in the analysis highlights the importance of continuing to explore how young people perceive and manage risks in digital environments.

5. Ethical Considerations

The research was approved by the Ethical Committee of The University of La Rioja (Spain). The study has been developed considering the Internet Research: Ethical Guidelines 3.0. <https://aoir.org/reports/ethics3.pdf>, Franzke, Aline Shakti; Bechmann, Anja, Zimmer; Michael Zimmer; Charles Ess, and the Association of Internet Researchers (2020) Written informed consent for participation was not required for this study in accordance with the national legislation and the institutional requirements. We have considered 'the Committee on Publication Ethics' International Standards for Authors' <https://bit.ly/3QikswN>. The study was carried out following the ethical principles established for research in digital environments. In the case of underage participants, their parents signed an informed consent form before their participation, although they were not present during the interviews. Likewise, minors and young people of legal age gave informed consent, specifying their right to leave the research at any time without consequences. The anonymity of the participants was guaranteed at all times, using pseudonyms in the transcription and analysis of the data. In addition, the research team has securely safeguarded all the information collected, ensuring its confidentiality and exclusive use for scientific purposes.

6. Conclusions

Analysis of participants' responses reveals the deep interconnections between creativity, algorithms, digital literacy and content consumption on platforms such as TikTok. These interactions shape not only the type of content produced, but also how young people develop strategies for visibility and engagement. Video production emerges as both a form of self-expression and a response to algorithmic pressures that determine what is promoted and viewed (Kaye et al., 2022; Zeng et al., 2021). The ubiquity of algorithmic curation influences users' cognitive and linguistic patterns as they learn to adapt their messages to platform-specific dynamics. Furthermore, the role of digital literacy becomes crucial in understanding how young users navigate these spaces. While some may develop sophisticated strategies to optimise their presence, others may struggle with the hidden mechanics of platform governance. This calls for further research into the pedagogical and socio-cultural dimensions of digital literacy, especially in an era where algorithmic visibility shapes knowledge acquisition and self-representation (Cho et al., 2022; Bezemer and Kress, 2016). Future studies should also explore how these digital ecosystems affect users' cognitive development, identity formation, and critical engagement with media content.

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ⁱ <https://www.happyscribe.com>, a web-based application that allows transcribing and summarizing texts using artificial intelligence.

ⁱⁱ Automatic encoding for Windows in Nvivo. <https://www.youtube.com/watch?v=FoFg7KHv6zI&t=19s>

Who's Afraid of the Big Bad Lurker? Lurking, AI, and Social Media Literacies

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Abstract: This paper identifies the trajectory of literature on the concept of lurking and uses key examples from this development to suggest their usefulness to Social Media Literacies (SML). Although itself a relatively new area, SML scholars have argued for the need to prioritise critical thinking over usability of social media platforms (McWhirter, 2024). An idea often ignored in much digital and social media research is that of lurking. But can this concept be of use to the newly developing area of SML? Can Artificial Intelligence (AI) research tools uncover not only developments in the conceptual thinking on lurking scholarship but also identify key ideas that help to support the argument for lurking as a key frame for SML? The work explores the evolution of the concept of the lurker over the past three decades and argues that the idea is an important lens onto the digital world. Lurking is broadly representative of a silent majority in online spaces where most users are not (always) creating, reacting to, or sharing content. Siple (2024) highlights the negative history of the lurker, calls for more attention to be brought to this phenomenon, and questions the developmental thinking on the concept. This research uses different types of AI to sort and synthesise conceptual literature on lurking from 2000 to 2024, finding that much developmental thinking has occurred, moving the debate beyond simplistic “posters versus lurkers” contexts. The paper reflects on the usefulness of AI research assistants – such as ASReview Lab and NotebookLM – in distilling and analysing conceptual ideas about lurkers and lurking. These tools quickly uncover work that develops the lurker idea and highlight key papers. In turn these concepts are explored with their relevance to SML, from an awareness of behaviours in online contexts, to social media research methods, to surveillance capitalism.

Keywords: Lurker; Participation; Social Media Literacies (SML); Artificial Intelligence; NotebookLM; ASreview

1. Introduction

This work will explore the concept of lurking online and chart scholarly developments on the subject across decades with the support of an Artificial Intelligence (AI) assisted literature search, review and analysis. As late as the 2010s scholars contended that ‘surprisingly few studies have been conducted on the phenomenon of lurking’ (Schneider, von Krogh, and Jager, 2013:293). However, as this article will demonstrate, the subject of the lurker has a rich history of scholarship. A *Dictionary of Computer Science* defines a lurker as ‘Informal: Someone who visits a chat room, blog, file-sharing website, etc. but does not submit any material’ (Butterfield, Kerr, and Gerard, 2016). However, there are multiple other competing definitions of this idea which means that it should not be seen as an absolute term. Some researchers consider lurking to mean people who do not contribute at all, while others use the term to discuss intermittent contributions, infrequent posting or making fewer contributions than others (Muller, 2012:253; Nguyen, 2021:304). Lurking is often linked to ideas about participation inequality online, silent majorities, and the famous 90-9-1 rule by Jakob Nielsen (McWhirter, 2024). This is where the lurker-to-poster ratios discussed have been described as high as 100:1 (cited in Nonnecke and Preece, 1999). Other research has mixed estimates of the numerical size of silent members in particular online communities, ranging from 40-90% (Goriunova, 2017:3918). Either way, the lurker idea points to an often-significant majority of people in an online space who are usually not visible or ignored by research that focuses primarily on smaller groups who are the most active and most visible (Cranefield, Yoong, and Huff, 2015). This concept is, therefore, an important one for social media literacies (SML).

While it is outside the scope of this paper to explore the evolution of SML, it is important to provide an overview of what SML is. Linking the concept of the lurker to SML is a relatively new development (McWhirter, 2024; Siple, 2024). SML are in relatively nascent form and sit in the ever-evolving landscapes of media and digital literacies. The argument to use the term ‘literacies’ relates to the recognition that literacy is not a singular, monolithic skill. Literacies in the social media space should be considered as a diverse set of abilities spanning the contexts of both utilisation of tools and, more importantly, applied to a critical understanding of the phenomena more widely (McWhirter, 2024:90). Some argue SML to be a newer concept with ‘limited theoretical development and little operationalization’ (Polanco-Levicán and Salvo-Garrido, 2022). Others argue that it is important that SML contrasts the emphasis on practical digital skills often seen in digital literacy frameworks. Here there are growing calls for critical awareness and socioemotional competencies in navigating social media (McWhirter, 2024). While media literacy, digital literacy, and information literacy all inform current thinking on SML, it is important to prioritise understanding and evaluating social media contexts over mere technical proficiency. While digital literacies have focused on this aspect, they also emerge at a time when, in the UK at

least, some assert that education has pivoted towards a techno-instrumentalist approach which focuses on prioritising practical digital skills (Bristow, 2016).

The idea of lurking online has been around since the late 1980s and early 1990s (Goriunova, 2017:3918) making it nearly four decades old. What unites early research is the notion that lurkers are somehow a problem, illegitimate and peripheral members of online communities and in opposition to those who contribute, e.g. lurkers versus posters (Nguyen, 2021). This speaks to a wider techno-instrumental idea that people must use technologies over understanding how they work, their consequences, or how people interact with them (or not). Yet the paradox is that such “users” of online spaces are not peripheral but account for the vast (silent) majority (Nonnecke and Preece, 1999). Some even argue that lurking is a natural behaviour (Goriunova, 2017:3919). Lurkers are majority users of Internet spaces even if they are not contributing or visible. Some seek to explain this majority via the eponymous ‘curiosity theory’ (Schneider, von Krogh, and Jager, 2012:298-300) that tries to explain why most people join popular platforms. An awareness of a silent majority versus a visible minority on social media platforms can be a useful learning aid for other SML topics, such as understanding Fear of Missing Out (FOMO) (McWhirter, 2024:35-36). The aim of this work is to highlight the importance of lurking, the trajectory of developmental thinking on it, and in doing so contribute to the ongoing development of SML and what the focus of those literacies should be.

2. Background (Lurking)

The verb and adjective functions clearly exist before the term “lurking” is linked to behaviour online. Discourses of user behaviours in 1980s early Internet spaces start to use this description (Sipley, 2024:4). Early research papers on the idea in the 1990s say that ‘to lurk’ is a refusal to communicate or contribute to public discussions where the behaviour is likened to ‘a spy: someone who listens to discussions within a room but doesn’t make his or her presence known’ (Marvin, 1995). In early chat rooms lurkers may have been ‘kicked’ for non-contribution (Nguyen, 2021:305). In the 1990s lurking is largely explored in the realms of new Internet territory, specialist jargon, and as it relates to virtual communities, ranging from sex chat rooms to software and programming networks. Marvin (1995) suggests at the time that the term belongs to the technology of insiders who express community ideals and taboos. Because the World Wide Web (WWW) was in the spirit of co-operation and do-it-yourself attitudes, the lurker received a bad press (Goriunova, 2017:3919).

Sipley (2024) charts a history of these negative connotations of lurkers as threatening, dangerous and even violent from cultural objects such as novels and popular media. The conceptualisation of the lurker in the early Internet space was linked to sexualised undertones and something lurking and watching in the background in cyberspace (Sipley, 2024:15). If not this, then labels like bystanders, bullies and freeloaders were used for lurking behaviours. However, not all early scholarship on lurking identified it as a problematic practice with negative connotations. Nonnecke and Preece (1999) argued early on that lurking was a systematic and idiosyncratic process. Although the pejorative term has been counterbalanced by research over the years which tries to frame the lurker idea in a more positive light (Edelmann, 2013), the negativity persists. There is the connotation of the term lurker as ‘a low-value role in online communities’ (Crane, 2015). Although, this value is substantial when it comes to a consideration of social media platform value as has been demonstrated through concepts like digital labour, where all users contribute to the wealth creation of commercial platforms (Fuchs, 2014). Lurkers are linked to other pejorative behavioural terms online like ‘creepers’ (Wittkower, 2016) or as darkish or shady figures, trolling or stalking the Internet (Goriunova, 2017:3917&3930). Attempts to rename this phenomenon as Legitimate Peripheral Participant (LLP) (Bozkurt, 2020) or with terms like Non-Public Participant a quarter of a century ago (Nonnecke, 2000) have failed to catch on.

3. AI-assisted Explorations of the Concept of Lurking

Research that focuses on finding, exploring, or comparing “lurkers versus posters” were discounted during the literature search. This is because such work is often not necessarily conceptual or developmental in its exploration of the lurker idea and because in recent years the thinking has changed to consider such behaviours as a continuum (McLaughlin, Haverila and Shackleford, 2024). Similarly, much work which has a focus on rectifying the lurking behaviour (e.g. de-lurking strategies) have been consciously omitted where possible. Edelmann (2013) argues that lurking is a valid and important behaviour online and the notion of negative connotations around this need to be challenged. She questions the wisdom that turning lurkers into posters is seen inherently valuable in the first place. While Lurking is now beginning to be understood as part of a ‘continuum of participatory practice upon which a person can oscillate among various degrees of participation’

(Sipley, 2024:30), there is still an abundance of research that promotes the binary “lurkers versus posters” positions. Despite increases in developmental thinking on the concept of lurking that the literature review will demonstrate, it is important to say that there are no clear resolutions as to what this behaviour is or why it is a recurring pattern in online spaces. Some research claims that ‘despite extensive research to date, it remains unclear why such a disparity in individuals’ participation on social media exists’ (Dongyoung and Choi, 2022). These authors go on to point to techno-deterministic reasons for lurking, suggesting that it is the network structures that contribute to why most users are lurkers. The only certainty is that lurkers are a perennial condition of the online and social media environments, but they are often ignored because others cannot necessarily see them or because researchers do not consider them, even if there is growing realisation that they are highly visible and valuable to the platforms they exist on.

The literature search and review used Artificial Intelligence (AI) assistance from ASReview Lab open-source software and Google’s NotebookLM. Institutional library ProQuest RefWorks and SCOPUS datasets were created from the searches “lurker” and “lurking”. SCOPUS analytics suggest that the identification of the lurker in scholarship dates to some single sources in the mid-1980s, with scholarship steadily increasing and reaching a high point in 2023 with over 30 articles published that year. The USA, China, UK, Italy and Canada are the top five countries producing work. Research articles and conference papers comprise most documents, and while the lurker idea is explored across a range of subject disciplines – from psychology and engineering to arts and humanities – the subject areas that dominate this research field are computer sciences and social sciences. These analytics are taken from the “lurker” search label rather than the “lurking” search because the latter dilutes the relevance of the search results by returning hits for this adjective or verb in unrelated research. However, both “lurker” and “lurking” data results were subject to ASReview Lab AI systematic review software. This software systematically screens texts and sifts the literature according to how the researcher initially trains the algorithm by labelling sample papers “Relevant” or “Irrelevant”, with a goal to bringing more relevant papers to the attention of the researcher more quickly. It is usually acceptable in larger datasets to conclude that after 100 or more irrelevant papers that most of the relevant work has been sifting to the top by the AI and the remaining texts can be discounted. The “lurker” data had 383 records and because the numbers were relatively low, all items were analysed resulting in a closing sequence of 55 irrelevant records. 99 relevant records were identified. The “lurking” results were more substantial, given the use of this term as a descriptive label in various contexts, and offered 1, 986 results. Labelling stopped after 170 irrelevant records, with 527 records labelled and a total of 127 relevant records found. Both sets of data totalling 226 results were combined and crosschecked for duplication and this resulted in 155 relevant results ranging from publication years 2000 to 2024. It is important to say that this time range was a conscious choice, but it does not discount the idea that lurker research or mentions existed in scholarship prior to this (Kozinets, 1999). Thereafter, these records were re-entered into ASReview, primarily for ease of more extensive reviewing because the abstracts can be moved through quickly. This allowed for a quicker elimination of further irrelevant results. Those removals focused on papers that were testing for lurkers, or comparing posters or lurkers on certain platforms, or looking to develop strategies to combat lurking or rectifying lurking. The literature search focused on finding papers that tackled the concept of lurking (i.e. reflecting on the silent majority or participation inequality) – some of which also explored reasons behind lurking, but these articles were not the central focus – or research that conducted other systematic reviews. Accounting for mis-categorisations, duplications, dissertations or thesis that later would be published, there were 61 items identified that spanned the period 2000 to 2024. These selections were then analysed in greater detail with the assistance of NotebookLM across three phases.

3.1 Phase One: Generative AI Assisted Timelines and Graphic

61 abstracts were collated and introduced into NotebookLM, a personalised research assistant from Google built with Gemini 1.5. A synthetic podcast feature was used to explore the audio story of the papers, and the ‘timeline’ feature was used similarly. Using the text description timeline the output was then placed into the GPT4 Omni with a view to creating a detailed visual. Various unsuccessful attempts over several days (the free version has daily limited token use) transpired. In the end Figure 1 was created and appears as a screenshot because it could not be downloaded in another format other than a basic csv file. The timeline from NotebookLM is found to be mostly an accurate representation of the research abstracts and papers but with some flaws. For instance, there are examples in the literature of references being made to LLP prior to 2007, as far back as the early 1990s. The question-and-answer function on NotebookLM was used to sift the 61 abstracts according to sources that delved deeply into the concept of lurking beyond only a few paragraphs or in portions of the works. Here the AI identified 26 papers for further analysis and examination.

Year	Description
2000	Lurking prevalence recognized in online groups.
2003	Focus on motivations and behaviors of lurkers.
2004-2006	Reasons behind lurking explored: information gathering, group acclimation.
2007-2009	Introduction of "legitimate peripheral participation."
2010-2013	Analysis of lurking in diverse contexts; "follower-feeders" emerge.
2014-2017	Computational approaches, ranking, polycontextuality.
2018-2020	Delurking strategies and emphasis on knowledge transfer ecosystems.
2021-2024	Exploration of lurking as a literacy practice; "online parasites" concept introduced.

Figure 1: GPT4o visualisation of the timeline output from NotebookLM that analysed 61 abstracts on the concept of the lurker

3.2 Phase Two: NotebookLM Analysis of Full Papers Sample

The 26 papers suggested by the AI were crosschecked and found to offer significant perspectives on lurking at a conceptual level. These papers were fully sourced and created as resource on NotebookLM (this does not store the papers or train the model according to the terms and conditions of use). The AI research assistant was asked "What are the key ideas about the concept of lurking that are explored across these research papers?". The assistant was asked the same question five times at various stages to correct for any errors in output and analysis. The AI generated a variety of word length responses, ranging from a low of 390-words to a high of 792-words. All five outputs were scrutinised and the following observations connecting each response are possible to make. All responses pointed to lurking being a widespread phenomenon that highlights a significant, or silent majority in online communities. All responses covered the definitions of lurking as being unfixed or coming from negative origins and that this view is now being challenged. Every output talked about reasons or motivations for lurking but only some provided greater detail on these. Three of the five outputs organised reasons or motivations into four domains: individual, social, organizational and technological. However, the AI failed to note that this is themed work not of its own synthesis – something it was clearly capable of doing in its podcasting feature when it created verbal patterns, analogies and metaphors – but from the work of Nguyen (2021). The main reasons for lurking extrapolated from the papers were: lurking as a form of learning (reading or listening noted in some outputs); lack of time or resources or technical proficiency to contribute; fear of negative consequences and avoiding conflict; lack of confidence; satisfaction with being passive; privacy and security concerns.

Two of the five responses included a detailed analysis of lurking as a contextual behaviour. That is, a person may lurk in one community while being active in another. A variation of this point is expressed across the outputs because most mention that lurking is not necessarily a monolithic group or static personality trait but needs to be understood in specific contexts. Some outputs link this idea to the notion of de-lurking strategies being insufficient or misplaced efforts to engage lurkers. All outputs note these strategies in some form but only three of the five mention these as computational approaches to identify, rank, analyse and attempt to redress lurker behaviours. In one form or another, all outputs point to the need to move beyond any simplistic treatment of the concept of lurkers as passive or non-participatory and to recognise this phenomenon as complex behaviour. This supports the initial choice in the literature search to eliminate work which was too focused on the binary idea of "lurkers versus posters".

3.3 Phase Three: Conversations With NotebookLM on Recommended Papers

The AI audio- and text-based assistant tools available with NotebookLM were useful to explore the research in detail and generate critical questions in dialogue with the AI. For example, the ability to create a synthetic media (Meikle, 2023) podcast enables a different form of engagement with the abstracts and the full 26 sample papers. The function was designed by engineers at DeepMind known as Audio Overviews. The podcasts based on the 61 abstracts and the 26 papers were 10 minutes and 24 minutes, respectively, with only the latter having some notable errors and repetitive focus at times. However, this engaging format allowed for opportunities to go back to the NotebookLM workspace to generate ideas or to ask, for example, who used certain types of models that the synthetic podcast presenters had noted in their discussions. This multimedia circular research review of the materials was rewarding in several ways for developing targeted enquiries of the literature and for creative thinking around the concept of lurking. Of the 26 sources the AI was asked: “Which of these sources would be best to explore in greater detail if I was interested in pursuing the conceptualisation of the lurker idea?”. Four sources were identified. Then the session was closed, and the AI was asked the same question again upon reopening and reloading the papers. Although the answer was framed differently, the same four sources were listed again. The four key papers identified by NotebookLM in order were: “Rethinking lurking: Invisible leading and following in a knowledge transfer ecosystem” (Cranefield, Yoong, and Huff, 2015), “The lurker and the politics of knowledge in data culture” (Goriunova, 2017), “Shedding light on lurkers in online communities” (Nonnecke and Preece, 1999), and “Lurking as personal trait or situational disposition? Lurking and contributing in enterprise social media” (Muller, 2012). Each item was given its own rationale for selection. Broadly speaking, these can be surmised as according to what the sources offered in terms of examining lurking as a conceptual idea, for the treatment of the idea as complex, or because they offered new perspectives or insights. All four are useful – alongside other key ideas from the literature review more broadly – to demonstrate how the conceptual development of the thinking on lurking can be valuable to SML.

4. Lessons for Social Media Literacies From the Lurker Idea

Most literature on lurkers and lurking that explores it as a concept does not make any connections to its potential use for social media literacies (SML), but this potential does exist. Some scholars have made such connections, considered lurking as digital literacy practice (Sipley, 2021; 2024) or using the idea of participation inequalities online to demonstrate how the creator economy works (McWhirter, 2024:172-214). Although this article explores just three areas of how lurking can aid SML, there are many valuable topics that connect the two areas from psychology and motivations (Nonnecke and Preece, 1999; Schneider, von Krogh, and Jager, 2012:300; Nguyen, 2021:303) to polarisation and misinformation – here Sipley (2024:39) sums up the value of lurking to digital media literacy when she asks, ‘What if there are tons of really nice people on the internet and the nicest thing they can do is not comment?’. The examples NotebookLM identified as key conceptual developments on lurking can be broadly described as the importance of exploring the idea beyond one-dimension (Muller, 2012; Cranefield, Yoong, and Huff, 2015), the importance of highlighting the idea in online research contexts (Nonnecke and Preece, 1999; and all papers to some degree), and finally the relevance of lurking in the commercial digital ecosystem (Goriunova, 2017). These have been coded below as: contexts, social media research, and surveillance capitalism and each will now be explored with relevance to SML.

4.1 Contexts

NotebookLM identifies Muller’s (2012) work as a key example likely because it is early research that uses empirical evidence to argue that users who are lurkers in one community can be major contributors in another. Its selection is also important because it explores how lurking has been characterised across various positions: pro-social, universal, derogatory, as well as how it has been considered according to essentialist theories of lurking as a personality trait (lurker or poster) and developmental theories of lurking as a stage people move through (ibid, 253). Similarly, the work of Cranefield, Yoong and Huff (2015) offers an extensive piece of research developed over a few years that begins to collate work in the field that reframes lurking as a complex set of behaviours rather than a single phenomenon. They discuss lurking in relation to a variety of existing and new theoretical positions and frameworks. With polycontextuality – meaning multiple engagement spaces – they explore the idea that one can contribute in one setting and lurk in another. Cranefield and colleagues’ work offers a way to consider the lurker – in boundary spanning and across the information ecosystem of online communities – beyond the usual limitations of considering lurking as a static or singular role or behaviour. Cranefield and colleagues propose a three-tier Knowledge Transfer Ecosystem (KTE). This model describes how knowledge flows through overlapping communities with varying degrees of visibility, most importantly

acknowledging how people can act, interact and participate differently across diverse online contexts. Rather than seeing the social media space in binary terms like contributors or non-contributors, this contextual understanding is important to SML. This is because these literacies are not only about using platforms and tools but also about understanding the dynamics of how information is shared, and the range of behaviours possible as people interact online. Understanding diverse participation modes as well as the flows of knowledge can lead to better critical thinking and reflection on how social media are used. It is important to say that while these key papers are highlighted, there are others that seek to add context to the concept of lurking. For example, the ISTO model by Nguyen (2021) is a framework that explains the reasons behind lurking behaviour in online environments. Suggesting the decisions to participate or not are based across four categories: individual, social, organizational and technological.

4.2 Social Media Research

The desire to explore the lurker idea beyond simplistic dichotomies of “lurkers versus posters” or lurking as one-dimensional is explicit in much of the identified conceptual work on the phenomenon. An undercurrent that is more implicit is the value of scholars identifying this paradigm in their empirical online research. Social media research that does not have lurking as the object, or construct of study, rarely raises or contextualises the work with the concept of lurking. There is an argument to suggest that any social media research that deals with participation should raise the concept of lurking. That could be in a detailed way, exploring the concept and how it has been expressed over decades. From pejoratives to alternatives that did not catch on like ‘peripheral participation’ (Yeow, 2006), to lurking as a ‘discursive phenomenon’ (Lee, Chen, and Jiang, 2006), or a mode of ‘listening’ (Crawford, 2011) or ‘reading’ (Sipley, 2021; 2024), to how the harsh descriptors have not gone away, i.e. linked to ‘online parasites’ (Bu, Lou and Koh, 2021). Alternatively, social media scholars can simply *acknowledge* the silent majority in social media spaces. Social media researchers must approach the lurker idea beyond a techno-deterministic label that sits only in opposition to contributors.

Because much research now counteracts the idea that lurkers are not a valued research area compared to active contributors, developmental thinking in this space does contribute to fresh perspectives. Some have looked at more practical, social and cultural issues that affect online participation, noting that it is often these operations together that should be considered when thinking about lurking behaviours (Bax and Pegrum, 2010). While there is a lack of specific explorations of the lurker idea in research that covers online participation (Nonnecke and Preece, 1999; Edelman, 2013), there is a wealth of work that posits original approaches to lurking behaviour that can be cited by future researchers. Sipley (2024:99-102) notes that not including lurkers can offer a lack of diverse perspectives in research, potentially flawed findings, and platforms themselves dominating perceptions of lurkers. There is no reason for social media researchers not to at least mention the lurker idea in the context of what they are researching, *especially* if the focus is only on active users. If the focus is more towards capturing a representative of a community online, then the lurker idea is pivotal and there are significant developments in this area that can aid researchers beyond just trying to capture the views of traditional “non-posters” or framing the work as “lurkers versus posters”. Some of those ideas have been touched on above, from KTE to ISTO. SML should teach about these knowledge gaps when much of the existing focus of social media research is about what is there and visible, rather than a consideration of silent majorities in social media spaces.

4.3 Surveillance Capitalism

NotebookLM identifies the work of Gorinuvua (2017) as a key conceptual development in the field. It is one of the few articles to connect lurking to monetised social media ecosystems. It contributes to the growing discussions that shift the focus of the lurker ideas from individuals and communities to macro level digital platforms. Gorinuvua’s work fits with a long-established (if poorly linked to) SML idea that all Internet users are tracked across sites often for the purposes of monetising data traces (Fuchs, 2010:21). Users being watched online for profit has been described as economic surveillance or more recently as surveillance capitalism. Shoshana Zuboff (2015:75) coined the latter as a ‘new form of information capitalism [that] aims to predict and modify human behaviour as a means to produce revenue and market control’. Goriunova (2017) argues that this is a new form of lurking, not by users but by platforms and algorithms. Social media is largely thought of now as commercial, and it is so because of the monetary value the major platforms generate from user content and interactions with that content. Lurkers cannot see other lurkers, but they can be seen by social media platforms. Platforms watch lurkers through data traces and micro-metrics like hover-time, impressions and click-response rates (Sipley, 2024:6). This is valuable knowledge to SML which seeks to enhance critical thinking of the digital world from its users.

Goriunova (2017) work shows that considering lurking at systems-level is valuable for SML. Economic surveillance and lurking are connected through the concepts of data collection and analysis and understanding such a connection is important to contribute to the development of SML. Though many of the key papers identified raise important new theoretical perspectives, they also focus on online communities rather than the platform structures of social media. Although both Cranefield, Yoong, and Huff (2015) and Goriunova (2017) do discuss data cultures and information ecosystems, only the latter frames the lurker in the context of commercial systems-level social media. Arguably, this critique could be added to with reference to established scholarship on digital labour (Fuchs, 2014) or newer work on data brokers (Sherman, 2021). Both those areas are valuable additional insights that are likely to become more important to SML as time progresses. While Goriunova (2017) argues that machine algorithms now do the lurking and social media companies seek to find and delete lurking accounts for not being profitable, the reality is that social media companies profit from lurking behaviour. They likely also know that they are never going to change the long-established idea of a silent majority. If users have motivational 'curiosity' (Schneider, von Krogh, and Jager, 2012:300) to join any given platform then they are profitable regardless of whether they lurk or not because of the aforementioned metrics. Even if they do not visit the space, users have been shown to be profitable. For example, Facebook controversially once counted users without accounts in its monthly active reports because they visited a website with the 'like' button (Sipley, 2024:104).

5. Conclusion

The use of open-source and free AI tools in the form of ASReview Lab and NotebookLM for a systematic literature review and co-analysis breakdown of the content has demonstrable benefits. The open-source systematic software helped to quickly identify – from large volumes of literature on the subject – where the trajectory of conceptual thinking on lurking was. This research assistance was useful in depicting the trajectory of the literature on the lurker idea over the past quarter of century and beyond. The generative AI allowed for multimedia explorations of the literature content by using text-based question and answers with the AI, visual timelines and graphics, and audio podcasts. This allowed for further distillation of work to unearth some key concepts which were then explored with regards to their usefulness to social media literacies (SML). Through a detailed interaction with the Gemini 1.5 powered multimodal tools in NotebookLM, it was possible to target and analyse a series of papers from 2000-2024 that had engaged with the lurker phenomena at a conceptual level and subsequently at a deeper developmental level which had proposed new definitions, ideas and frames of analysis. Some of these were explicit in foregrounding the importance of how online contribution and participation works, while some were more implicit in recognising the need to have social media researchers consider the value of the lurker concept for any empirical work they are doing. Others were of importance due to the move towards linking lurking to capital and systems-level thinking. Across understanding behaviours and communication, research designs, and macro thinking of online environments it was possible to see how the lurker as a frame of study is important to SML.

This work excluded literature on lurking that focused on de-lurking strategies or where lurkers were compared in a binary relationship to contributors. Future work may consider including these contributions to see if they are offering a more nuanced understanding of lurking behaviour over time than their titles and abstracts suggest. Future papers may expand the datasets beyond those of SCOPUS and ProQuest. Additionally, the same conceptual research identified could be explored with alternative AI research tools and assistants – NotebookLM is now powered with Gemini 2.0 – to cross compare the results and to add to the growing literature on legitimising AI use for scholarship research and analysis support. Because lurking itself is multifaceted and not one single phenomenon, it is important that the significance of lurking continues to be understood by 'expanding our field of analytical attention to take account of other online and/or offline settings' (Cranefield, Yoong, and Huff, 2015:236). Developmental thinking on the concept of lurking has much to offer the nascent social media literacies.

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Motivations and Consumption Patterns on TikTok among Higher Education Students

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Abstract: This study investigates TikTok's motivations and consumption patterns among higher education students. Given the increasing use of social media by young people and the emerging popularity of TikTok, the main objective is to identify the motivations that lead these students to use the platform and determine the types of content they consume and share. A mixed methodological approach was adopted, combining quantitative and qualitative methods. Questionnaires were administered to 125 students, and structured interviews were conducted with 6 selected students. Based on previous studies and validated through a pre-test, the questionnaire collected data on social media usage, motivations for using TikTok, and types of content consumed and shared. The interviews explored issues emerging from the quantitative data collected through the questionnaire and provided a deeper understanding of the student's experiences. The results indicate that Instagram is the most used social network by students, followed by TikTok. The main motivations for using TikTok include entertainment, searching for content related to their interests, the need for relaxation, and keeping up with current events. Regarding the types of content, students prefer to consume humorous videos, product reviews, musical content, and popular challenges. However, most users adopt a passive role, consuming content without producing or sharing their own videos. The interviews confirmed these trends, revealing that students value TikTok as a source of entertainment and information, with little interest in active content creation.

The study concluded that TikTok plays an important role in the digital routine of university students, serving as a content platform that meets their needs for entertainment and information. Some findings suggest that understanding the primary motivations for using TikTok can inform strategies for utilising the platform effectively and integrating it into the learning environment. The study's identification of preferred content types (humorous videos, product reviews, musical content, and popular challenges) can guide the development of educational content that resonates with students. The fact that most students are passive consumers of TikTok content, primarily watching and engaging minimally, has implications for both students and educators.

For students, it suggests a potential for increased media literacy education to help them critically evaluate and interact with online content more actively. It presents an opportunity for educators to explore innovative ways to leverage TikTok's engaging format for educational purposes, encouraging active participation and content creation. Apart from expanding this study to larger samples, future research may explore some of these implications and look into the potential that TikTok may have as a learning tool and dilute its reputation of being just a mind-numbing and time-consuming app.

Keywords: TikTok, Social Media, Portuguese Students, Higher Education, Digital Consumption, Mixed Methods

1. Introduction

Social networks have taken on a central role in the lives of young people, providing new forms of communication, entertainment and access to information (Hashim et al., 2016; Desai, 2017). Among the various platforms available, TikTok has emerged as one of the most popular, standing out for its format of short and dynamic videos that hold the attention of users (Dias & Duarte, 2021), having had a special growth during the COVID-19 pandemic. This situation catalysed significant changes in the use of the Internet and social networks by young people and expanded the importance of these platforms for communication and entertainment during periods of social isolation (Coelho et al., 2020; Yazdani et al., 2022). In Portugal, TikTok recorded substantial growth, rising from 4% of users in 2020 to 25.9% in 2023, being especially notable among young people aged 18 to 24, where use increased from 13.4% to 45.7% in the same period (Gustavo et al., 2023).

Despite TikTok's exponential growth, more studies are needed to investigate the motivations that lead university students to use this platform and the content they consume and share. Understanding these dynamics is key to identifying digital consumption trends among young people and assessing the impact of TikTok on their daily lives.

In this context, the main objectives of this study are to identify the motivations that lead students of a higher education institution in Portugal to use TikTok and to determine the types of content they consume and share. Through a mixed methodological approach, combining quantitative and qualitative methods, it was intended to deepen the understanding of TikTok usage patterns among these students, contributing to the existing literature and providing insights that can guide more effective educational and communication strategies, especially considering the platform's potential as a tool for engaging with young audiences.

2. Theoretical Framework

Social media has played a transformative role in how young people communicate and interact, offering new opportunities for expression and connection (Hashim et al., 2016; Desai, 2017). In the context of university students, these platforms have become essential for socialisation, entertainment and access to information relevant to their academic and personal daily lives.

The evolution of social networks has revolutionised the global communication landscape, especially among young people. These platforms allow instant communication, the sharing of multimedia content, the creation of online communities, and the involvement in discussions on various topics (Caneira, 2016; Couto, 2015). University students use social media as a key tool to establish and maintain relationships, collaborate on academic projects, and stay informed about current events (Hashim et al., 2016).

In Portugal, studies indicate that the use of social networks among young people is prevalent, with platforms such as Instagram, Facebook, and, more recently, TikTok playing significant roles in students' daily lives (Martins, 2023; Gustavo et al., 2023). The preference for these platforms is associated with their functionalities that meet the needs of fast communication, access to information and personalised entertainment (Morais et al., 2011).

Launched in 2016, TikTok has quickly become one of the most popular social networks globally, especially among young people (Zulli & Zulli, 2020; Félix, 2023). The platform is distinguished by the format of short videos, usually between 15 and 60 seconds, which allow the use of a wide range of resources, such as filters, special effects, music and integrated editing tools (Dias & Duarte, 2021; Mou, 2020).

TikTok offers a highly personalised user experience thanks to its advanced algorithm that recommends content based on user interactions and preferences (B-Young, 2022; Carvalho, 2021). This feature has contributed to its rapid growth and high user engagement.

In Portugal, TikTok has seen significant growth. According to Gustavo et al. (2023), the number of Portuguese users of the platform increased from 4% in 2020 to 25.9% in 2023. This growth is even more pronounced among young people aged 18 to 24, from 13.4% to 45.7% in the same period. Such an increase reflects the growing adoption of TikTok as a platform of choice for content consumption and social interaction among young Portuguese.

Understanding the motivations that lead young people to use TikTok can be framed by the Theory of Uses and Gratifications, which postulates that individuals use the media based on the needs they want to satisfy (Rubin, 2008; Shao, 2009). The main motivations for using social networks include entertainment, information seeking, social interaction, escapism, and personal expression (Couto, 2015; Omar & Subramanian, 2013).

Specific studies on TikTok reveal that users are attracted to the platform due to its immediate entertainment potential, access to diverse content, and the ability to keep up with current trends (Meng & Leung, 2021; Omar & Dequan, 2020). Additionally, TikTok offers a form of escapism, allowing users to unwind and disconnect from daily worries (Brailovskaia & Teichert, 2020).

The COVID-19 pandemic has intensified these motivations, with TikTok becoming a means to combat social isolation and maintain virtual connections (Coelho et al., 2020; Yazdani et al., 2022). University students, in particular, turned to the platform for entertainment and maintaining social interactions in a period marked by physical restrictions.

The content on TikTok is vast and diverse, ranging from humorous videos, dance challenges, and makeup and fashion tutorials to product reviews and educational content (Dias, 2023; Dias & Duarte, 2021). The platform encourages creativity and participation through tools that facilitate the production and editing of videos, as well as interaction with other users through comments, sharing, and collaborations (Schellewald, 2021).

Bossen and Kottasz (2020) identified that TikTok attracts passive users, who consume content without necessarily interacting or producing, and active users, who create and share their own videos. Passive users use

the platform primarily for entertainment and information, while active users are more engaged in self-expression and online identity-building activities (Figueiredo, 2022).

Viral challenges and trends, such as popular choreography and hashtags, play a significant role in TikTok's dynamics, fostering community and collective participation (Zulli & Zulli, 2020; Araújo & Karhawi, 2023). This culture of participation contributes to the continuous engagement of users and rapid content spread on the platform.

3. Methodology

This study employed a mixed-methods approach, combining quantitative and qualitative methods within a case study framework. The objective was to analyse TikTok's motivations and consumption patterns among students from a Portuguese higher education institution, providing in-depth insights (Cantanhede, 2023). Mixed methods enabled a comprehensive analysis by combining quantitative data's breadth with qualitative depth, enhancing validity and understanding (Creswell, 2007). The quantitative component consisted of a Google Forms questionnaire, while structured interviews provided qualitative data (Silva et al., 2006). The questionnaire, adapted from Trigo (2021), was available for three days (October 27–29, 2023) and distributed via social media, targeting higher education students. 125 students participated voluntarily, predominantly female (80%, n=100), with 16.8% male (n=21) and 3.2% preferring not to disclose gender. Most respondents were 20–25, with 32.8% (n=41) between 23–25 and 31.2% (n=39) aged 20–22. Regarding education levels, 78.4% (n=98) were undergraduates, and 20.8% (n=26) were master's students. Participants came from diverse courses, ensuring sample diversity across academic disciplines. Structured interviews were conducted with 6 students (4 female, 2 male) aged 20–27. Four were undergraduates, and two were master's students. These interviews were selected for convenience to provide nuanced insights into TikTok use. The intentional selection ensured relevance to the study population, enriching the analysis and complementing quantitative findings. Overall, the mixed-methods approach provided a holistic understanding of TikTok usage among higher education students.

4. Results

4.1 Students' Use of TikTok

The analysis of the data collected through the questionnaire applied to the students allows us to understand the patterns of use of the TikTok platform among the participants of this study.

Of the 125 students who responded to the questionnaire, 92% (n=115) indicated using the TikTok platform, while only 8% (n=10) reported not using it (Figure 1). When asked about having an account on the platform, 98.3% (n=113) confirmed having an account on TikTok (Figure 2).

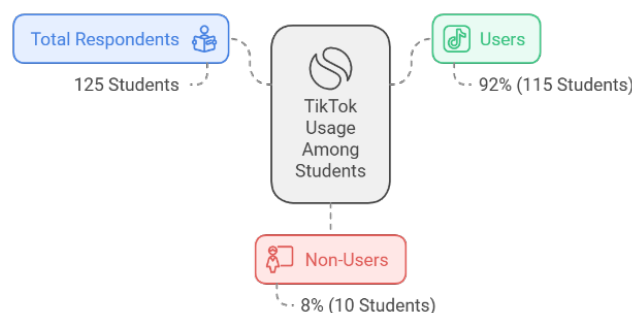


Figure 1: Use of the TikTok platform

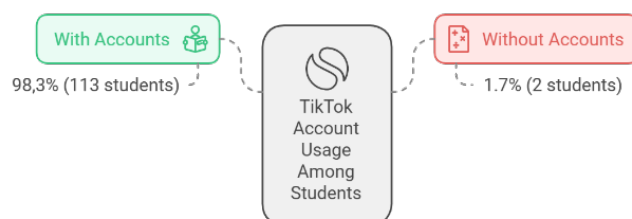


Figure 2: Account on the TikTok platform

Regarding the age at which they started using TikTok (Figure 3), 37.4% (n=43) of students started between 20 and 22 years old, 26.1% (n=30) between 17 and 19 years old, 15.7% (n=18) between 14 and 16 years old, and 11.3% (n=13) were between 23 and 25 years old when they started using the platform.

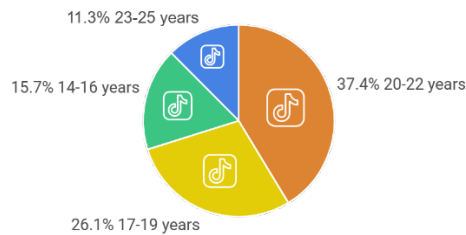
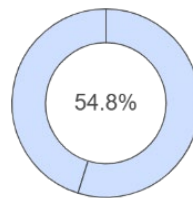


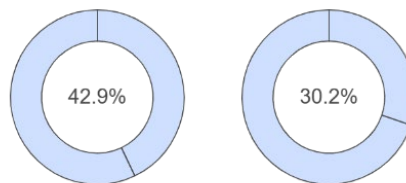
Figure 3: Age at Which Students Started Using TikTok

Regarding the frequency of use, Figure 4 shows that 54.8% (n=63) said they used TikTok daily, demonstrating regular use among users. Regarding the daily time spent on TikTok (Figure 5), 42.9% (n=27) of the students reported spending up to 2 hours a day on the platform, while 30.2% (n=19) indicated spending about 1 hour a day.



Daily Users

Figure 4: TikTok Usage: Daily Users



Up to 2 Hours

About 1 Hour

Figure 5: TikTok Usage: Time Spent

Regarding the social network most used by students (Figure 6), 58.3% (n=67) pointed to Instagram as their preferred platform, followed by TikTok with 21.7% (n=25), and WhatsApp was indicated by 11.3% (n=13). The least used networks included Messenger and BeReal, each with 0.9% (n=1), and Facebook and YouTube, each with 1.7% (n=2), and Pinterest with 2.6% (n=3).

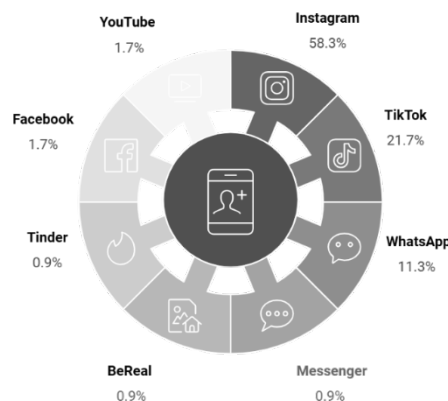


Figure 6: Social Networks Most Used by Students

When asked about the preferred social network to consume content (Figure 7), 58.3% (n=67) of the students chose Instagram, followed by TikTok with 27.8% (n=32). For content sharing (Figure 8), 75.7% (n=87) of participants prefer Instagram, while 13.9% (n=16) opt for TikTok.

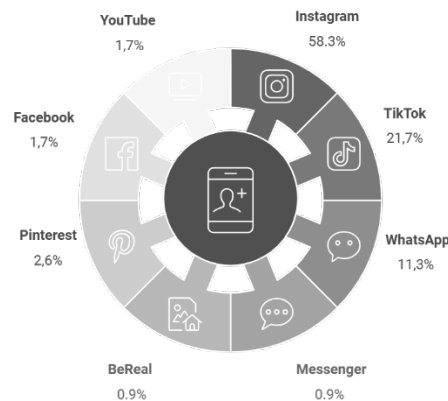


Figure 7: Social Networks Preferred for Consuming Content

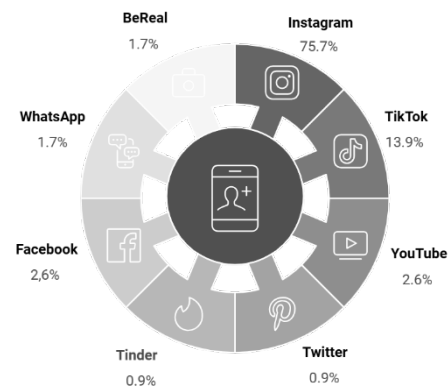


Figure 8: Social Networks Preferred for Sharing Content

The interviews carried out complemented the quantitative data. When asked, "How and when did you find out about this social network?" the six students interviewed said they had learned about TikTok mainly during 2020, coinciding with the period of confinement due to the COVID-19 pandemic. Regarding the time spent on the platform, respondents indicated spending between 10 minutes and 2 hours daily on TikTok, with an average of approximately 1 hour daily. Some students mentioned that, during the week, the time of use is shorter but can increase during weekends or vacation periods. Overall, the data collected shows that TikTok is a platform widely used by students, with a significant daily frequency and a usage time that varies, on average, between 1 to 2 hours per day. Instagram remains the most used social network for both consumption and sharing of content, but TikTok emerges as the second platform of choice among the students participating in this study.

4.2 Motivations for Using TikTok

Graph 1 presents the motivations for using TikTok. Students highlighted consuming content of personal interest (92.2% - 52.2% agree and 40% totally agree), relaxation (79.9% - 53.9% agree and 26.0% totally agree), and staying informed (72.3% - 48.7% agree and 23.5% totally agree) as their main motivations for using TikTok. Many also use the platform to explore extravagant content (54.8% - 39.1% agree and 15.7% totally agree), follow the daily lives of celebrities and people worldwide (53.7% - 37.4% agree and 15.7% totally agree), and connect with people who share similar interests (46.1% - 32.2% agree and 13.9% totally agree). Additionally, 44.3% (33.9% agree and 10.4% totally agree) use TikTok to forget problems, and 43.5% (35.7% agree and 7.8% totally agree) to avoid loneliness. Conversely, most disagreed with using TikTok as a source of income (79% - 66% totally disagree and 13% disagree), to get noticed (74.7% - 50.4% totally disagree and 24.3% disagree), or to show off (73.9% - 54.8% totally disagree and 19.1% disagree). Many rejected using it to get what they want effortlessly (72.1% - 47.8% totally disagree, and 24.3% disagree) or to share personal information (65.5% - 47% totally disagree, and 16.5% disagree). Similarly, 63.7% (35.7% totally disagree and 26% disagree) do not use it to express their true self, and 60.9% (47% totally disagree and 13.9% disagree) to update followers.

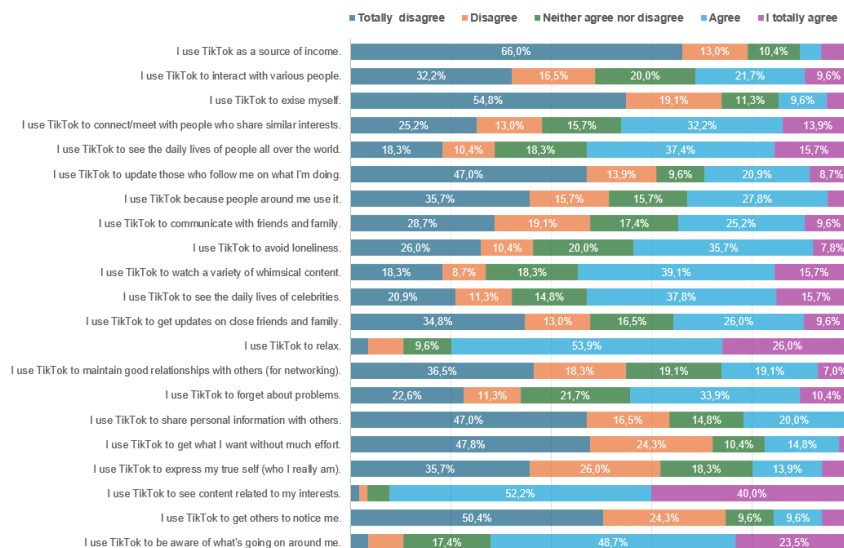


Figure 9: Motivations that lead to the use of the TikTok platform

The interviews complemented the quantitative data, deepening the understanding of individual motivations. Respondents consistently highlighted entertainment and fun as the top reasons for using TikTok. Many said that they started using the platform during the confinement imposed by the COVID-19 pandemic, looking for a way to distract and occupy their free time. For example, one student mentioned that TikTok was an alternative to decreasing social distancing, allowing him to experiment and share videos with close friends. Another interviewee said that he uses the platform to keep up to date on what is happening in the world in a different and didactic way. Updates on trends and viral content also emerged as a significant motivation. Students appreciate TikTok's ability to keep them informed about memes, challenges, and other popular content, reinforcing the connection with today's youth culture. The ease of access to diverse content, from comedy videos to makeup and fashion tutorials, was also mentioned as a factor that increases the platform's appeal. Although some students have experimented with creating and sharing content, most assume a passive user role, consuming the available videos without necessarily contributing to their own productions. This is in line with the results of the questionnaire, where motivations related to content creation or self-promotion had low levels of agreement.

In summary, the results show that students' motivations for using TikTok are strongly associated with entertainment, the consumption of content aligned with their personal interests and the search for relaxation. The platform is valued as a means to unwind, occupy free time, and stay current on current trends and events. Motivations related to direct social interaction, self-promotion or networking seem less relevant for this specific group of users. The impact of the COVID-19 pandemic emerges as an important factor that has catalysed the increase in the use of TikTok, highlighting how social contexts and global events can influence social media consumption habits.

4.3 Types of Content Consumed and Shared on TikTok

The results (Graph 2) indicate that most students use TikTok mainly to consume content other users produce, assuming a predominantly passive role on the platform. In the questionnaire, 94.8% of participants agreed or strongly agreed with the statement that they use TikTok to watch other users' videos or follow their profiles, far surpassing sending messages, comments or creating videos of their own. This shows that content consumption is the main activity of students on the platform.

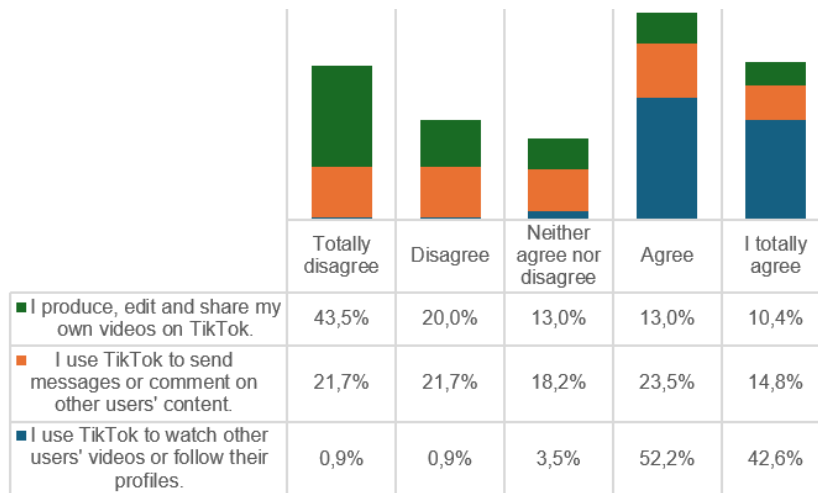


Figure 10: Types of use of the TikTok platform

Regarding the types of content consumed on TikTok (Table 1), students preferred humorous videos, curiosities, musical content, product reviews, and challenges as their top content consumed on TikTok. 84.3% (60% agree and 24.3% totally agree) consume humorous content, and 84.4% (54% agree and 30.4% totally agree) view curiosities about topics of interest.

Table 1: Types of content consumed on the TikTok platform

	Totally disagree	Disagree	Neither agree nor disagree	Agree	I totally agree
I use TikTok to watch Gaming Tutorials	53,9%	20,0%	10,4%	13,0%	2,6%
I use TikTok to watch Product Reviews	6,0%	1,7%	9,6%	63,5%	19,1%
I use TikTok to watch Make-up tutorials	21,7%	6,0%	11,3%	44,3%	16,5%
I use TikTok to watch Daily routines	12,2%	6,0%	13,9%	46,0%	21,7%
I use TikTok to watch Challenges	15,7%	5,2%	16,5%	47,8%	14,8%
I use TikTok to watch Fashion Tutorials	20,0%	10,4%	13,9%	38,3%	17,4%
I use TikTok to watch Transitions	16,5%	13,9%	19,1%	40,9%	9,6%
I use TikTok to watch Humorous content	1,7%	1,7%	12,2%	60,0%	24,3%
I use TikTok to watch Music content	7,0%	2,6%	13,9%	54,8%	21,7%
I use TikTok to watch Choreography	16,5%	7,0%	16,5%	43,5%	16,5%
I use TikTok to watch Curiosities about a area that interests me	2,6%	2,6%	10,4%	54,0%	30,4%
I use TikTok to watch live streams	34,8%	21,7%	12,2%	26,0%	5,2%
I use TikTok to follow people you know.	13,0%	12,2%	18,2%	36,5%	20,0%
I use TikTok to follow Brands	17,4%	17,4%	13,0%	34,85%	17,4%

Additionally, 76.5% (54.8% agree and 21.7% totally agree) watch musical content, 82.6% (63.5% agree and 19.1% totally agree) enjoy product reviews, and 62.6% (47.8% agree and 14.8% totally agree) follow challenges. Make-up tutorials (61% - 44.3% agree and 16.5% totally agree), choreographies (60% - 43.5% agree and 16.5% totally agree), and fashion tutorials (55.7% - 38.3% agree and 17.4% totally agree) also have notable adherence. Conversely, gaming tutorials (73.9% - 53.9% totally disagree and 20% disagree) and live streams (56.5% - 34.8% totally disagree and 21.7% disagree) are the least consumed categories, showing minimal interest among users.

Concerning the types of content produced and shared on the TikTok platform, most students do not create or share original videos (Graph 3). In fact, 92.3% (78.3% strongly disagree and 13.9% disagree) do not produce or share gaming tutorials. Similarly, 85.2% (68.7% strongly disagree and 16.5% disagree) do not perform live streams, 79.1% (68.7% strongly disagree and 10.4% disagree) do not create product reviews, and 80% (68.7% strongly disagree and 11.3% disagree) do not produce makeup tutorials. Other content types, such as challenge videos (73.9% - 63.5% strongly disagree and 10.4% disagree), fashion tutorials (75.7% - 63.5% strongly disagree and 12.2% disagree), daily routine videos (74.7% - 64.3% strongly disagree and 10.4% disagree), and videos with transitions (also 74.8%) are similarly not produced. These findings highlight a trend of passive consumption among students, reinforcing TikTok's role as a platform primarily used for entertainment and third-party content consumption.

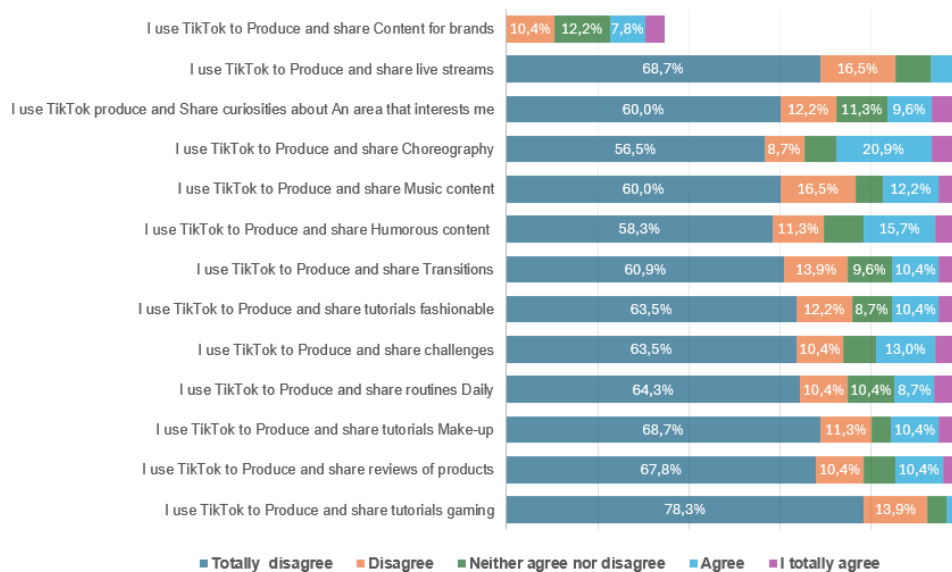


Figure 11: Types of content produced and shared on the TikTok platform

The interviews conducted with six students reinforce these results. When asked about the types of content they consume the most, students highlighted comedy videos, travel content, music, reviews, makeup tutorials, fashion and challenges. Student 1 said that the content he consumes most frequently is music, comedy and product reviews. Student 2 mentioned that he uses TikTok to get inspiration and to watch tutorials on makeup, clothing, branding, and travel. Student 3 indicated that the content that arouses the most interest is gaming videos and consumes comedy and gaming content. Student 4 stated that he watches fashion, beauty content, travel, and comedy. Student 5 said that the content that most arouses his interest is funny videos, quick tutorials, useful tips, and viral dances, and he shares and watches funny videos or participates in popular challenges. Student 6 prefers to make and watch dance or humour content.

As for sharing content, only 1 of the 6 students interviewed assumed that they would share videos on TikTok, specifically challenges that are currently popular. The rest said they did not share content on the platform, which corroborates the trend observed in the quantitative data that showed that most students are passive users.

The results reveal that students use TikTok mainly to consume comedy content, product reviews, music, travel, makeup and fashion tutorials, dance and challenges. Creating and sharing original content is infrequent among students, with most taking a passive role on the platform. This use pattern indicates that TikTok is valued as a source of entertainment and information rather than a means for personal expression or social interaction through content creation.

5. Discussion

This study aimed to understand TikTok's motivations and consumption patterns among Portuguese higher education students. The findings reveal significant insights into the platform's use within this demographic. Instagram remains the most used social network, followed by TikTok, consistent with Martins (2023), who identified Instagram as the most popular platform among Portuguese youth. However, TikTok's rapid growth reflects trends that Gustavo et al. (2023) noted. Students use TikTok daily, spending about one hour per day, aligning with research highlighting TikTok's addictive nature due to its personalised algorithm and short video format (Araújo & Karhawi, 2023; Omar & Dequan, 2020).

The COVID-19 pandemic was a turning point in TikTok adoption, with many students starting to use it during confinement for entertainment and social interaction, corroborating Coelho et al. (2020) and Yazdani et al. (2022). The main motivations were consuming interest-based content, relaxation, and staying updated, aligning with the Uses and Gratifications Theory (Rubin, 2008). Other studies also found entertainment and information-seeking as key motivations (Meng & Leung, 2021; Omar & Dequan, 2020).

However, motivations like self-promotion, networking, or direct communication had less relevance, diverging from Figueiredo (2022), who highlighted TikTok's role in self-branding among Generation Z. In this study, students primarily used TikTok for passive consumption, with minimal interest in creating or sharing content,

echoing Bossen and Kottasz's (2020) findings. Humour, product reviews, music, and challenges were the most consumed content, consistent with Dias and Duarte (2021).

The trend toward passive consumption reflects Shao's (2009) segmentation of active and passive users, with most students seeking entertainment without contributing content. This behaviour may stem from privacy concerns, a lack of public exposure interest, or satisfaction from consuming content. While TikTok encourages creativity (Schellewald, 2021), the low participation in content creation contrasts with its global image, suggesting cultural factors or sample-specific behaviours.

These findings have several implications. TikTok's importance in students' digital lives highlights the need for engaging, relevant content in communication strategies rather than encouraging active participation. The pandemic's influence underscores the importance of contextual factors in shaping digital behaviour. Additionally, the reduced emphasis on self-promotion or social interaction may reflect cultural or generational differences, warranting further exploration.

This study aligns with existing literature, emphasising entertainment and humorous content as dominant motivations (Dias & Duarte, 2021; Meng & Leung, 2021). However, the contrast between TikTok's global branding as a creative platform and students' passive use suggests the need for further research into cultural and demographic nuances.

6. Conclusions

The present study achieved its objectives by identifying the motivations that lead students of a higher education institution in Portugal to use TikTok and by determining the types of content they consume and share. TikTok is widely used among students, positioning itself as the second most popular social network after Instagram.

The main motivations for using the platform are entertainment, the search for content related to personal interests, relaxation and updates on current events and trends. Students prefer humorous content, product reviews, music, tutorials and challenges. Most participants take a passive role on the platform, consuming content without producing or sharing their own videos.

These results highlight TikTok's importance in university students' digital routine and suggest that the platform is valued primarily as a source of entertainment and information rather than a means of personal expression or active social interaction. Understanding these dynamics can contribute to developing more effective educational and communication strategies that meet this audience's preferences and consumption habits.

While the study provided important insights, it is important to recognise some limitations. The sample was predominantly composed of female students, which may influence the results and limit the generalisation of the data. In addition, the sample size and focus on a single institution may restrict the representativeness of the results concerning the wider universe of university students in Portugal.

It is recommended that future research broaden the sample to include a greater diversity of participants in terms of gender, age, fields of study and educational institutions. It would also be relevant to explore the reasons behind the preference for passive content consumption, investigating possible barriers to video creation and sharing, such as privacy concerns, lack of trust or technical skills. Additionally, longitudinal studies could assess how motivations and patterns of using TikTok evolve over time, especially as the platform develops new features and influences young people's cultural trends.

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Impact of TikTok Usage on Higher Education Students: Addiction, Flow State, and Sense of Belonging

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Abstract: This research explores the impact of TikTok usage among higher education students, focusing on three dimensions: addiction, flow state, and sense of belonging. Recognising the significant role that TikTok plays in young people's digital lives, the study aims to analyse how this platform affects students at a Portuguese School of Higher Education according to these dimensions, thus contributing to a deeper understanding of the effects associated with its use. A mixed methodology was adopted, combining quantitative and qualitative methods. A sample of 125 students answered a questionnaire, and structured interviews were conducted with 6 participants. The questionnaire included specific scales to measure the flow state, sense of belonging, and signs of addiction related to TikTok usage. The interviews provided a deeper exploration of individual perceptions of the platform's impact on their lives.

The results reveal that students frequently experience the flow state when using TikTok, reporting that time "flies" and that they become deeply absorbed by the content. Despite this, according to quantitative data collected, most do not consider themselves addicted to the platform. However, during the interviews, students acknowledged that TikTok can be addictive, admitting to spending more time than intended and losing track of time, suggesting a discrepancy between initial self-assessment and more in-depth reflection. Regarding the sense of belonging, most students do not feel part of the TikTok community, which may be attributed to their predominantly passive use of the platform and lack of interaction or content creation. This indicates that building a sense of belonging is linked to more active and interactive participation patterns.

It is concluded that TikTok has a significant impact on higher education students, inducing flow states and potentially contributing to addictive behaviours. The absence of a sense of belonging suggests that passive usage does not foster a sense of community, which may affect how students relate to the platform and other users. These results have important implications for understanding the impact of social media on young people's well-being and mental health, highlighting the need to promote balanced and mindful usage. Future studies may focus on designing strategies aimed at mitigating potential negative effects deriving from the addictive use of this sort of technology and explore the role of content creation as a way of fostering a sense of belonging.

Keywords: TikTok, Social Media, Higher Education Students, Flow State, Sense of Belonging

1. Introduction

TikTok quickly became a platform with a strong social and behavioural impact on young people (Montag et al., 2021). The personalisation of content and the dynamic format of short videos favour the flow state, an experience of total immersion characterised by the loss of the notion of time and intense concentration (Csikszentmihalyi, 2014; Araújo & Karhawi, 2023). Widely recognised for its positive impact, such as promoting creativity and disseminating educational content, the adverse effects of excessive TikTok use cannot be ignored (Qin et al., 2022). Recent studies indicate that the continuous consumption of short videos can negatively affect attention span and academic performance, particularly among college-aged young people. Additionally, the pressure to participate in viral challenges and create relevant content can intensify feelings of anxiety and social comparison, harming users' mental health.

Among young people aged 18 to 24 in Portugal, TikTok has established itself as part of the digital routine, registering significant growth in recent years (Gustavo et al., 2023). However, the platform's engaging design increases the potential for addiction by exploiting positive reinforcement mechanisms that prolong use and dependence (Trigo, 2021). In addition, viral challenges promote a sense of belonging but can also generate exclusion among those who do not achieve social validation, shaping users' digital and emotional experiences (Figueiredo, 2022). This scenario highlights the importance of understanding the psychological and social factors that make TikTok attractive to young people, as well as the impacts of this attractiveness on overall well-being.

In this context, the main objectives of this study are to verify the presence of the flow state and the feeling of belonging during the use of the platform and to assess students' perceptions of TikTok addiction.

Through a mixed methodological approach, it is intended to understand how TikTok influences young higher education students' digital habits and experiences, contributing to a reflection on the conscious use of social networks. By investigating the relationship between the state of flow, the sense of belonging and the perception of addiction on the platform, this study contributes to a broader debate on the role of social networks in forming digital identity and promoting healthy online behaviour.

2. Theoretical Framework

Social media has become an integral part of young people's lives, especially among higher education students, and it often leads to excessive use of these platforms. Constant access to mobile devices and permanent connectivity allows users to connect to social networks continuously, significantly influencing their habits and behaviours (Hashim et al., 2016; Desai, 2017).

In this scenario, the impacts of using social networks can be both positive and negative. On the one hand, they facilitate communication and maintain interpersonal relationships, promote access to information and educational content, and contribute to developing digital skills (Couto, 2015; Morais et al., 2011). On the other hand, the excessive use of these platforms has been associated with negative effects, such as a decrease in face-to-face interactions and an influence on personal and social perceptions (Coelho et al., 2020). Additionally, constant exposure to idealised content and social comparison can affect how users perceive their lives (Dias & Duarte, 2021). The need to gain approval through "likes", comments and shares can lead to greater dependence on social media, influencing young people's self-perception and self-worth (Omar & Subramanian, 2013). In the specific context of TikTok, these dynamics can be intensified due to the platform's format, which favours visual and interactive content, promoting viral trends that encourage the active participation of users (Dias & Duarte, 2021; Zulli & Zulli, 2020). In addition, users' individual characteristics, such as personality, motivations, and personal needs, also play a crucial role in how they interact with social media and its impact on their lives (Figueiredo, 2022; Trigo, 2021).

In 1990, Csikszentmihalyi introduced the concept of flow state, which refers to total immersion in an activity characterised by intense concentration, deep involvement, and a sense of intrinsic pleasure (Csikszentmihalyi et al., 2014; Vianna et al., 2018). During the flow, the individual loses track of time and is completely absorbed in the task, experiencing a balance between the challenges presented and their personal abilities.

On social media, particularly on TikTok, the flow state can be easily achieved due to the design of the platforms and the way content is presented (Trigo, 2021). Specifically, TikTok uses advanced algorithms to customise the content feed according to user preferences, providing a seamless and engaging experience that maintains attention for long periods (Araújo & Karhawi, 2023). Previous studies suggest that flow on digital platforms is associated with increased usage time and continuous user engagement (Brailovskaia & Teichert, 2020). Thus, in the context of TikTok, the flow state can contribute to the excessive use of the platform, as users become immersed in watching short videos that appeal to their interests and emotions (Omar & Dequan, 2020).

At the same time, belonging is a fundamental human need that influences social development, especially among young people, in building their identity (Santos, 2022). McMillan's and Chavis' theories of community stress elements include influence, integration, satisfaction of needs, and shared emotional connection.

Social networks, therefore, play a significant role in promoting this feeling by facilitating online communities where users can interact, share experiences, and connect with others who share similar interests (Caneira, 2016; Dias & Duarte, 2021). On TikTok, features such as viral challenges, hashtags, and the ability to follow and interact with content creators allow users to feel part of a global community (Zulli & Zulli, 2020). However, the role of social media in promoting or inhibiting a sense of belonging may vary. While some users find support and recognition in online communities, others may feel excluded or belittled, especially if they achieve a different level of engagement or recognition than other members (Figueiredo, 2022).

Social media may also trigger addiction patterns, which are defined as patterns of behaviour characterised by excessive and compulsive use of these platforms, which interferes with daily activities and causes harm in personal, academic or professional life (Omar & Subramanian, 2013; Trigo, 2021). Users who develop this type of addiction may have difficulties controlling or reducing screen time, prioritising the use of social networks over other responsibilities. Several factors contribute to the development of social media addiction, including individual characteristics, such as personality and self-esteem; personal motivations, such as the need for

belonging and recognition; and the characteristics of the platforms themselves, which use reward mechanisms to keep users engaged (Rubin, 2008; Shao, 2009). In the specific case of TikTok, studies point to a high potential for addiction due to the design of the platform, the format of the content (Trigo, 2021) and the mechanisms social media uses to keep users close at hand. Things like notifications regarding irrelevant content tend to pop up when users are offline to lure them back into the circle. The endless scrolling of short videos, the personalisation of the feed, and the constant introduction of new visual and auditory stimuli can lead users to spend long periods on the platform without realising the time passing (Bossen & Kottasz, 2020; Omar & Dequan, 2020).

Thus, the considerations presented highlight the complexity of interactions between young people and social networks, particularly TikTok. Understanding the factors that influence addiction, flow state, and the sense of belonging is essential to developing strategies that promote a balanced and conscious use of these platforms, enhancing the benefits and minimising the negative effects associated with excessive use.

3. Methodology

The present study, which focused on using TikTok among higher education students, employed a mixed-methods methodology to explore the phenomena of addiction, flow state, and sense of belonging. Integrating quantitative and qualitative approaches allowed for a comprehensive analysis, combining statistical data with individual experiences, which increased the validity and understanding of the results (Creswell, 2007). The sample consisted of 125 higher education students who participated voluntarily. The majority were female (80%, $n=100$), followed by males (16.8%, $n=21$), with 3.2% preferring not to indicate their gender. The ages of the participants were concentrated between 20 and 25 years old, with 32.8% ($n=41$) between 23 and 25 years old and 31.2% ($n=39$) between 20 and 22 years old. In academic terms, 78.4% ($n=98$) were undergraduate students, and 20.8% ($n=26$) were master's students from different courses, ensuring the diversity of the sample.

An online questionnaire adapted from Trigo (2021), made available via Google Forms, was used to collect quantitative data. This instrument assessed the levels of addiction, flow state and sense of belonging associated with using TikTok. The questionnaire was accessible for three days (October 27 to 29, 2023) and disseminated to higher education students from the same institution through social networks. In addition, structured interviews were conducted with six students selected at their convenience. Of the interviewees, four were female, two were male, aged between 20 and 27 years; four were pursuing a bachelor's degree at the time, and two had a master's degree. The interviews explored the participants' personal experiences with TikTok, focusing on the themes of addiction, flow state and sense of belonging.

The quantitative data analysis used descriptive statistics, identifying patterns and trends in the phenomena studied. The qualitative analysis of the interviews was based on content analysis, highlighting recurring themes that enriched the understanding of the quantitative results (Silva et al., 2006). All ethical procedures were complied with. Participation was voluntary, with informed consent, ensuring the anonymity and confidentiality of the information provided. The data collected were used exclusively for the purposes of this study following the applicable ethical and legal principles. The mixed-methods approach provided a comprehensive view of TikTok usage among college students. This methodology allowed us to quantify the phenomena under study and understand the nuances and individual experiences, contributing to a deeper and more meaningful analysis (Cantanhede, 2023; Creswell, 2007).

4. Results

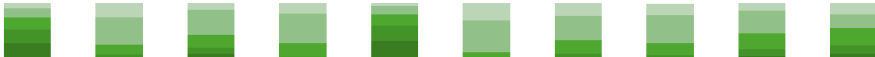
4.1 State of Flow

One of the objectives of this study was to understand whether students at a Higher School of Education in Portugal enter a state of flow when using TikTok. The data collected indicate that many students experience this state of immersion while using the platform, and according to the questionnaire results (Graph 1), 96 students (83.5%) agreed or totally agreed that they like to use TikTok. In addition, 82 students (71.3% agreed or totally agreed) felt that time flies when using TikTok, indicating an altered perception of time, characteristic of the flow state. Regarding the fun provided by the platform, 79 students (68.7% agreed or totally agreed) said that TikTok provides them with much fun. As for stimulating creativity, 78 students indicated that TikTok sparks their imagination (67.8% agreed or totally agreed), and 72 students (62.6%) agreed or totally agreed that it arouses their curiosity. Regarding deep immersion, 62 students felt deeply absorbed while using TikTok (53.9% agreed or totally agreed), and 59 students reported being immersed in the task while using the platform (51.3% agreed

or totally agreed). Additionally, 49 students admitted that they usually spend more time on TikTok than they intended, highlighting the difficulty in stopping its use due to their flow state (42.6% agreed or totally agreed).

On the other hand, most students disagreed with certain statements: 71 students (61.7%) disagreed or totally disagreed that when using TikTok, the world generated by microcelebrities is more real to them than the physical world. In addition, 63 students (54.8%) disagreed or totally disagreed that TikTok creates a new world and that the world disappears when using the platform. These results suggest that, despite immersion, students maintain a clear distinction between TikTok's physical and virtual realities.

Table 1: State of flow in the use of the TikTok platform



	TikTok creates a new world for me, and that world disappears when I stop using the platform.	Time flies when I'm using TikTok.	While wearing TikTok I become deeply absorbed.	Using TikTok gives me a lot of fun.	By using TikTok, the world generated by the Microcelebrities I see is more real to me than the physical world.	I like to use TikTok.	Using TikTok arouses my curiosity.	Using TikTok sparks my imagination.	When I use TikTok I become immersed in the task at hand.	I usually spend more time on TikTok than I intended.
Totally agree	8,90%	23,50%	11,30%	17,40%	4,30%	29,60%	20,90%	20%	13%	18,30%
Agree	14,80%	47,80%	42,60%	51,30%	14,80%	53,90%	41,70%	47,80%	38,30%	24,30%
Neither agree nor disagree	21,70%	16,50%	22,60%	23,50%	19,10%	11,30%	23,50%	20,70%	27,80%	29,60%
Disagree	23,50%	5,20%	10,40%	4,30%	26%	3,50%	9,60%	7,80%	11,30%	13,90%
Totally disagree	31,30%	7%	13%	3,50%	35,70%	1,70%	4,30%	3,50%	9,60%	13,90%

The interviews conducted with the six students reinforce this data. Most respondents acknowledged that they often lose track of time when using TikTok. Some stated that they sometimes lose track of time altogether while using the platform. In contrast, others indicated that this occurs sporadically or only in specific situations, such as scrolling through the video feed. One of the students pointed out that the feeling of wasting time is almost inevitable due to the way the platform presents the content and engages the user. At the same time, another admitted that he gets involved even though he is aware of his time on TikTok. Most respondents admitted, therefore, that when using TikTok, they occasionally lose track of time, which is indicative of the experience of the flow state. This sense of deep immersion and intense concentration is enhanced by the immersive nature of the platform and its algorithms, which feature personalised content and a continuous stream of short videos tailored to the user's preferences.

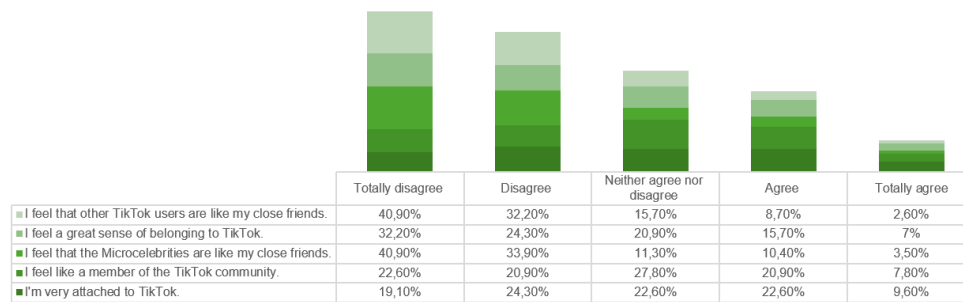
In short, both quantitative data and qualitative evidence point to the presence of the flow state among higher education students while using TikTok. Most participants report typical sensations of this state, such as the loss of the notion of time and immersion in the activity, which may explain the prolonged and frequent use of the platform among this audience.

4.2 Sense of Belonging to the TikTok Community

Within the scope of this research, we sought to understand if there is a sense of belonging among students in the TikTok community. The data obtained through the questionnaire reveal a tendency of disagreement regarding the existence of this feeling for most participants.

Analysing the levels of agreement with the statements related to the feeling of belonging (Graph 2), it was found that 84 students (73.1%) showed a discordant opinion about "I feel that other TikTok users are like their close friends". In addition, 86 students (74.8%) disagreed or totally disagreed that they "feel that micro-celebrities are like their close friends". Regarding the statement "they feel a great sense of belonging with TikTok", 65 students (56.5%) expressed disagreement. Regarding being "very attached to TikTok" and "feeling like a member of the TikTok community", 50 students (43.5%) disagreed or totally disagreed with both statements.

Table 1: Sense of belonging with the TikTok platform



On the other hand, considering the students who agreed with the statements, 37 (32.2%) said they were "very attached to TikTok" and 33 (28.7%) said they "feel like members of the TikTok community". These percentages indicate that, although a significant portion of students do not feel they belong to the TikTok community, a considerable group demonstrates some attachment and identification with the platform. The analysis of the reasons for the absence of a sense of belonging was deepened through the interviews. When asked, "Do you feel like you belong to the TikTok community? Why?" the answers were revealing. Student 1 does not feel he belongs, justifying that he only consumes content and does not share it, spending little time on the platform. Student 2 also does not consider himself to belong to the community, stating that he could live perfectly without the platform and its contents. Student 4 does not feel belonging, using TikTok only to occupy their free time, with no intention of sharing or interacting deeply.

On the other hand, Student 5 feels he belongs to the community, as he shares common interests with other users and actively interacts. Student 6 recognises belonging to the community by posting videos and participating more actively. Most respondents who do not feel they belong to the community associate their opinion with their passive use of the platform, limiting themselves to content consumption without active involvement or content creation. Users who consider themselves part of the community actively participate, sharing videos and interacting with other users.

Despite the divergence in the sense of belonging, all students agree that TikTok is an easy platform to interact with other users. In the answers to the question "Do you consider TikTok to be an easy social network to interact with other users?", the ease of interaction through features such as comments, likes, and shares stands out; the intuitive interface that allows you to respond or react to other videos easily; and the possibility of reaching a relevant number of views and interactions without the need for prior connections. These observations suggest that, although the platform facilitates interaction, the sense of belonging is more associated with users' level of involvement and active participation.

4.3 Perception of Addictive traits on TikTok

The perception of addiction and addictive traits in the use of TikTok was assessed through quantitative and qualitative data, allowing a contrast between the student's self-assessments and the reflections obtained in the interviews. In the questionnaire, most students indicated that they did not feel addicted to the platform: 84 students (75.7%) stated that they did not feel addicted to using TikTok (Figure 1).

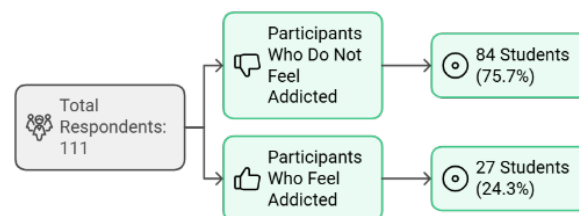


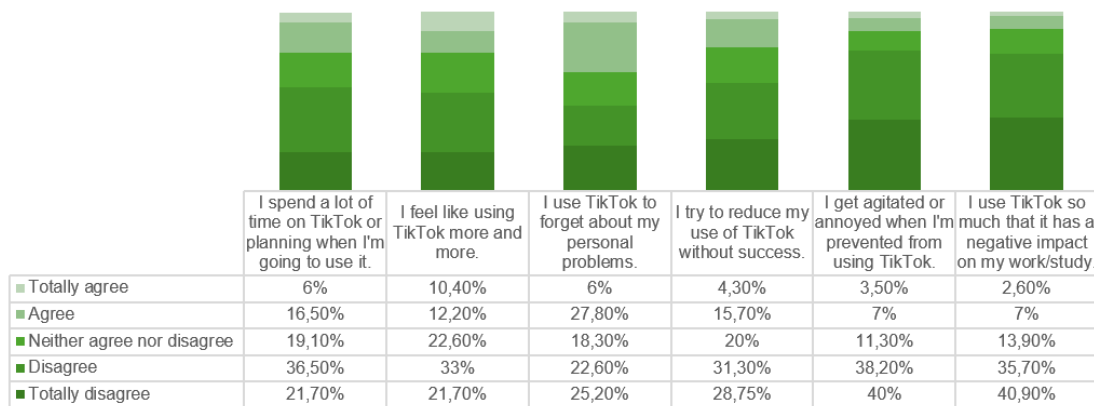
Figure 1: Perception of addiction to TikTok

Analysing the responses to statements related to signs of addiction, it is observed that most students disagreed or totally disagreed with the following statements (Graph 3): "I get agitated or bothered when I am prevented from using TikTok" (90 students, 78%); "I use TikTok so much that it has a negative impact on my work/study" (88 students, 76.6%); "I spend much time on this platform or planning when I will use it again" (67 students, 58.2%); "I try to reduce my use without success" (69 students, 60.1%); "I feel like using it more and more" (63 students, 54.7%); "I use TikTok to forget about my personal problems" (55 students, 47.8%). However, 39

students (33.8%) agreed with the statement, "I use TikTok to forget about my personal problems", indicating that, for a significant portion, the platform serves as an escape mechanism.

Contrary to the data in the questionnaire, the interviews revealed a different perception. When asked about the potential addiction caused by TikTok, the answers were more assertive. Student 1 recognises that TikTok can create a habit that becomes an addiction due to the diversity of content and ease of access. Student 2, although he does not consider himself addicted, admits that for the younger layer, the platform may have become an addiction. Student 3 claims that TikTok is addictive as the content is based on personal interests. Student 4 considers social media an addiction, acknowledging that he spends more than half his time on his phone on these platforms. Student 5 believes that TikTok can contribute to the creation of addiction, just like other social networks. Student 6 admits that TikTok can become addictive, acknowledging that he spends an "absurd" number of hours on the platform.

Table 2: Signs of addiction on the TikTok platform



This discrepancy between self-assessment of addiction in the questionnaire and recognition in interviews suggests that, although students do not consciously identify themselves as addicted, they recognise the addictive behaviours associated with TikTok use. Possible reasons for this discrepancy include underestimation of overuse, normalisation of behaviour, and cognitive dissonance. Discussing these divergences is fundamental to understanding students' perceptions of TikTok addiction. While the quantitative data point to a denial of addiction, the interviews reveal a recognition of the risks and associated behaviours. This contrast highlights the need to sensitise students to the potential impacts of excessive use of social networks and to promote more balanced use strategies.

5. Discussion

The results obtained in this study provide an in-depth understanding of the use of TikTok among higher education students, specifically concerning flow status, sense of belonging and perception of addiction. Analysing these results in the light of the theoretical framework allows us to discuss the implications and better understand the dynamics associated with using this platform.

The data reveals that many students experience the flow state while using TikTok. Most participants reported sensations typical of this state, such as losing the sense of time and a deep immersion in the activity. This data corroborates Csikszentmihalyi's theories about flow, indicating that TikTok's custom design and algorithms facilitate entry into this state (Vianna et al., 2018; Trigo, 2021).

The ease with which users enter a flow state on TikTok can be attributed to how the platform presents content tailored to individual interests, maintaining a continuous and engaging flow (Araújo & Karhawi, 2023). This phenomenon may explain the prolonged use of the app, as users remain immersed without realising the elapsed time. These results align with previous studies that link flow state to increased usage time and continuous engagement on digital platforms (Brailovskaia & Teichert, 2020; Omar & Dequan, 2020).

Despite the ease of interaction provided by TikTok, most students do not feel a strong sense of belonging to the platform's community. Many users identify themselves as passive consumers, limiting themselves to viewing content without actively participating through deeper sharing or interactions. This behaviour can influence the sense of belonging since active participation and community involvement are key elements for developing this

feeling (McMillan & Chavis, 1986; Santos, 2022). Students who consider themselves part of the TikTok community are the ones who interact most actively, creating and sharing content and establishing connections with other users. This suggests that the sense of belonging is closely linked to the level of participation and involvement in the platform, aligning with theories that highlight the importance of integration and shared emotional connection for the development of a sense of community (Caneira, 2016; Dias & Duarte, 2021).

A notable discrepancy emerged between quantitative and qualitative data about the perception of addiction. While most students do not consider themselves addicted to TikTok in the answers to the questionnaire, the interviews revealed a recognition of the addictive behaviours associated with the use of the platform. Several factors can explain this divergence. First, the normalisation of intensive social media use among young people may lead to an underestimation of addictive behaviours. Spending several hours on social media is often perceived as a common and socially accepted behaviour, making recognising potential problems difficult (Omar & Subramanian, 2013; Trigo, 2021). Second, cognitive dissonance can play a significant role. Students can avoid recognising themselves as addicts so as not to confront the discomfort associated with awareness of potentially harmful behaviour (Festinger, 1957). In addition, the lack of tangible physical symptoms, such as those associated with other types of addiction, can contribute to the denial of social media addiction.

These results highlight the need to raise awareness about the signs of social media addiction and its potential impacts on students' academic and personal lives. Educational strategies and targeted interventions can be useful to promote a more conscious and balanced use of TikTok and other digital platforms.

6. Conclusions

The present study shows that higher education students often experience the flow state when using TikTok, contributing to prolonged and immersive platform use. However, despite the simple, straightforward interaction, most do not feel a strong sense of belonging to the TikTok community, especially among those who use the platform passively and without engaging through comments, likes or shares.

The discrepancy observed through the data collected with the questionnaires between self-rated addiction and acknowledging addictive behaviours in interviews suggests that students may not be fully aware of the impact of excessive TikTok use. These results reinforce the importance of addressing the issue of social media addiction in the academic context, promoting reflection and education regarding healthy digital habits.

One of the limitations of this study is the size and composition of the sample, which was predominantly female and limited to a specific institution. Future studies should consider larger and more diverse samples to establish some generalisation of the results. In addition, longitudinal investigations could provide insights into the evolution of behaviours and perceptions over time.

It is also recommended that interventions be explored that can help students better manage TikTok use, enhancing positive aspects such as nurturing creative and critical thinking, as well as goal-orientated learning activities while minimising the risks associated with addiction and overuse.

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Integrating Social Media in Library Services within Higher Education Institutions: A Systematic Review

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Abstract: This study examines how academic libraries integrate social media to enhance engagement and service delivery. Using the PRISMA methodology, a systematic review of literature from 2010 to 2024 was conducted across Scopus, Academic Search Ultimate, Web of Science, ERIC, and Google Scholar. The PICO framework guided the inclusion criteria, focusing on peer-reviewed studies evaluating the impact of social media on library services. A total of 20 studies were analysed, revealing that social media significantly enhances real-time communication, increases resource accessibility, and fosters interactive user engagement. However, challenges such as privacy concerns, institutional policies, and inconsistent adoption strategies were also identified. This review highlights best practices for effective social media integration in academic libraries and provides recommendations for future implementation. The findings contribute to the growing body of research by offering a consolidated evaluation of social media strategies in higher education libraries, informing both practitioners and policymakers.

Keywords: Social Media, Academic Libraries, Higher Education, User Engagement, Service Delivery, PICO Strategy

1. Introduction

1.1 Background and Context

Social media plays a growing role in higher education, particularly in academic libraries. As digital communication becomes essential, libraries are leveraging platforms such as Facebook, Twitter, Instagram, and YouTube to enhance user interaction and promote resources (Collins & Quan-Haase, 2012). These platforms foster community engagement and provide timely access to information. However, despite its growing adoption, there is limited empirical research on the best practices for effectively integrating social media into library services. Many libraries lack structured strategies, leading to inconsistent user engagement and underutilization of digital resources. This study systematically reviews existing literature on social media integration in academic libraries within higher education institutions. It seeks to answer the question: How can social media be effectively utilized in academic libraries to enhance user engagement and improve service delivery? By examining various studies, it identifies effective strategies for leveraging social media to optimize library services in an increasingly digital landscape.

1.2 The Role of Social Media in Library Services

Social media is crucial for academic libraries, transforming communication and user engagement. It enables instant connections for promoting resources and disseminating information (Dhanavandan, 2023; Chugh & Ruhi, 2018). Libraries use social media to market services, attract users, and enhance community engagement, driving innovation and responsiveness to digital changes. These platforms support research assistance and information literacy training, improving access to digital resources (Gohel, 2021; Dhanavandan, 2023). Tools like Facebook and Twitter facilitate resource sharing and collaboration. Additionally, social media enhances networking, allowing libraries to engage with organizations and professionals. Strategic integration is essential for relevance in a digital landscape, ultimately improving service delivery and fostering interactive learning environments.

1.3 Rationale of the Study

The rationale for this study is to explore the effectiveness of social media integration in enhancing engagement and service delivery in academic libraries, thereby addressing a crucial aspect of modern library practices. By conducting a systematic review of relevant literature, the study aims to provide insights into how social media can improve communication, resource accessibility, and user interaction within higher education institutions.

1.4 Research Objectives

This systematic review aims to accomplish the following key objectives:

- **Evaluate the effectiveness of social media integration in library services within higher education institutions.** This review evaluated the effectiveness of social media integration in higher education libraries by examining its impact on communication, engagement, and marketing. It showcased how social media enhanced real-time interaction, fostered community building, and increased visibility for library resources and services (Chugh & Ruhi, 2018; Young & Rossmann, 2015).
- **Challenges and barriers faced by libraries in implementing social media strategies.** Studies showed that social media integration enhanced user engagement, service delivery, and outreach. This review identified challenges such as gaps in staff expertise (Dickson & Holley, 2010; Gohel, 2021) and institutional resistance (Chugh & Ruhi, 2018). Cheng et al. (2020) emphasized the need to understand user behaviour and preferences when implementing social media marketing strategies. By tailoring content and engagement strategies to their target audience, libraries can enhance the effectiveness of their social media efforts and attract more users to their digital resources.
- **Explore effective strategies for utilizing social media in academic libraries to enhance user engagement.** Studies indicated that social media significantly enhanced user engagement and service delivery in academic libraries. Key strategies included setting clear goals (Burkhardt, 2010; Chugh & Ruhi, 2018), selecting suitable platforms (Harrison et al., 2017), and creating engaging content (Kumar & Kumar;2024). Additionally, fostering two-way communication, collaborating with user communities, and providing staff training were crucial for optimizing social media use (Young & Rossmann, 2015). This review explored the implementation of these strategies to effectively enhance library-user engagement.
- **Assess the impact of social media on improving service delivery** in higher education institutions. This review comprehensively assessed the impact of social media on service delivery in higher education institutions. The findings draw attention to social media's role in enhancing communication, engagement, and collaboration within academic environments (Harrison et al., 2017). It facilitated real-time interaction, provided valuable feedback mechanisms, and supported marketing and outreach efforts (Young & Rossmann, 2015; Ayu & Abrizah, 2011).

2. Methodology

2.1 Systematic Review Framework: PRISMA

This systematic review follows PRISMA guidelines to ensure a structured and transparent research process (Moher et al., 2009). The 27-item PRISMA checklist and four-phase flow diagram guided the selection of studies on integrating social media in library services within higher education. By adhering to these principles, the review identifies and assesses key literature while justifying the exclusion of studies that do not meet predefined criteria (Liberati et al., 2009). This approach enhances the review's rigor, allowing for a comprehensive overview of findings across various methodologies (Page et al., 2021) and facilitating consistent data extraction for comparative evaluation of strategies and challenges in leveraging social media for library services.

2.2 Research Question: PICO Strategy

The PICO methodology (Population, Intervention, Comparison, Outcome) was utilized to ensure that the systematic review remains focused and adheres to sound research practices. This approach is commonly used in systematic reviews to formulate research questions and select relevant studies (Higgins et al., 2019). The PICO strategy was applied as follows for this review on integrating social media in library services in higher education institutions:

- **Population:** The target population for this review includes academic librarians and library staff in higher education institutions. These individuals are increasingly responsible for engaging users via social media to enhance library services and communication (Chitumbo & Chew, 2015). This focus is crucial as they serve as intermediaries between information resources and users in the digital age
- **Intervention:** The intervention of interest is the integration of social media tools (such as Facebook, Twitter, and Instagram) into library services. This integration aims to improve user engagement, facilitate communication, and enhance the visibility of library resources (Chugh & Ruhi, 2018; Trucks, 2019).
- **Comparison:** The review compares the outcomes of integrating social media with traditional library service models that do not utilize social media. This comparison seeks to evaluate the effectiveness

of social media in enhancing user engagement and service delivery versus conventional methods. The literature reflects on both successful implementations and challenges faced by libraries in adopting social media tools.

- **Outcome:** The outcomes of interest include user engagement levels, satisfaction with library services, and the overall impact on library visibility and community interaction. Metrics such as user feedback, increased patronage, and enhanced communication channels are assessed (Miyanda Chitumbo, 2023). The goal of this review is to determine whether integrating social media leads to more effective library services and improved user experiences.

2.3 Search Strategy

This review explored social media integration in library services within higher education. Searches were conducted in Academic Search Complete, ERIC, Google Scholar, Web of Science, and Scopus, using the PICO framework to refine keywords like *social media*, *academic libraries*, *library services*, *engagement*, and *technology integration*. Boolean operators optimized searches, tailored to each database's structure. Studies from 2010–2024, peer-reviewed, in English, and meeting quality criteria were included. Table 1 details the search terms and methods used.

Table 1: Search Strategy Across Databases

Database	Search Terms Used	Filters Applied
Academic Search Complete	"Social media" AND "Academic libraries" OR "library services"	Peer-reviewed, 2010–2024
ERIC	"Engagement" AND "User communication" AND "Technology integration"	English language, 2010–2024
Web of Science	"Social media integration" AND "Library services" OR "Academic engagement"	Full-text, peer-reviewed
Scopus	"Social media" AND "Academic librarians" AND "Service promotion"	Peer-reviewed, 2010–2024
Google Scholar	"Impact of social media on academic libraries" AND "User engagement strategies"	Exclude patents and citations

2.4 Eligibility Criteria

2.4.1 Inclusion Criteria

The studies included in this review had to meet the following requirements:

- The study primarily focused on integrating social media tools (SMTs) in library services, particularly in higher education contexts.
- The study provided either quantitative or qualitative information on how libraries utilize SMTs to enhance user engagement and service delivery.
- The study was published in a peer-reviewed journal between 2010 and 2024, ensuring that the findings are relevant and applicable to contemporary academic library practices.
- The study detailed the strategies and outcomes of SMT integration, especially regarding its impact on communication, marketing, and user interaction (Chitumbo & Chew, 2015; Collins & Quan-Haase, 2012).

These criteria ensured the selection of relevant studies, maintaining focus on SMTs in academic libraries while enabling a comprehensive examination of strategies and their effectiveness in promoting library services.

2.4.2 Exclusion Criteria

Studies were excluded from this review if they did not specifically address the integration of SMTs in libraries or related digital work environments:

- Studies lacking methodological rigor or published in non-peer-reviewed journals.

- Studies that did not provide data on the use of SMTs in library contexts, including aspects such as user engagement, service promotion, or communication strategies.
- Publications released before 2010, as they may not reflect current practices or the evolving landscape of social media in academic libraries.

The review excluded irrelevant or low-quality articles based on these criteria, ensuring a robust and methodologically sound selection that aligns with contemporary academic library practices.

2.5 Study Selection Process

The study selection process began with a comprehensive search of 180 works on social media integration in library services, yielding 150 unique articles after removing duplicates. After screening titles and abstracts, 45 studies underwent full-text review, with 20 meeting the inclusion criteria. Following PRISMA guidelines, the selection process was structured and transparent, with the PRISMA flow diagram illustrating exclusions at each stage (Moher et al., 2009). The Cochrane Risk of Bias Tool assessed study quality, categorizing them as low, moderate, or high risk based on selection methods, reporting transparency, and conflicts of interest, leading to the exclusion of high-risk studies. A quality assessment table summarized methodological rigor, and sensitivity analyses ensured the robustness and reliability of findings across various study designs.

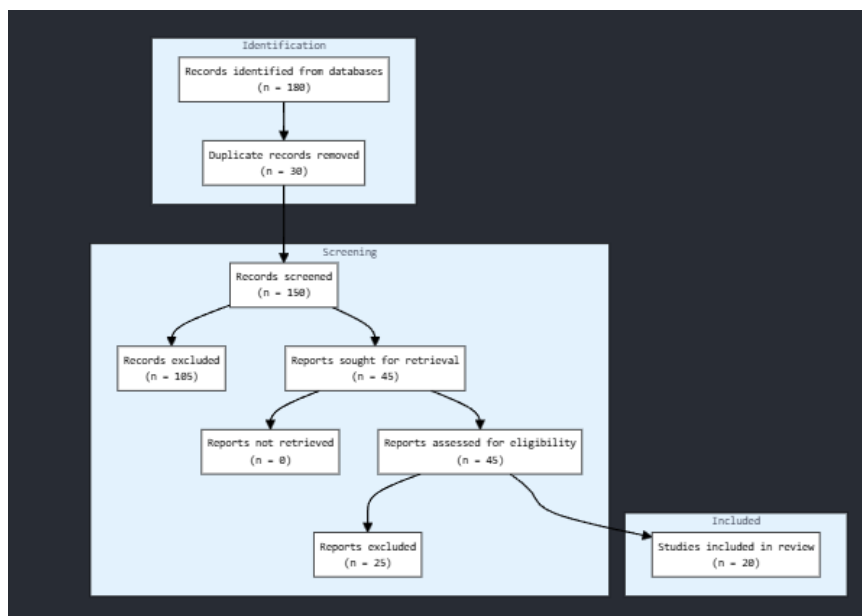


Figure 1: PRISMA Flow Diagram

2.6 Data Extraction

This study systematically extracted key aspects related to social media integration in library services, focusing on its utilization, impact on service delivery, and implementation challenges.

The following elements were extracted from each study included in the review:

- **Study Population:** The review considered studies examining academic libraries, including different types of institutions and professional roles such as librarians, faculty, and students (Chitumbo & Chew, 2015).
- **Social media:** Libraries utilized platforms like Facebook, Twitter, and Instagram for communication, marketing, and user engagement (Collins & Quan-Haase, 2012).
- **Purpose of Use:** Libraries leveraged social media for promotion, user communication, and community engagement to enhance services (Taylor & Francis, 2014).
- **Outcomes Observed:** Social media integration improved user engagement, increased library resource visibility, and enhanced librarian-patron communication.

Maintaining consistency in data extraction across studies ensured a robust framework for analysing social media integration in academic libraries.

2.7 Quality Assessment

The Cochrane Risk of Bias Tool (Higgins et al., 2019) was used to assess study credibility. Of 45 full-text articles, 25 met rigorous standards, while 15 had reporting issues. To ensure validity, five highly biased studies were excluded. This approach enhances the reliability of findings.

3. Results

3.1 Study Characteristics

This systematic review examines the integration of social media in library services, analysing 75 studies from North America, Europe, Asia, Africa, and South America. Research predominantly focused on North American and European libraries, with studies revealing that 85% and 73% of academic libraries, respectively, actively used social media for user engagement and communication (Chugh & Ruhi, 2018; Trucks, 2019). In Europe, over 60% of academic libraries in the UK and Germany utilized social media primarily for marketing (Jones & Harvey, 2019).

In contrast, social media adoption varies significantly in Asia and Africa, where libraries face challenges due to digital transformation barriers, such as insufficient infrastructure. For example, 70% of libraries in Southern Africa recognized the need for social media policies (Ndlangamandla & Chisenga, 2023), and infrastructure issues were noted in Ethiopia (Akeriwa et al., 2014). The review underscores that North American libraries lead in social media adoption due to better infrastructure, while African and Asian libraries encounter notable challenges.

3.2 Effectiveness of Social Media Integration in Library Services

The systematic review provides strong evidence that social media significantly enhances user engagement and service delivery in academic libraries. Chiparausha et al. (2024) highlight its role in improving communication and raising awareness of library resources, leading to greater accessibility and interaction. Social media also serves as an effective marketing tool, with 57% of respondents endorsing it for updates and community building (Karanja, 2018). Libraries actively leverage platforms like WhatsApp, Facebook, Twitter, and YouTube to expand their reach and engagement, ensuring broader access to library services (Oloo & Luyombya, 2023; Kizito et al., 2023). Dhanavandan (2023) emphasizes that active social media use increases participation and user satisfaction by providing real-time interactions and service updates. Libraries utilizing these platforms report higher attendance at events and increased patron interaction. Additionally, social media facilitates immediate user feedback, allowing libraries to tailor services based on user needs, thereby driving continuous service improvements. Furthermore, its cost-effectiveness makes it a sustainable tool for fostering stronger relationships and loyalty among library users.

3.3 Challenges and Barriers in Implementing Social Media Strategies

The review identified key challenges in integrating social media in academic libraries, including lack of staff training, poor infrastructure, and policy gaps (Karanja, 2018; Ezeani & Igwesi, 2012). Limited staff expertise and outdated infrastructure hinder adoption, particularly in developing regions (Mabweazara & Zinn, 2016; Chu & Du, 2013). Institutional support is essential-libraries with clear policies and management teams achieve higher engagement (Chiparausha & Chigwada, 2019), while those lacking strategic planning face inconsistent use (Bhardwaj & Jain, 2016). Addressing these issues through training, infrastructure investment, and policy development is crucial for sustainable social media integration.

3.4 Strategies for Enhancing User Engagement through Social Media

The systematic review revealed several effective strategies for enhancing user engagement through social media in academic libraries. Regular promotions and updates are essential for keeping users informed about new resources and services, fostering ongoing engagement (Howard et al., 2018). Similarly, Karanja (2018) opines that training library staff in social media best practices significantly boosts user interaction. The adoption of mobile applications and WhatsApp-based services facilitates instant communication, making digital collections more accessible (Singh & Madhusudhan, 2023). Zubeda (2018) opines those collaborative initiatives, such as partnerships with other libraries and academic departments, broaden the reach of social media campaigns and create more engagement opportunities.

A comprehensive approach, including regular updates, staff training, mobile accessibility, collaboration, and analytics, is crucial for maximizing library user engagement. In this regard, the integration of AI-driven social

media strategies has been shown to significantly enhance academic library engagement and outreach. Machine learning facilitates targeted content creation by analysing user data (Gajbhiye, 2024), while AI-powered chatbots improve user satisfaction through real-time assistance (Kasaraneni, 2022). Moreover, findings indicate that AI-driven tools contribute to the optimization of library operations by enabling automation, predictive analytics, and personalized services. For instance, automated cataloguing enhances metadata accuracy and improves resource allocation (Lee et al., 2022). Additionally, predictive analytics play a pivotal role in aligning acquisitions with user needs, while AI-driven recommendations foster increased engagement by offering tailored content suggestions (Johnson & Tan, 2023; Nguyen et al., 2022).

3.5 Impact of Social Media on Service Delivery in Libraries

This review found that social media enhances library service delivery by improving advisory services, event dissemination, and digital reference support (King, 2015; Lessick, 2015; Burkhardt, 2010). Its impact is evident in increased accessibility, faster communication, and greater user engagement. Social media also strengthens information literacy training by streamlining scheduling, communication, and follow-ups (Izuagbe et al., 2019; Maisiri et al., 2013). Real-time interaction and targeted engagement strategies boost user participation and resource utilization (Howard et al., 2018). Libraries that adopt structured social media strategies report a 40% increase in user engagement and improved collaboration (Chiparausha & Chigwada, 2019; Kumar & Kumar, 2024). In contrast, unstructured approaches result in inconsistent outcomes, underscoring the need for staff training, strong ICT infrastructure, and clear engagement models to maximize impact (Bhardwaj & Jain, 2016).

4. Discussion

4.1 Summary of Key Findings

The review showed social media's role in enhancing communication and engagement in academic libraries, particularly in North America and Europe, where platforms like Facebook, X, and LinkedIn dominate (Chugh & Ruhi, 2018; Trucks, 2019). However, while these platforms facilitate outreach and service delivery, their long-term impact on research support remains underexplored. Libraries in Africa and Asia face infrastructural limitations and digital literacy challenges, hindering adoption (Ndlangamandla & Chisenga, 2023; Akeriwa et al., 2014). While studies emphasize social media as a cost-effective tool, findings rely heavily on self-reported data, often overlooking long-term shifts in user behaviour. Furthermore, digital divides exclude marginalized user groups, raising concerns about equitable access to library services. Although studies link active social media use to increased event attendance and resource utilization (Dhanavandan, 2023), causality remains unclear, with factors such as funding and institutional priorities potentially driving engagement. The definition of "engagement" is also inconsistent, often measured by superficial metrics (Kumar & Kumar, 2024), leaving its academic impact uncertain. Barriers such as inadequate staff training, weak institutional support, and fragmented policies limit effective implementation (Ezeani & Igwesi, 2012; Karanja, 2018). While calls for sustained investment and collaboration with academic departments persist (Howard et al., 2018; Chiparausha et al., 2024), studies lack empirical evidence on their effectiveness in enhancing research support. Disparities between well-funded and resource-constrained libraries indicate that social media alone cannot bridge systemic inequalities in information access (Ndlangamandla & Chisenga, 2023).

4.2 Interpretation of Results

The review underscores the increasing role of social media in academic libraries, particularly in North America and Europe, where platforms like Facebook and X drive engagement (Chugh & Ruhi, 2018; Trucks, 2019). In contrast, African and Asian libraries face ICT limitations, policy gaps, and digital literacy challenges, hindering widespread adoption (Ndlangamandla & Chisenga, 2023; Karanja, 2018). While 85% of North American libraries actively use social media, only 50% in sub-Saharan Africa do so due to infrastructural constraints (Trucks, 2019).

Social media enhances library outreach by improving communication and increasing awareness of library resources (Chiparausha & Chigwada, 2019). Platforms like WhatsApp and YouTube facilitate multimedia engagement through live sessions and interactive Q&As (Kizito et al., 2023). Libraries with structured strategies report a 40% increase in participation (Kumar & Kumar, 2024). However, challenges such as inadequate staff

training, unclear policies, and limited institutional support hinder effective integration (Ezeani & Igwesi, 2012). Addressing these barriers through continuous training, mobile accessibility, and academic collaborations (Howard et al., 2018) is crucial for maximizing social media's potential in academic libraries.

4.3 Implications for Librarians and Higher Education Institutions

The review highlights key implications for librarians and higher education institutions. Librarians should use social media to engage faculty, staff, and students while promoting library services. Social media fosters patron relationships and improves service delivery. However, many librarians lack training, making digital literacy programs essential. Libraries should also adopt clear social media policies for ethical engagement, especially in developing regions. Institutions must invest in ICT infrastructure and internet bandwidth to support effective social media use. Collaborative efforts between libraries and academic departments can further expand outreach and student engagement.

4.4 Limitations of the Review

Despite the comprehensive nature of this review, several limitations must be acknowledged. The reliance on cross-sectional surveys restricts insights into the long-term impact of social media on user engagement in academic libraries. The exclusion of grey literature may introduce publication bias by overlooking valuable insights from practitioner reports, while geographical bias is evident as most studies concentrate on North America, Europe, and select regions in Africa and Asia, neglecting perspectives from Latin America and the Middle East. Variations in research methodologies complicate direct comparisons, and the lack of experimental and theoretical studies limits a deeper understanding of adoption factors.

4.5 Directions for Future Research

Future research should prioritize longitudinal studies to assess the long-term effects of social media on user engagement and service delivery in academic libraries. It should also investigate institutional factors, such as leadership support and governance frameworks, to better understand their influence on social media adoption. Furthermore, research should explore how sustained social media use impacts research support, knowledge dissemination, and long-term institutional collaboration, as current studies largely focus on short-term engagement metrics.

5. Conclusion and Recommendations

This systematic review illustrates the transformative impact of social media on academic library services. The integration of platforms such as Facebook, Twitter, and Instagram have proven essential for enhancing user engagement, communication, and overall service delivery within higher education institutions (Chugh & Ruhi, 2018; Chiparasha & Chigwada, 2019). Karanja (2018) notes that libraries that effectively leverage social media can foster real-time interactions, promote library resources, and build strong connections with users.

The findings indicate that while many academic libraries in North America and Europe actively utilize social media, libraries in developing regions face significant challenges, including inadequate infrastructure, limited staff training, and a lack of formal policies (Ndlangamandla & Chisenga, 2023).

5.1 Recommendations

To enhance the integration of social media in academic libraries, several key recommendations are proposed. Cowell (2017) emphasizes the importance of establishing clear social media policies to guide responsible usage and ensure ethical engagement with users. Additionally, investing in ongoing digital literacy training for staff will equip librarians with the necessary skills to maximize user engagement (Karanja, 2018; Mabweazara & Zinn, 2016). Collaborative initiatives with academic departments can further expand outreach efforts and strengthen connections with the academic community (Mabweazara & Zinn, 2016; Izuagbe et al., 2019).

5.2 Contributions to Literature

This study contributes to library and information science by addressing the underexplored role of social media in academic libraries. While its impact has been studied in other contexts, its influence on library services remains underexamined. This research fills this gap by analysing social media's role in communication, engagement, and service delivery. It synthesizes findings from multiple regions, emphasizing the need for

targeted training, resource allocation, and structured implementation (Chiparausha & Chigwada, 2019). Additionally, it offers actionable strategies for sustainable social media integration, paving the way for future research.

Ethical Considerations

This study did not require ethical clearance since it is a systematic review that synthesizes existing literature and does not involve human participants or direct data collection.

AI Declaration

This study acknowledges the use of AI tools for assistance in language refinement, grammar checks, and structuring of content.

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Linked Resources in Debates About the German Network Enforcement Act on Twitter

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Abstract: This paper analyses linked resources in debates about the German Network Enforcement Act (NetzDG) on Twitter. Public discourse about this law has been contentious in Germany and abroad with opponents of it cautioning against overblocking and threats of censorship, while supporters highlighted the necessity to hold platforms accountable for illegal content to protect minorities and eventually the democratic public sphere. The conversation on Twitter provides valuable insights into the stakeholders, topics, and communicative practices that shaped this discussion about platform regulation and free speech, which has substantially impacted the European digital policy agenda, eventually culminating in the Digital Services Act (DSA). We first collected tweets mentioning NetzDG and produced a network graph to visualise the interaction between accounts that took part in these debates based on their retweet activity. Then, we extracted every URL inserted in the tweets collected to understand what resources those accounts refer to. Findings revealed that accounts linked to the German right-wing party Alternative für Deutschland (AfD) tend to share links to so-called alternative online media sites and reference content of AfD politicians on other social media platforms (Eg.: Youtube and Facebook). The cluster composed of liberal tech, media, and legal experts, however, tends to reference specialized IT blogs and websites, while the cluster composed of accounts related to the German liberal Party (FDP) primarily linked content of the legacy media. These findings allow us to identify the informational resources and media that have had the greatest impact on the NetzDG discussion on Twitter through their relevance for the groups represented by the individual network clusters. Furthermore, they shed light on the ways in which this highly technical and juridical expert discourse concerning the regulation of speech online is translated for a discussion in broader society.

Keywords: Platform Regulation, Free Speech, Hate Speech, NetzDG, Social Network Analysis, URL Sharing

1. Introduction

This paper presents the results of an analysis of URLs (Uniform Resource Locators) shared on Twitter in conversations concerning Germany's Network Enforcement Act (NetzDG), a law focused on combating hate speech online (Eifert & Gostomzyk 2018, Gorwa 2024). Due to its controversial nature, NetzDG is a highly debated topic, with considerable representation on social media, such as Twitter. At stake in this discourse about platform regulation and free speech is the development of the digital public sphere and the ways in which speech rights and restrictions online need to be balanced in order to best serve the enhancement and protection of democracy (Haupt 2024). This paper is part of a wider study whose main objective is to understand how Twitter accounts interact around this topic, what kind of external resources (news articles, videos, etc.) they share and how they share them, as well as the nature of the discourses that circulate within those networks. For this specific paper, we look in particular at the external content shared on the platform to understand what people reference when debating internet regulations and free speech and how those references differ between clusters within the network.

First, we produced network graphs on the dataset to explore the connections and interactions between accounts, to understand how information spreads in the network, to identify particularly influential accounts, and to uncover the structure of the online community. The data was obtained on November 14, 2022, using the Twitter API. We configured our queries to extract all tweets posted between December 16, 2016, and November 13, 2022, that contained any of the following keywords: "NetzDG," "Netzwerkdurchsetzungsgesetz," "Facebook-Gesetz," "Network Enforcement Act," and "Gesetz zur Verbesserung der Rechtsdurchsetzung in sozialen Netzwerken" in order to capture the discourse about the law on Twitter. In total, our dataset consists of 391,548 tweets from 83,229 distinct accounts. Figure 1, below, was produced with Gephi (Bastian et al., 2009) and shows the network representation of the data based on retweets.

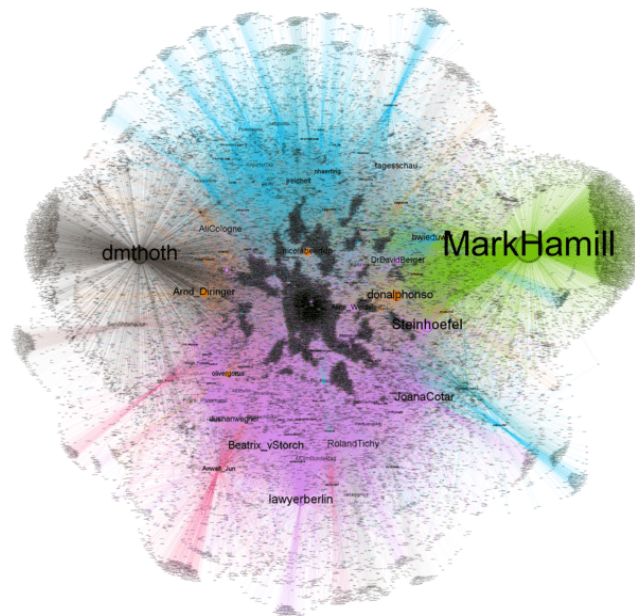


Figure 1: Network representation of the data based on retweets

In this network, the nodes are Twitter accounts, and the edges are the interactions between them, in this case the retweets. Given the vast size of the data, visualizing the entire network presented significant challenges in terms of both processing power and interpretability. Large-scale networks with tens of thousands of nodes can be overwhelming, making it difficult to recognize meaningful patterns or insights. Additionally, many users in the network with very low numbers of retweets may have minimal influence only. These accounts rather add noise than value to the analysis. To address these challenges, we filtered the data to focus on the TOP 100 most influential accounts — those who were retweeted by the highest number of distinct users. This approach enhances computational performance and processing time, especially for large networks with thousands of nodes, which can be difficult to visualize without filtering, and can help to identify influential actors more efficiently (Boccaletti et al., 2006; Bruns, 2011). In sequence, we clustered the network. Typically, users who are closely connected through frequent retweet interactions tend to cluster together, forming tightly-knit groups or communities within the network (Himmelboim et al., 2013; Myers et al., 2014). This was calculated by finding the Modularity¹ in order to help identify groups that are more connected to each other than to the rest of the network. For visualization, we adjusted the node colours according to their community and the node sizes according to their degree of influence in the network. The bigger the node, the greater the number of distinct accounts within the network that have retweeted the corresponding Twitter account's NetzDG-related tweets.

In network analysis of social media, the frequency with which users are retweeted can be a significant indicator of their influence and relevance within the network (Cha et al., 2010). When accounts are frequently retweeted, it means that their content resonates with others, prompting further dissemination². This amplification effect suggests that the account has a strong voice in the discourse, effectively shaping opinions, spreading information, or reinforcing particular messages (Cha et al., 2010). In essence, Twitter accounts that are frequently retweeted can be seen as central figures in shaping conversations and trends on the social media platform and thereby as important actors in an online space that is highly relevant to the public discourse on matters of political and societal concern. Accordingly, we interpret the biggest nodes in our network as particularly important stakeholders within the discourse about NetzDG on Twitter and focus our analysis on these accounts.

¹ Modularity in Gephi is calculated by an algorithm that identifies internal – or community – structure (Blondel et al. 2008), producing a visualization of sub-networks within the network.

² Previous work on reasons why people retweet has shown that users often believe that those contents might interest their followers, with private benefits, such as increasing the likelihood of being seen and also retweeted, being central to their motivation (Recuero, Araujo & Zago, 2021, p. 311).

2. Methodology

The retweet network as depicted in Figure 1 encompasses 40.131 accounts (48% of the accounts collected to create the overall dataset). Creating a network visualization based on retweets means that part of the dataset will not be included since we decided to consider only those accounts that received a certain number of retweets. Therefore, a network graph like this also works as a filter, which has generated a sub-dataset to be used for this study. The following Table 1 shows data distribution across clusters.

Table 1: Percentage (and number) of accounts that compose each of the network's clusters.

Clusters	Purple	Green	Blue	Orange	Black	Red	Turquoise	Brown	Grey
<i>n</i> accounts	8,644	7,851	6,925	3,454	4,782	2,358	1,623	1,089	3,405
% of network	21.54%	19.56%	17.26%	8.61%	11.92%	5.88%	4.04%	2.71%	8.48%

We removed some clusters from further analysis due to their limited relevance for our research question. These included clusters green, black, and brown, which consisted of only a single prominent node. The Green Cluster is represented by the user @MarkHamill, a well-known Hollywood actor who tweeted twice about NetzDG and was retweeted often due to his large follower base. The Black Cluster by the user @dmthoth from Korea was omitted as well as the Brown Cluster, which is centred around the user @SenWhitehouse, a U.S. Senator from Rhode Island (Sheldon Whitehouse). Additionally, the grey clusters consist of smaller and less significant groups, resulting in being too small for detailed analysis and were therefore also removed.

The charts below show the distribution of accounts and retweets across clusters. These charts only include clusters that will be analysed in this study, namely purple, blue, orange, red, and turquoise.

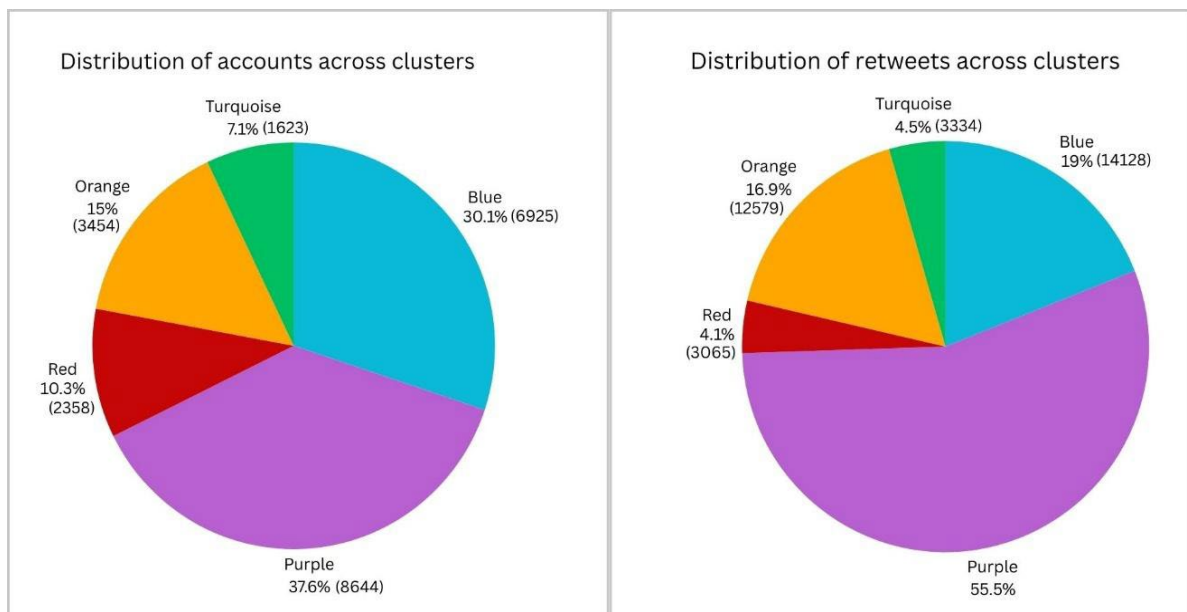


Figure 2: Distribution of accounts across clusters (lefthand side); and distribution of retweets across clusters (righthand side). Here, percentage is calculated considering only clusters purple, blue, orange, red and turquoise.

The purple cluster is the biggest cluster in our network, both with regards to the number of accounts that are part of this cluster (8644; 37.6% of the network) as well as in terms of the retweets that the tweets of these accounts have received (41304; 55.5% of the network). Our network analysis has shown that politicians and local political groups of the German right-wing party Alternative für Deutschland (Alternative for Germany, AfD) are predominantly part of this cluster. This impression of an AfD cluster is further underlined by the prevalence of

accounts of different so-called alternative media sites from the right-wing orbit.³ Roland Tichy (@RolandTichy) with his online magazine Tichys Einblick (@TichysEinblick) is among these accounts as well as David Berger (@DrDavidBerger) who runs the blog Philosophia Perennis (<https://philosophia-perennis.com/>). Furthermore, we find legal experts with close connections to these circles such as lawyers Joachim Steinhöfel (@Steinhoefel) and Markus Roscher (@lawyerberlin) occupying important positions in this cluster.

The blue cluster is the second biggest cluster in our network. It contains 6925 distinct accounts (30% of the network) and these accounts' tweets have been retweeted 14128 times, which accounts for 19% of the retweets of all clusters that we examine here. This cluster is categorized less by a clear political party-affiliation but revolves around a politically more diverse group of law, technology, and media experts. The accounts of journalists such as Hendrik Wieduwilt (@hwieduwilt), technology activists such as Markus Beckedahl (@netzpolitik), IT blogs and websites (@netzpolitik_org, @heiseonline)⁴, and legal experts (@nhaerting, @sas_assion) occupy important positions in the network and characterize this cluster.

The orange cluster, which lies at the centre of the network and is positioned between the blue and purple clusters, is the third biggest cluster. It contains 34354 distinct accounts (15% of the network) and these accounts have received 12579 retweets, which account for 16.9% of the retweets of all clusters. This cluster has a strong connection to the German liberal party, the Free Democratic Party (FDP). With Nicola Beer (@nicolabeerfdp), Christian Lindner (@c_lindner), the party's official account, @fdp, and Jimmy Schulz (@jimmyschulz), four of the TOP 13 accounts are related to the German liberals. Aside from these political stakeholders, we find accounts of journalists and media institutions in the cluster such as blogger and journalist Rainer Meyer, aka Don Alphonso (@_donalphonso) as well as a legal expert, namely the lawyer and legal scholar Arnd Diringer (@Arnd_Diringer).

Having created the sub-dataset based on the retweet interactions, as well as having identified the clusters within the network, we started the text processing step to collect the shared URLs. The objective was to examine the websites that have been referenced in tweets via hyperlinks to identify the informational resources that have been spread within the individual clusters. This procedure creates an opportunity to describe the individual clusters in more detail, to analyse the impact of relevant stakeholders on the discourse, and to determine the media that have been shared in the Twitter conversation about NetzDG.

The URLs in the tweets of our dataset point out sources that are both external (linking to content on websites outside Twitter) and internal to Twitter (linking to content on the platform). These hyperlinks are important pieces of information as users/accounts often employ them either to support or refute arguments or simply to make content visible to a wider audience – information spreading (Holton et. al., 2014). By analysing news sharing on Twitter, in particular, Chadwick, Vaccari, & O'Loughlin (2018) concluded that the main motivations behind the act of posting links to news articles are: (1) to inform others, (2) to persuade others; and (3) to find out other people's opinions.

Using Python code, we identified all tweets containing a URL in the text. This corresponds with 49% (193,413) of the entire dataset. When shared on Twitter, URLs are shortened by the platform, making them look like '<https://t.co/xxxx>'. To find the original URL that was posted by each user, we made use of a Python library called 'Requests'⁵, which facilitates sending and receiving data from websites. After obtaining the list of URLs included in the tweets, we created a list of the most shared domains, simply by cleaning parts of the URLs. Both the original URLs and the domains were assigned to the users included in the clusters analysed in this study. In total, 3114 tweets posted by accounts labelled as belonging to one of our clusters included a URL.

³ "Alternative media" (German: Alternativmedien) is a politically charged and contested term. The scholarly discourse about it reflects a noticeable shift from its earlier application to primarily politically left-leaning media and counter publics to its more current use regarding right-wing online media (Zarbock, 2024) as well as calls for replacing the term altogether (Knast 2024). Following Schwaiger (2022) and Knast (2024), who argue that both left- and right-wing alternative media share crucial similarities beside existing differences, the authors decided to stick to the term. We are applying it here to right-wing online media such as Philosophia Perennis and particularly Tichys Einblick, which has been categorized as a Type 1 alternative medium by Schwaiger. Such alternative media engage in the quest of opposing mainstream media content and politics assuming that they spread "deliberately false reports or lies that need to be uncovered" (Schwaiger 2022, p. 153-154).

⁴ Following Donges & Gerner (2019), the news websites netzpolitik.org and heise online can be classified as "specialized media" (spezialisierte Fachmedien). Their thematic focus is on Internet policy as well as on topics regarding information and telecommunications technology (heise group 2025, netzpolitik.org 2025). We categorize and call these media as well as other websites in our dataset that concentrate on issues at the intersection of technology and society as IT blogs and websites.

⁵ Documentation can be found on <https://pypi.org/project/requests/>.

3. URL Analysis

In all individual clusters, *twitter.com* is the domain that has been posted most often. It is not surprising that the platform on which the conversation is happening is a frequent point of reference. Posting the URL of a tweet on Twitter (the process we described as internal linking above) is more or less equivalent to retweeting the post in question. As concluded by Metaxas et al. (2021), retweeting indicates not only interest in a given message but also trust in both the message and its author, as well as agreement with the content of the message. When made through URL sharing, it highlights the account from which the original tweet is coming from and spreads the tweet's content to the posting account's own network of followers, thereby drawing attention to this content.

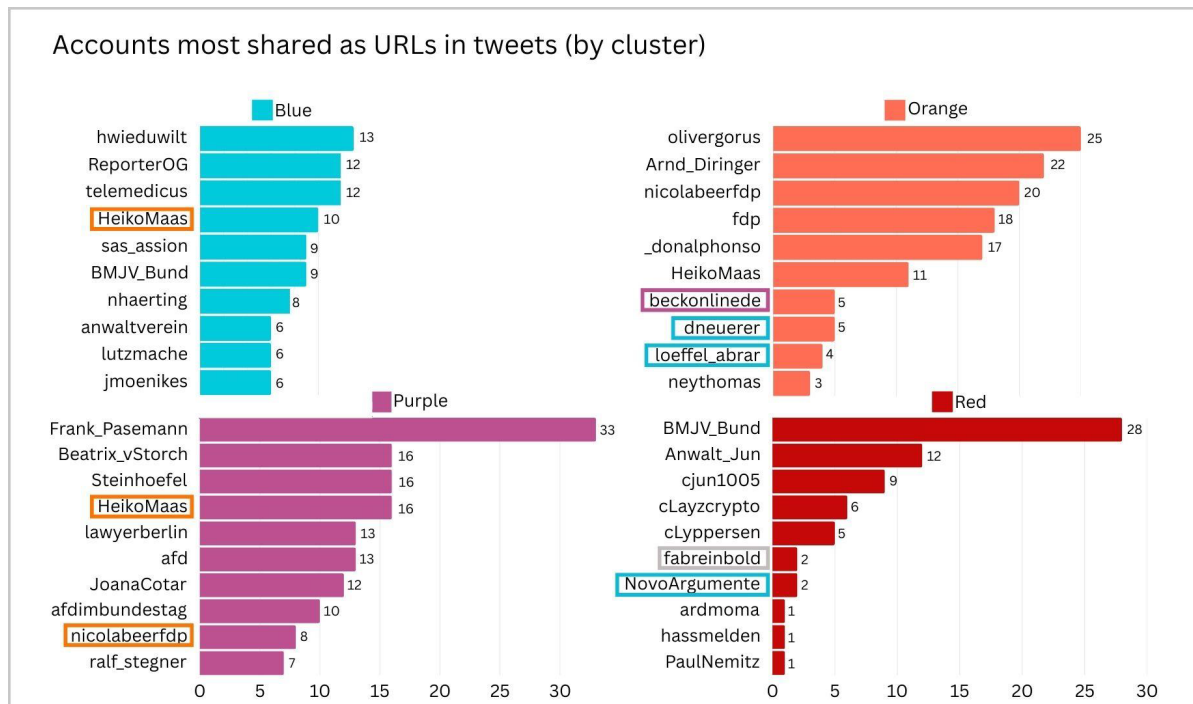


Figure 3: Chart shows TOP 10 accounts most shared as URLs in tweets for clusters blue, orange, purple and red. Accounts whose original cluster is different from the cluster where they have been shared are marked by a rectangle in the colour of their original cluster.

The chart in Figure 3 provides a summary of the Twitter accounts that have been referenced most often by tweeting their URLs and it is arranged by each individual cluster. This overview highlights that the clusters generally reference accounts in this way that are part of their own cluster. It therefore illustrates the point that sharing tweets in the form of a URL can be interpreted as a different form of retweeting. The only major exception to this rule is the linking of the account of the sitting minister of justice, Heiko Mass. While his account (@HeikoMaas) has been retweeted relatively seldom by the blue and purple clusters, we find it referenced by URL fairly often in both of these clusters. Additionally, we find @HeikoMaas linked by URL in the orange cluster.

In the upcoming domain analysis, we will focus on links that point to websites outside of Twitter to examine which sites beyond the Twitter-verse were deemed to be useful resources or relevant content for the individual clusters in the context of the NetzDG discourse.

3.1 URLs In Purple Cluster

The linking activity in the purple cluster strongly references the alternative media sites Tichys Einblick, Tichyseinblick.de (ranked on top after Twitter.com) and Philosophia Perennis, Philosophia-perennis.com (ranked third). These media were already very present in the retweet data analysis of this cluster, but when it comes to posted URLs these websites clearly dominate the ranking. The third site of this kind, Dushanwegner.com is also highly ranked at the 5th place, but received fewer postings than the two aforementioned sites, as we can see in Figure 4.

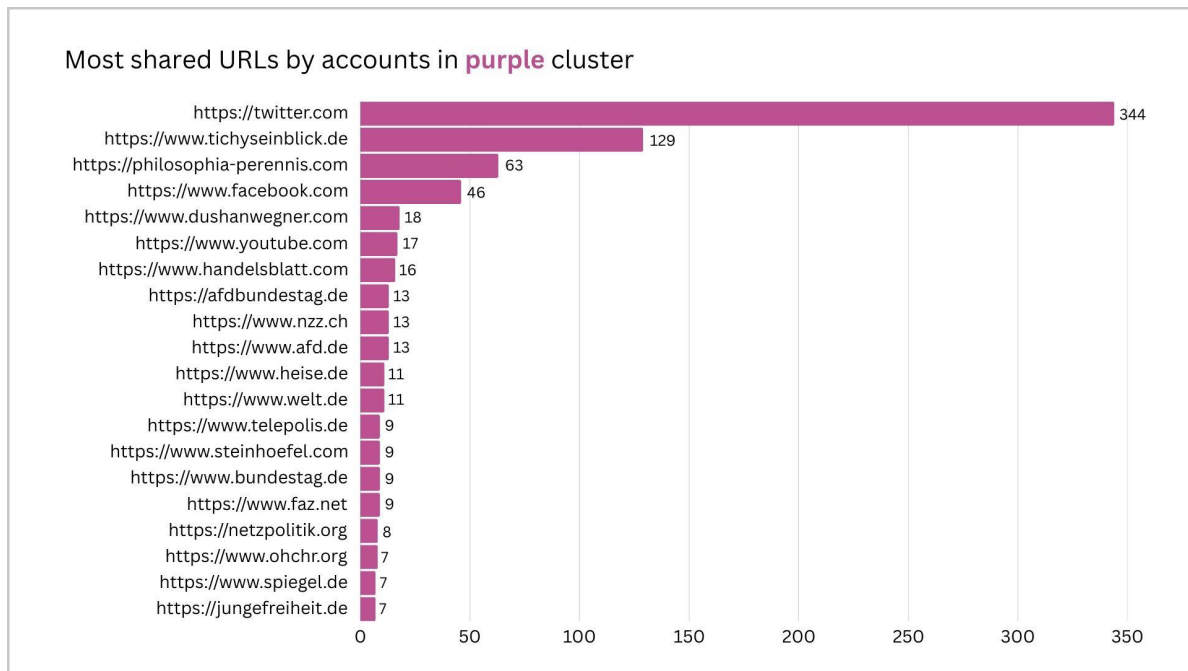


Figure 4: Chart shows TOP 20 most shared URLs by accounts in purple cluster.

Two platforms that were not part of the retweet data analysis figure prominently within the URL postings of the purple cluster. Facebook.com is ranked at the 4th place, while Youtube.com is positioned at 6th. This is particularly noteworthy since neither of the platforms plays a prominent role in the URL ranking of the blue or orange clusters. While the blue cluster has none of them linked in the TOP 20, Youtube.com is linked only a few times and ranked at 19th place in the orange cluster.

Tables 2 and 3 provide an overview over the Youtube channels and Facebook accounts that were referenced in these URLs by listing the TOP 5 references to each platform. We can see that the Youtube channels pointed to belong to prominent accounts of the purple cluster. While Markus Roscher is present on Twitter as @lawyerberlin and a key node in our network analysis of the cluster, the other references also go out to well-known persona or entities from the purple cluster such as Joachim Steinhöfel (@Steinhofel), the AfD parliamentary group (@AfDimBundestag) or the Youtube channel of Tichys Einblick (@TychysEinblick).

3.1.1 Most Shared Youtube Links by Accounts in Purple Cluster

Table 2: Table shows the most shared YouTube links by accounts in the purple cluster, followed by the number of times the specific video was mentioned and by which channel. Information on the number of subscribers the channel has, and video views was collected on the 29th November 2024. Videos' publishing date is also included.

	URL	Mentions	Youtube channel	Subscribers	Views	Publishing date
1	Youtube link 1	4	Markus Roscher	336	7,9k	16.05.2017
2	Youtube link 2	2	Steinhofel	22,7k	28k	12.12.2017
3	Youtube link 3	1	AfD-Fraktion Bundestag	470k	3k	13.12.2019
4	Youtube link 4	1	AfD-Fraktion Bundestag	470k	29k	16.01.2020
5	Youtube link 5	1	TichysEinblick	236	110k	01.03.2020

With regard to Facebook, table 3 shows a strong linking of the accounts of AfD politicians, especially the one of Alice Weidel (present in our Twitter network data as @Alice_Weidel). These results suggest that references to the platforms Youtube and Facebook in the form of tweeted URLs mostly spread content of people and

institutions that are key nodes of the purple retweet cluster. It is another way of drawing attention to their content hosted on other platforms than Twitter.

3.1.2 Most Shared Facebook Links by Accounts in Purple Cluster

Table 3: Table shows the most shared Facebook links (posts) by accounts in purple cluster, followed by the number of times they have been mentioned and the author of the post (user). Information on the number of reactions, comments and shares the post received was collected on the 29th November 2024. Post publishing date is also included.

	URL	Mentions	User	Reactions	Comments	Shared	Publishing date
1	Facebook link 1	6	Alice Weidel	3,4k	447	1,3k	06.11.2018
2	Facebook link 2	4	Alice Weidel	2,9k	529	891	10.11.2017
3	Facebook link 3	3	Alice Weidel	4,9k	1,1k	2k	17.10.2018
4	Facebook link 4	3	AfD_Stuttgart	310	58	540	16.06.2017
5	Facebook link 5	2	Alice Weidel	952	76	490	19.06.2017

Turning back to the URL list of the purple cluster (Figure 4), we can see that different legacy media are positioned further down the list with the business journal Handelsblatt, Handelsblatt.com, ranked at 7th place, the Neue Zürcher Zeitung, Nzz.ch (9th), Die Welt, welt.de (12th), the Frankfurter Allgemeine Zeitung, Faz.net (16th), and der Spiegel, Spiegel.de (19th) following. As with other clusters, we find websites of people and institutions that are part of the retweet network referenced through hyperlinks here as well. The AfD party is present with the website Afdbundestag.de (8th) and Afd.de (10th). Additionally, the website of lawyer Joachim Steinhöfel, Steinhofel.com (14th) is linked fairly frequently. Information providers such as IT blogs and websites are present with Heise.de (11th), the online magazine Telepolis.de (13th) and Netzpolitik.org (17th), and so is the official account of the German parliament Bundestag.de (15th).

The URL analysis presented here therefore underlines the outstanding importance of the alternative media sites Tichys Einblick and Philosophia Perennis for the discourse within the purple cluster. These sites are by far the most referenced websites and are therefore most likely to be considered relevant informational resources by the interconnected Twitter users in the cluster. Further analyses of the AfD's Internet policy positions, discourses, and ideators may therefore turn attention to these media. The website by Dushan Wegner is referenced frequently as well and so are websites of the party Alternative für Deutschland, which confirms the political orientation ascribed to this cluster in our retweet analysis. Due to the examination of the posted URLs, we are able to identify references to websites that did not come up as Twitter accounts in our retweet analysis. The most important examples in this regard are postings of links to the platforms Facebook.com and Youtube.com. These platforms only play minor roles in the blue and orange clusters but are referenced often in the purple cluster drawing attention to content by accounts of this cluster that is hosted on other platforms.

3.2 URLs In Blue Cluster

A closer look at the posted domains within the blue cluster discloses that IT blogs and websites are referenced most often. The domain Netzpolitik.org ranks at the top after Twitter.com with 136 postings. It is followed by Heise.de (130 postings) and then Golem.de at third place (59 postings). These results emphasize the relevance of the content and the insights produced by IT blogs and websites and their pundits for the discourse on Twitter. The retweet analysis showed that the accounts of relevant IT blogs and websites were retweeted fairly often and had them ranked in the higher mid-tier range on 6th (Heise.de) and 8th (Netzpolitik.org) place as well as on 17th place (Golem.de) of the blue cluster ranking. However, the URL analysis now discloses that the mentioned IT blogs and websites are ranked at the very top when it comes to domains being shared in the blue cluster via hyperlinks. They should therefore be understood as extremely relevant sources of information for the conversation in this cluster.

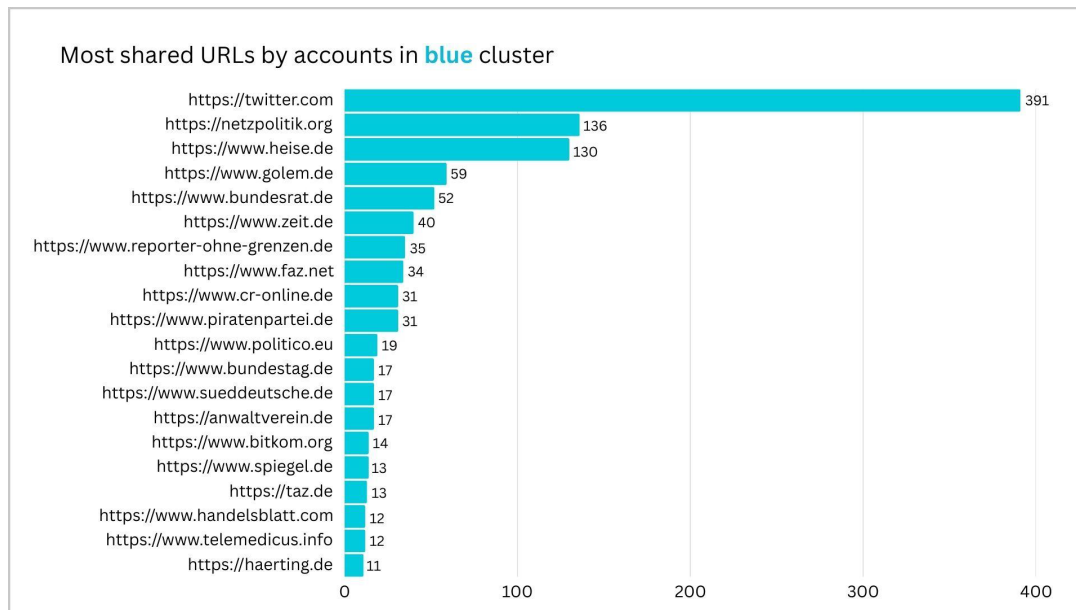


Figure 5: Chart shows top 20 most shared URLs by accounts in blue cluster.

Legacy media such as Zeit.de (6th place), Faz.net (8th place), Politico.edu (11th place), Sueddeutsche.de (13th place), Spiegel.de (16th place), taz.de (17th place), and Handelsblatt.com (18th place) also rank in the TOP 20 and partly at high places. However, they are neither ranked as high as the IT blogs and websites, nor do their number of postings come anywhere close to those of Netzpolitik.org or Heise.de. Considering the fact that the accounts of these legacy media are for the most part also less often retweeted than the IT blogs and websites, as the retweet analysis has shown, clearly stresses the significance of the latter for the discussion in the blue cluster. For the discourse on Twitter, these websites seem to be much more relevant than legacy media, most likely because of their particular thematic focus on tech topics and the concomitant expertise.

Furthermore, we find the websites of the Bundesrat, the Federal Council of Germany, (Bundesrat.de) ranked at 5th place and the site of the German parliament (Bundestag.de) at 12th. Both websites provided information regarding discussion sessions concerning the NetzDG law and other updates on the legislative process and were therefore referenced and linked often. These two institutions only played a minor role in the retweet data but became visible through the analysis of posted domains. The same is also true for the media websites of Die Zeit, Der Spiegel, and taz as well as for the site of Bitkom (bitkom.org), the association of digital business in Germany. The Twitter accounts of these institutions did not make it into the TOP 20 of the retweet data in the blue cluster, but they are present through the posted URLs as this examination shows.

Especially remarkable is the high presence of thematic portals from the juridical realm. With the IT law portal cr-online.de (9th place), the website of the German Bar Association, Anwaltsverein.de (14th place), the information law project Telemedicus.info (19th place), and the website of Nico Härting's law firm, Haerting.de (20th place), we find four of these very specialized law websites and institutions among the TOP 20 most often posted domains. These websites and projects are run by lawyers and legal scholars and provide highly specialized information and discourse on legal matters on their platforms. When looking at the posted URLs in the blue cluster, the importance of IT blogs and websites as well as of specialized legal input through juridical expert portals stands out. Together with the information collected in our retweet analysis, this data reveals that legal, tech, and media experts play a crucial role for the conversation in this cluster.

3.3 URLs In Orange Cluster

The orange cluster displays a clear tendency to the linking of legacy media. Aside from Twitter.com, we find the domains of the business journal Handelsblatt (2nd) and the Frankfurter Allgemeine Zeitung (3rd) at the very top. These media are followed by Welt.de (5th), Der Spiegel (7th), Der Tagesspiegel (9th), and Zeit.de (13th), but also the German television news broadcast Tagesschau, Tagesschau.de (12th). This focus on content of legacy media clearly stands out in comparison to the purple and blue clusters.

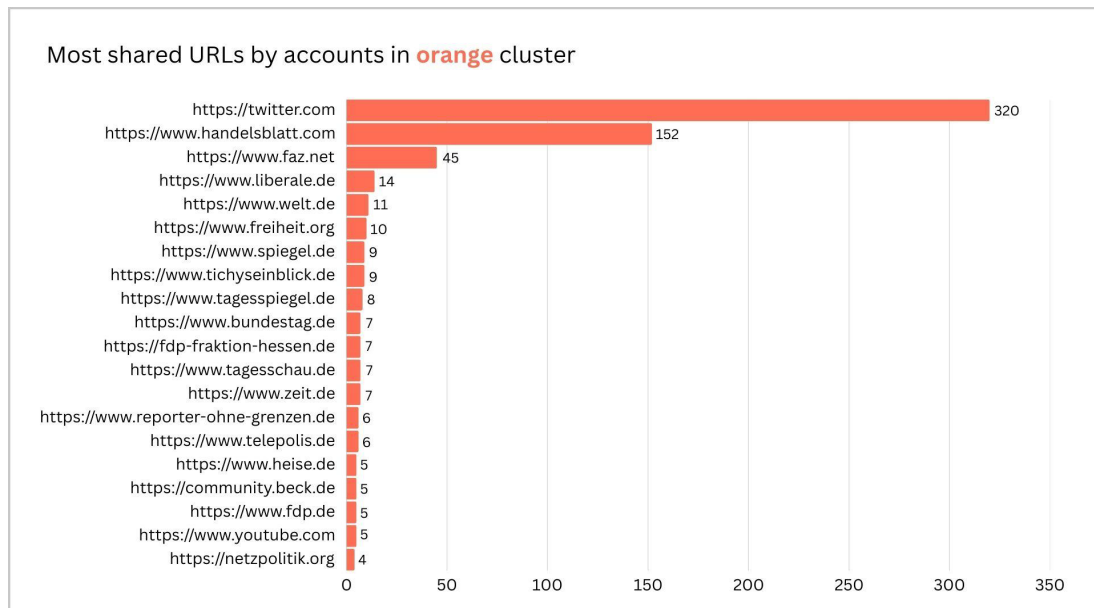


Figure 6: Chart shows TOP 20 most shared URLs by accounts in orange cluster.

Several websites connected to the German Liberal Party, FDP, figure prominently in the ranking as well: *Liberal.de* (4th) and the website of the Friedrich Naumann Foundation, which is associated with the FDP, *Freiheit.de* (6th), the regional FDP group from Hessen, *Fdp-franktion-hessen.de* (11th), as well as the official party website, *Fdp.de* (18th) are to be mentioned here. In this respect, the URL analysis clearly confirms the political orientation of the orange cluster towards the German liberals.

Furthermore, it is notable that the alternative media website *Tichys Einblick*, which figures so prominently in the purple cluster and can be seen as closely related to AfD positions and topics, also appears within the ranking of the orange cluster. It is ranked fairly high at the 8th place which suggests that there is a certain overlap between positions in the orange and purple clusters. This conclusion can also be drawn by looking at the distribution of the two clusters in the overall network, in which the orange cluster is positioned between blue and purple and seems to have some overlap with both clusters. A mix of other websites play a minor role in this ranking such as IT blogs and websites with *Telepolis* (15th), *Heise.de* (16th), and *Netzpolitik.org* (20th), or the websites of *Reporter ohne Grenzen* (Reporters without Borders, 14th) and *Youtube.com* (19th).

In terms of the orange cluster, the URL analysis discloses a clear focus on the linking of content from legacy media institutions. This separates the cluster from the other big clusters, blue and purple, with their preference for linking content from alternative or specifically tech and law related online media. Furthermore, the tendency towards sharing content related to the political orientation of the German liberal party, FDP, confirmed the cluster's political bias already established in our retweet analysis.

The red and turquoise clusters are too small and posted too few links to allow for a meaningful description and comparison with the bigger clusters discussed here.

4. Discussion And Limitations

The URL analysis presented in this paper confirms the classification of the individual clusters as generated in our network analysis. We found that accounts within the distinct clusters post hyperlinks that reference media and accounts that have been associated with the respective clusters based on the interpretation of the accounts' retweet behaviour. This concerns both the linking of sources internal (Twitter accounts) and external to Twitter (websites beyond the Twitter-verse). The URL analysis also identified clear differences in media use and the spreading of informational resources between the clusters and therefore confirmed their distinctness from one another. This particularly concerns the websites that are most often linked in the individual clusters while there is some overlap between the clusters regarding resources that are less often linked.

With regard to the purple cluster, the linked websites clearly highlight a close connection to the German AfD party and their sympathizers. Twitter accounts of AfD politicians are often linked by URL in this cluster and their content hosted on other platforms such as Facebook and Youtube is often referenced in this way. The alternative

online media Tichys Einblick and Philosophia Perennis clearly stand out as the informational resources most often linked in this cluster. These findings suggest that these alternative media sites are hubs for the development, discussion, and dissemination of the AfD's Internet policy standpoints. Further research needs to confirm this assumption by analysing these websites' contents and their contribution to AfD positions and the right-wing discussion of Internet policy issues at large. The blue cluster contains a politically more diverse group of tech, law, and media experts. These results of our network analysis have been validated by the URLs that have been shared in this cluster. We find the well-informed and specialized IT blogs and websites of Netzpolitik.org, Heise.de, and Golem.de at the very top of the most linked websites in this cluster, while legacy media outlets are referenced much less frequently. Together with the remarkable presence of specialized juridical platforms, these results underline the relevance of expert knowledge for the composition of this cluster from which politicians and political parties are mostly absent. Our findings suggest that the impact of IT blogs and websites on matters of internet policy is remarkable since they appear to be important stakeholders that inform above all the expert discourse. The orange cluster is centred around accounts with an affiliation to the German Liberal Party and we also find their content being prominently posted via hyperlinks. Regarding the informational resources posted via URL, legacy media are most often shared, which constitutes a major difference to the practices we observed in both the blue and purple clusters.

Some URLs are, however, found across clusters. This is the case of IT blogs and websites Netzpolitik and Heise; the website of the German Parliament (Bundestag.de); and legacy media outlets like Der Spiegel, Frankfurter Allgemeine Zeitung, and the business journal Handelsblatt. Another legacy media outlet, Die Welt, has appeared among the top 20 most shared domains, but only in the Orange and Purple clusters. Die Welt is politically aligned with a more conservative position, which resonates with the other content shared by both clusters, as mentioned above. However, it remains less relevant than alternative media for the Purple cluster, and, despite ranking 5th in the Orange cluster, it was tweeted 13 times less frequently than Handelsblatt. This inter-cluster analysis highlights the importance of traditional media outlets as references for public debate, despite the confrontational attitude of far-right groups towards these organisations.

This study comes with several limitations. It aims to capture the discourse about the NetzDG law on Twitter by searching for the abovementioned search terms and compiling a tweet corpus for analysis based on these results. However, it is certainly possible that there are instances in which users discuss the implications of NetzDG without referring to the law with one of these terms. If this is the case, then we miss these contributions and cannot integrate them into our corpus for further examination. This issue is particularly relevant for Twitter discourses since replies to initial posts about NetzDG that do not mention any of our NetzDG search terms are not collected by our method. The same applies to threads that start with a reference to NetzDG in the first tweet but then do not mention it in the following ones anymore. These tweets are not collected and are therefore not part of the analysis. Additionally, we need to keep in mind that Twitter is not representative of the digital public sphere, much less so of the general public sphere. Twitter users are usually technophiles and both relatively well-informed and interested in topics relating to technology and platforms, at least much more so than the average of the population. Therefore, our sample refers to a rather specific section of the population. However, despite these limitations, our method captures a good part of the discourse about NetzDG on Twitter and can therefore provide valuable insights into the conversations of particularly interested and relevant stakeholders regarding the topic of platform regulation and freedom of speech.

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Co-creation and Social Media in Public Policy Development

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Abstract: Social Media has lately witnessed a roller coaster progress, from timidly connecting students to performing countless and chameleonic functions, tailored to the users' needs, to being a pipeline for vast amounts of data that provided support for infamously ran election campaigns. It has thus equally contributed to changes in social practices, redefining the public sphere, reshaping organizations, voicing the silent actors, while bridging societies to their public institutions and governments to people. Moreover, the current digital transformation is protecting people's rights, ensuring that all players act safely and responsibly, while technology unites people in a leveled up democratic process, to make change happen. In this context, a plethora of research speaks about raising awareness activities (Stoch& Roodt, 2016), highlighting that digital media can build social capital (Armstrong& Butcher, 2018) or generate collective action (Milan, 2015; Bennett & Segerberg, 2012) in organized "cloud protesting". More recent research concentrates on activism as a powerful tool for decolonisation (Garbe, 2024) or explores its utility and effectiveness to advance citizens' voices where the absence of strong institutions is a challenge in transitional democracies, (Saka & Ojo, 2024) through connective emotion. This helps participants digitally organize themselves, even though they sometimes lack an identifying cause (George & Leidner, 2019.) Concurrently, the present paper shows how social media mobilization backed by real public space initiatives and the power of social learning, social support and connectivity have been used in a co-creation campaign aimed at bringing change in Romanian public policy. The tested hypothesis was that social media provides an open, democratic and widely available arena for citizen discussions and involvement in developing public policies, with goal oriented results that serve the public interest, with legitimacy and triggered authority involvement. First we defined collaboration, the co-creation of public policies and their role in actively and directly involving citizens in the governing process, then reviewed literature on social media's role as a platform for open discussions, drafting and supporting public policies. To gather data and validate the hypothesis we used *Zellist Monitor* application, to track the activity of the campaign's Facebook page and analyzed *fan metrics*, *interaction index* and *responsivity*, *engagement* and *sentiment analysis*. Results have validated the hypothesis and thus they can further be used in future research, to identify which of the public values can garner enough support for co-creation to occur and thus lead to social change.

Keywords: Co-creation Campaign, Social Media, Public Policy, Digital Activism

1. Introduction

It is already a fact that the 21st century has brought more major problems than any other times before in our history: climate change, nuclear waste, terrorism, financial crises, etc. all of them apparently daunting. Moreover, all of them need policies to monitor, control, and guarantee society's welfare. On the plus side, citizens nowadays tend to be more careful with what life at large can offer, committed to protecting their rights and ensuring their well-being. Citizens thus become more involved in public policy making, due to a growing access to information and knowledge, due to a better awareness of what communities are experiencing, all brought up with the democratic access to communication devices, which enhances people's valuable solutions to remedy the problems, to harness support, to promote and enforce policy. Conversely, citizens' raising demands to be involved in public policy decision making is not a comfortable position for political leaders or administrative officials, as they are used to being in control and to top-down policy development. However, the advent of internet and social media has made citizens more vocal, triggered by a progressive losing of trust in the governments' ability to meet their best interests.

While there is extensive literature on collaborative governance and co-creation of public policy, more case studies to back more in-depth analysis are needed, to highlight the ways in which social media can facilitate and foster the development of communities actively engaged in public policy discussion, development and dissemination. Our paper is not focused on how governments collect inputs to improve the design of public services using social media (Alizedah et al, 2019). Also, our FB analysis does not reveal government's activity as a promoter in policy-co-design, yet it demonstrates how social power impacts political decisions and how engagement expedites change. Contextually, Romania had registered some of the lowest figures in civic participation in 2016, prior to the event under lens – only 2% of the Romanians participated in protest or demonstrations, 6% signed petitions (email or online), 5% commented on a political or social problem online, and just 2% boycotted various products, all part of the higher educated, urban dwellers.

Consequently, the present article aims to test the following hypothesis: social media is an open, democratic and widely available arena for citizens' discussions and involvement in public policies, when scaffolded by real

environment initiatives, enhancing citizens to become co-creators of public policies. To test this, we first reviewed the literature regarding collaboration on and co-creation of public policies, together with their role in actively and directly involving citizens in the governing process; then we covered the literature on the role social media has, as a platform for open discussions, drafting and supporting public policies. Thirdly, the article aimed to test the theoretical approach, by analyzing a situation in Romania in which public policy has been written and promoted by citizens. To avoid any political interpretation, collateral labelling or unpredicted misunderstanding of the topic, we chose not to cover something from the present, which still holds the public sphere with fierce debates- the situation we have chosen for analysis unfolded in 2018. This is the campaign designed to partly modify the Romanian Constitution, to include a prerequisite that no person could hold public office, had they been convicted of a crime before.

2. Citizens - Collaborators and Co-creators in Public Policy Development

A public policy is a solution the government provides to people's current problems on the public agenda, to meet societal needs (Rinfret et al. 2021). Until recent times, it was the role of politicians to propose policies that resolve conflicts, and the role of administrative bureaucracies to implement them (Meier et al., 2019). However, citizens' trust in the government has turned quite low, and this is still distrusted in most of the European countries, based on the Edelman Trust Barometer collected data (2023) whose report finds that the lack of faith in societal institutions, triggered by economic anxiety, institutional imbalance, disinformation and the battle for truth, have all brought us deeply and dangerously polarized, with a strong impact on the social fabric as well.

In this context, citizens need the government to be more transparent and better connected to society, to inform, motivate and involve individuals to find solutions for all that poses threats to their well-being. One of the most effective means to do this is to involve citizens into public policy making. That is why, more recent research has focused on ways in which citizens can become connected directly and effectively to policy making, through network governance, collaborative public management (Lang, 2016; Daugbjerg & Fawcett, 2017; Nederehand & Klijn, 2019), public-private partnerships (Nederehand & Klijn, 2019), smart public governance (Šiugždinienė et al., 2017) or open government data (Wirtz et al., 2017). Conversely, without societal involvement, top-down initiated policies are seldom appropriate for the situation on the ground and they do not reflect the principles of deliberative democracy (Dryzek, 2007).

Co-creation in the public sector is defined by Torfing et al. (2016) as a process in which public actors "attempt to solve a shared problem, challenge, or task through a constructive exchange of different kinds of knowledge, resources, competences, and ideas that enhance the production of public values". The actors involved could be politicians, public managers, administrators, service users, voluntary groups of citizens, private corporations, civil society organizations (Torfing et al., 2016), mobilized in mutual collaborations to define problems, develop solutions and put them in practice (Nabatchi, Sancino and Sicilia, 2017; Torfing and Sørensen 2019). Moreover, Morell and Hidalgo (2020) demonstrated participatory co-creation as effective on local public policies when citizen support to public policy-making is combined with face-to-face interactions and online channels. Also, the Organisation for Economic Co-Operation and Development noted in its 2018 and 2019 forums (OECD 2018, 2019) that a new societal contract is needed for citizens to become active creators of the policies that affect them, as together with governments they can tackle the "complexity of shaping policy in a post-truth world and [identify] opportunities for civic engagement and co-creation with citizens", by using social media. The same ideas are embraced by the EU Commission, who considers that today's societal challenges are too complex to be solved by the public sector alone. Among the aspects that count for a mobilization strategy, Naranjo-Zolotov et al (2019) consider (1) Civic spirit and popularity; (2) Social example that generates social behavior towards getting people involved; (3) Extensive, ageless and ubiquitous use of technology ignoring space, time and demographics; (4) Social capital and tech-supported dialogue to build social ties inside an interested community. Co-creation, on the other hand, may both be used as a strategy for strengthening policy making, public service provision or, as in the case of this study, administrative problem solving (Bentzen, Sørensen & Torfing, 2020). In this regard, Nabatchi (2012) states that engaged dialogue becomes the ideal mode of communication in co-creation processes, highlighting the importance of level and time of involvement when *passive actors*, decoupled from top-down decision-making processes and *highly active actors* are thoroughly engaged in a co-creative partnership in which power is shared among all. More than that, these actors are differentiated between *co-initiators* who define problems, *co-designers* of solutions and *co-implementers* of the selected solutions (Voorberg, Bekkers, and Tummers 2015; Bason 2010; Brandsen and Honing 2016). Thus, co-creation is seen as an early co-initiation and co-design, while co-production is the later involvement in the implementation stage

(Brandsen, Verschuere, and Steen 2018). In terms of people's feelings, co-creation is believed to foster innovation (Torfing and Ansell, 2017) and build trust (Fledderus, 2018)

3. Social Media as Platforms for Public Policy Co-creation Among Officials and Citizens

Social media, on the other hand, enhances multi-directional communication and effectively involves inordinate participants in the conversations, by providing forums, chats, social networking sites. Thus, technology allows public administration bodies to relate personally to all citizens and lets information spread through conversations that provide feedback to the government about social problems, effectively contributing to the policy making process. Transparency, participation, collaboration and empowerment are the best indicators of e-democracy and all these are enhanced with social media. (Al-Dalou' & Abu-Shanab, 2013).

Apart from being an immense pool of data that informs social, economic, and political public policies in a citizen-government direction, social media is an enormous database and a social indicator, a barometer of public policy effectiveness, generating understanding on how citizens' behavior functions in relation to public agenda and providing insights from people's engagement and their attitude, through sentiment and conversation analysis. It is the arena where the government can keep track of policy implementation into citizens' lives, as social media fosters engagement and participation. Margetts et al. (2016) have also explained that social media enhances visibility, and this new visibility expands our possibilities for undertaking collective action. Sometimes yet, "social media affects the perceived viability of political mobilizations and hence the potential benefits of joining, thereby altering the incentives of individuals to participate" (Margetts et al. 2016, 25). According to them, there are three ways in which social media can influence participation: (1) by shaping social influences of the users and of the communities those users are part of; (2) by exposing citizens to social information and by involving them, by raising their awareness on policy issues and make them join the discussion; (3) by providing people with the chance to co-create policies by voicing their opinions, to make actions public and visible. All these have been active in the case study our paper presents.

4. Using Social Media in Policy Making Processes

The case study we used for Romania to demonstrate social dynamics in public policy co-creation was the January 2017 government's decision to pass a series of emergency ordinances which generated the largest public protests in Romania, post- anti-communist December 1989 Revolution. About 500,000 people protested in February 2017 to ask for the government's decision change. As Bronnikov & Karpova (2021) stated, the internet acted as a tool to accumulate public opinion and mobilize intellectual resources, in an already polarized society.

Needless to say that the power social media has in civil society's involvement towards common issues stirred interest in other countries as well, with different lenses of approach. Bentzen (2022), for example, saw co-creation as a more defined instrument to solve citizens' issues with people's extensive involvement, for a case in *Denmark*, demonstrating that high-level involvement strengthens the outcomes of co-creation in terms of innovation and the development of trust among participants. He demonstrates the importance of time in the process as well. Fuster & Senabre (2020), on the other hand, demonstrated that co-creation can increase participation diversity aligning academic, economic, and social viewpoints in policy innovation, with a case in *Spain*. Here, the cycle of collaboration went beyond engagement or citizen support and showed the importance of combining online channels with face-to-face interactions for co-creation. Moreover, Rathore et al. (2021) explored to what extent citizens' opinions expressed on Twitter platforms contribute to policy design, in developing countries' contexts, more exactly in *India*. He contributed to the research with findings related to Habermas' theory of communicative action, highlighting that co-creation depends not only on citizens' engagement but also on how the provided information is used in order to generate the public policy design.

4.1 Data and Approach

The Romanian analysis looked at a public initiative group formed in November 2017, led by a lawyer. He called for support people in various fields but with impact in society, public and famous people whose names we'll not use: a philosopher, a writer, a piano-player, a legal adviser, a civic activist, members of civic groups, representatives of the Democratic Forum of Germans in Romania, citizens involved in civic actions and the

president of the Collective Association GTG 3010 (each with visible responsibility and social impact in Romanian society).

By having an in depth approach with instruments from *Zelist Monitor*¹ app, we were able to track and understand the activity of “No corrupt politicians in public office” Facebook page to bring evidence regarding the importance community has, on the one hand, in co-creating public policies and the power social media has, on the other, in generating communities and connecting them to public bodies for social response. In this respect, we analyzed *fan metrics* (their numeric evolution); *interaction index* and *responsivity* (if the fans get involved in comments and conversations and determines the time frame covered); *engagement* (the number of fans who interact with the posts by liking, sharing, commenting and tagging) and *sentiment analysis* (the emotions fans expressed when interacting with the posts).

Even though most analyses present false impressions about the huge number of likes, it is not that which shows the power the social network has on communities, but the engagement generated from comments and interactivity that proves a community can build social bonds among people to pursue common goals. A strong presence on social media is usually generated by answering comments, answering questions, while all this is combined with the frequency of posting (frequent posting guarantees public’s attention open). However, high frequency in posts does not always proportionally ensure high effectiveness. This resides in the content and the semantics of the posts. The return on investment in posting is generated not by a high number of posts but by their effectiveness that generates reactions and, therefore, a community. The number of likes increases with the growing number of people that like the page; however, people talking about an issue on the page refers to the number of unique users who have created a story about a post on the page in a week’s time. By stories we understand posts that show up in individuals’ news feeds; any sign of activity that comes from the users is a story in itself: a post, any mention in a comment, any tag, any check-in, any share, any recommendation as well. When interaction is assessed in connection to the stories developed on a page, it refers to the ratio developed between the total number of likes, shares and comments, faced against the total number of fans.

Conversely, by performing a content analysis in the context of the given fan metrics, we looked at the content generation, more exactly at the *overview*, and saw how much content the page in focus generated and how many fans it reached in a month. We also analyzed content response, which is divided into *emotions split* (the number of total reactions in a period), *responsiveness* manifested in the feedback given to the fans after they commented on the posts, replies and conversations, all against the time taken to show these reactions. All this information helped us create a bigger picture of the connections that exist between the content generated in social media, the way it impacts people and the way attitudes are gradually changed. We observed how *communities were developed through content management and how attitudes were changed through involvement*.

We have performed a mixed quantitative and qualitative method on the elements presented above as well as a semantic analysis, and what follows are the results obtained, represented graphically.

Starting with figure 1, we observe that even though the Facebook page had existed since December 2017, the number of fans was relatively small compared to what it grew to, once the collecting signatures campaign officially started, in March 2018. Moreover, the figures show that the numbers almost doubled, during the first three month. Then, starting with June, the number doubled each month, due to increased public interest and engagement, but also as a reaction to the authorities’ maltreatment on the volunteers who helped with signature collection. Public response was swift once the campaign became more visible and as soon as the promoted public values resonated with the public.

¹ Zelist Monitor app- media monitoring services , <https://www.zelist.ro/monitor/>

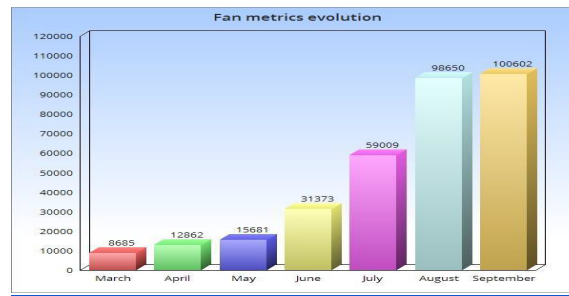


Figure 1: Fan metrics evolution on “No corrupt politicians in public office” Facebook page

Also, from March to August 2018, The number of posts increased from 25 to 131. However, the most significant rises in likes was from 10.268 in March 2018 to 178.182 in August 2018, while the number of shares rose from 7.659 at the beginning of the period to 93.886 at the end, as shown in Figure 2. Comparatively, the number of comments experienced the smallest increase, from 700 in March 2018 to 7.397 in August 2018. In September 2018, the numbers for all activity on the page decreased once more, as the signature collection campaign had reached its goal and citizen mobilization was no longer necessary. Yet, the content chosen for the targeted public generated emotion and reactions. Then once the page gained traction, the activity online doubled every month from June to August, to then drop in September, when the mission of gathering the signatures had been completed. This proves that the campaign was active and produced engagement, while the Facebook page was a potent instrument in the public policy campaign, it activated a community and promoted the public values it believed in.

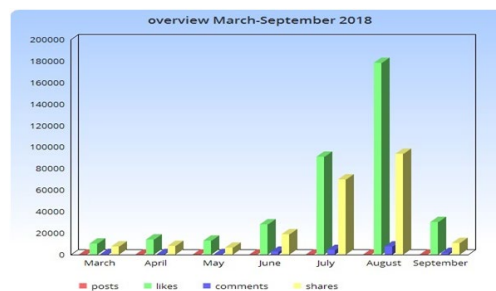


Figure 2: Overview on “No corrupt politicians in public office” Facebook activity

In the community, the number of replies was higher than the conversations, (Figure 3) therefore dialogues were not created around a post. All the users asked questions and answered each other independently, developing action, engagement and raising awareness, without creating a topical thread. Replies were added to the main comments of the posts, sometimes on a longer timespan from the initial posts, depending on the content and the moment when they were posted, but also correlated to the introducing text as well.

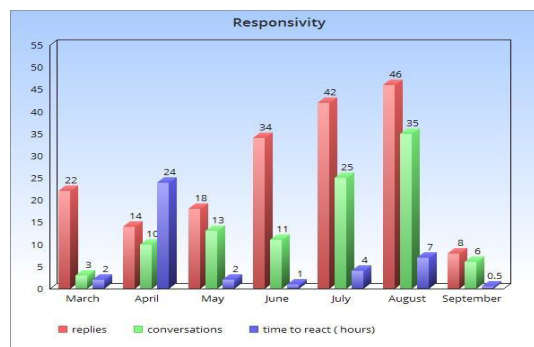


Figure 3: Fan metrics evolution on “No corrupt politicians in public office” FB page

The posts and conversations were accompanied by reactions and their number was constant on the page, between March and May, when action was low, (Fig. 4) but started to grow when co-creation continued, even though the volunteers were hindered from accomplishing their task. The peak of the reactions was in August, also due to the fans’ and unique visitors’ high activity on the page, to then lower in September, when the campaign ended.

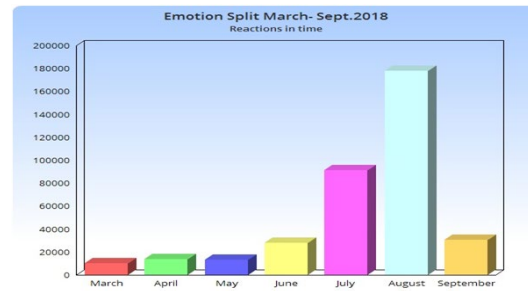


Figure 4: Overall emotions/month on “No corrupt politicians in public office”

Plus, *emotions* grew to be highly visible in July and peaked in August (as shown in figure 5) due to the mobilising posts. Looking at reactions, “like” button is extremely used and reaches a peak in the June- August slot, slowly followed by “love”, simultaneous with the action taken by volunteers and their signing process. The third place in reactions is “anger,” when the volunteers were harassed by the opposing forces in an attempt to hinder signature gathering. The appreciation numbers are important, because it includes unique visitors as well. This is an indicator that the power of engagement was high through posts that were shared by fans, gathering reactions from unique, arbitrary visitors as well.

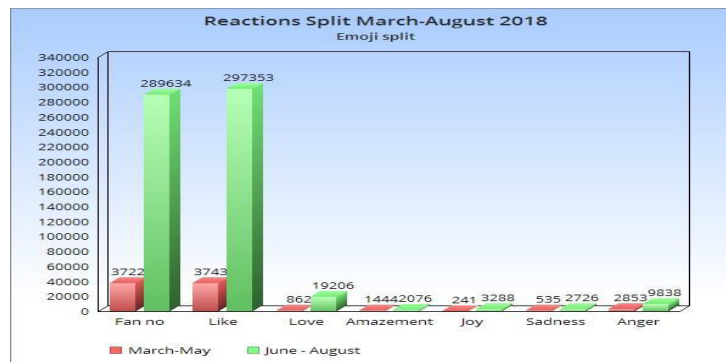


Figure 5: Reactions split on “No corrupt politicians in public office”

To conclude, the *number of fans* grew moderately from December 2017 to March 2018, doubled until May, then doubled monthly June to August, when the public interest and engagement grew, as public figures acted actively while authorities hindered the volunteers from gathering signatures, ouzing resentment that coagulated people in one common goal. Then, the activity doubled every month from June to August, when the message resonated with the followers, i.e. *likes*, *shares* and *comments*. Among all these, the number of *replies* was higher than the number of *conversations* (where replies are unique, independent and sometimes at a later stage comments) meaning unique visitors were mobilized into expressing support for the cause, on the page users, and so engagement, awareness and eventually action were generated. Emotional reactions for the posts and conversations on the other hand had a constant number until July when they grew and August when they peaked, explained by massive mobilization. *Like*, *love* and *anger* were the most frequent ones, and since the numbers of *like* and *love* were higher than the number of declared fans, the conclusion is again that unique visitors were present and in higher numbers than the declared and registered page fans. This provided us with a general overview and a quantitative assessment, but in order to better understand how this mobilization occurred in the six-month period, a semantic analysis on the content was necessary.

4.2 Results and Discussion

From a semantic and quantitative approach, backed by the **Zelist Monitor** data, the social media campaign analyzed between March and September 2018 showed 468 posts which can be grouped into five major categories: a) public personalities’ involvement (actors, politicians, artists, journalists, etc.)- 53 posts; b) signature collection campaign dynamics- 95 posts; c) calendar, places and encouragement for people’s signature-108 posts; d) volunteers’ request for help with signature collection-30 posts; e) random users’ signature- 51 posts; f) other corruption cases among politicians- 40 posts; g) public authorities abusing volunteers against collecting signatures- 60 posts; h) volunteers’ explanation on public policy legally binded procedure- 28 posts.

What is more, the most representative posts were met in June-August frame. Duration from the initial post to the last comment shows the intensity of the post and the intensity of the relationships developed among users that share the idea generated by the post per se. Intensity is again extremely high for the posts in this period, June-September 2018, especially for the most representative posts, showing a strong bonding among users, showing sense of community and determination of the group. Emotional support has been given in very high proportion with positive words on the wall, with comments like “Bravo” and “Congrats” while social distance was low. All these indicate strong relationships built among the members of the community that get involved in co-creation, a strategy meant to promote a specific attitude, engagement for co-creation, to develop strong bonds through content in order to accomplish the goals. It is diversity and consistency that support this kind of strategy. According to Granovetter, (1983) strong bonds bring change and help organizations survive through a time of crisis, they act upon emotional distress and are created among people who trust one another and whose social status is similar.

Looking at the most popular posts with a semantic lens, to better understand the reasons why this appealed to so many people, we collected data using *textalyser.net*². It was thus revealed that June 22nd 2018 post marked a turning point. Less than 3 three months before the end, only 200,000 signatures had been collected. In this context, the post *Be the hero without corrupt politicians!* brought more signatures and more volunteers in the collection effort. The posts with *Wonder Woman* and *Superman* fought corruption and collected 2297 likes, 348 comments and 2096 shares. The page administrators’ intervention can be seen in comments boosting the community and its sense of confidence. A lexical analysis of the post and the comments, using the aforementioned tool reveals the most frequently used words- “sign” and “signatures”- 66 occurrences; “criminal” and words semantically related to it-35 occurrences; “collect” and “collection”-17 occurrences; “public office”- 22 occurrences. Thus, both the post and the comments met the goal of the campaign, signature collection for the public policy proposal to become the law that hindered the convicted criminals from holding public office.

The second post under analysis is *The new detergent #resist with a flavor of no corrupt politicians*, a humorous post on July 12th, 2018, a video appealing to emotion for signature gathering. The targeted public is young and family oriented. The light tone matches the mindsets of the young audiences. This garnered 4363 likes, 190 comments and 4397 shares, based on a frequent cognitive pattern- advertising for detergents. The introducing message is a call to action, the need to clean the political class. The post stirred comments until May 2019 and sub-comments until October 2018. Analyzing the post and the comments, the most frequently used words are: verbs showing support and action (*support, believe, do, resist, accuse, sign*)- 29 occurrences; “criminal” and other corruption-related words- 17 occurrences; words related to *Romania*- 10 occurrences. Since the targeted audience is younger, action is at the forefront, signalling the new generation that can change Romania and eliminate the corruption danger from public office.

Finally, the most popular post on the page signals the milestone the campaign reached after months of intense public engagement on Facebook, namely, collecting 1 million signatures, double the legally required numbers. *We are 1 million! We thank you!* was the message of this post. August, 21st, 2018 represents a panoramic view of the people protesting in front of the government; the crowd displays the national flag and the text introducing the post addresses the public appreciatively for reactions. This post gathered 23515 likes, 843 comments and 15372 shares. The comments and sub-comments spread from August 21st, to August 25th. There is interaction among people’s comments and responses that alternate in a dynamic vein. The most frequently used words are: “congratulations”, “bravo”, “respect”-77 occurrences; “Romania” and “country”- 71 occurrences; “sign” and “signatures”- 56 occurrences; “million”- 34 occurrences; “initiative”-27 occurrences; “parliament”- 21 occurrences; “hope”-16 occurrences; “vote”- 9 occurrences. These words indicate pride, respect and personal involvement that all the active people felt, as well as the awareness over the next stages of the initiative: the outcome of the comprehensive campaign was 26th of May 2019, when Romanians voted in the referendum and, with an overwhelming majority, they validated the changes to the Constitutions that would prevent corrupt politicians from holding public office.

5. Conclusions

The hypothesis which stated that social media is the best suited public forum at present for citizens’ involvement in public policies was validated. Our case study has proven that citizens employed social media in order to

² *Textalyser* is a free web-based text analysis tool offered by the Bernhard Huber Internet Engineering Company.

interact with the organizers of the campaign “No corrupt politicians in public office”, to debate and show their emotions and involvement. This ultimately proved, through increased activity on the Facebook page, that social media is a more than suitable mobilization tool that can turn a public policy proposal into a legislative reality. Another anticipated result of the campaign “No corrupt politicians in public office” was that it created social cohesion and a more resilient community that required politicians to obey higher standards of professional ethics. Moreover, the campaign also fostered the development of more civic-minded citizens, which was mirrored in the 48.94% attendance of the population to the elections for the European Parliament, an election with few domestic stakes, but which signaled the fact that Romanians were no longer passive with respect to who governs them and what values they uphold. Further on, our analysis demonstrated that *passive actors* of the top-down decision making process witness powerlessly how *highly active actors are thoroughly* engaged in a co-creative partnership in which they shift informal and formal power, shared among all. In our study, *co-initiators* were public people with resonance for society and acted online, while *co-designers* of solutions were the volunteers who acted both online and offline, among real groups and within real meetings with society, while *co-implementers* of the selected solutions were the citizens in a continuum involvement. Our results have shown that *co-initiation* and *co-design* unfolded in a hybrid manner, both online and offline, while *co-production*, as a later involvement in the implementation stage was definite when the change was validated in the Referendum. Last but not least, our study demonstrated that *social information can mobilize citizens* around public values when people see that others are also interested and active. Also, our results confirmed that *social media shaped social influences* of both the users on FB and of the communities around, by informing and involving citizens, thus raising their awareness on the ordinance implications and long time effect, and made them join the process, thus providing them with the chance to contribute to a better society legislative frame by voicing their opinions, by pushing politicians towards a fair and democratic system for all.

6. Limitations

A comparative analysis with similar campaigns was not in focus given the hypotheses we aimed to validate. We used Facebook exclusively as in Romania the other social media platforms are not popular extensively, especially with all age groups. A report by *Zelist Monitor* for 2018 counted 10 million Romanian users for FB, just 3 million users for Youtube and less than 50.000 users for Twitter. The quantity of engagement was in focus to demonstrate the power of contribution, whereas the quality of engagement is set for future research. Also, drawbacks on what echo chamber and misinformation can do to affect the co-creation process can be an extensive case study per se, and it was not the goal of this paper but of course they will be considered, in further analysis.

Ethics Declaration

Ethical clearance was not required for the research

AI Declaration

I confirm that AI tools were not used in the creation of the paper

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Impact of Humanized and Humorous Content on Social Media for Brand Metrics

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Abstract: Brands face the challenge of creating engaging content for their audiences. Brand managers must decide what and how to communicate effectively and cost-efficiently. Social networks provide an economical avenue for direct consumer engagement, especially among younger demographics. The growing prominence of video content on platforms like TikTok and YouTube highlights the need for carefully crafted social media video strategies. This study explores the impact of humanized and humor-based content on consumer perception metrics, such as brand personality, authenticity, leadership, and equity. It also examines generational and gender-based differences in these perceptions. Methodologically, it analyzes case studies of social media videos from Swee and Lidl, contrasting humanized and humorous content with rational, less humanized approaches. Data were collected from a sample of 122 respondents through a questionnaire, assessing their perceptions of the brands' social media content. Statistical techniques, including descriptive analysis, analysis of variance (ANOVA), and chi-square tests, were employed to analyze brand perception differences across content types. Results reveal that humanized and humorous content outperforms rational content in enhancing brand personality, authenticity, leadership, and equity for both brands. The findings underline the importance of humanization and humor in social media strategies, especially for improving consumer engagement and perception. Implications for academic research, brand management practices, and future studies are also discussed, emphasizing the value of these approaches in contemporary digital marketing.

Keywords: Humanized Content, Humor, Social Media Videos, Brand Metrics, Brand Equity.

1. Introduction

In recent years, technological progress and evolving media landscapes have reshaped brand interactions with audiences (Jocić et al, 2024). Video-centric social platforms, including TikTok, YouTube, and Instagram Reels, serve as influential tools, enabling personalized engagement through captivating short videos (Molem et al, 2024). Yet, brand managers often struggle to establish effective content and messaging strategies (Brito and Pratas, 2015). These approaches typically rely on emotional or rational appeals (Taylor, 1999). Emotional strategies—particularly humanized and humorous content—demonstrate superior effectiveness in enhancing brand recall, likability, and purchase intent compared to rational content (Srivastava, 2016). Despite growing popularity, measurable impacts on brand metrics in social media remain insufficiently examined (Voutsas, 2024). This study assesses their influence on brand personality, authenticity, leadership, and equity through case studies of Swee, a vegan ice cream brand, and Lidl, a global retail giant. The data analysis delivers actionable insights for refining content strategies. Employing exploratory research, this investigation explores how these content styles resonate with audiences. Findings aim to assist brand managers in crafting impactful communication strategies, emphasizing emotional engagement and cultural relevance. Ultimately, this study offers a framework for audience-centric campaigns, strengthening consumer-brand relationships and boosting marketing effectiveness.

2. Literature Review

2.1 Social Media and Digital Marketing

Social media has redefined brand-audience interactions, shifting from a secondary marketing tool to a cornerstone of digital strategy. Video-based platforms like TikTok, Instagram, and YouTube have grown exponentially, offering immediate access to billions worldwide. This dynamic environment demands rapid adaptation, particularly with platforms prioritizing storytelling and emotional engagement. Social media platforms allow brands to expand their reach cost-effectively while gathering consumer insights through analytics. TikTok's short-form videos facilitate both informational and emotional content, primarily influencing purchase decisions through influencer reviews. Meanwhile, YouTube provides a diverse content spectrum, from

music to educational tutorials, serving as a primary source for brand-related information (Pratas et al, 2024). By capitalizing on these tools, brands optimize engagement and enhance their marketing effectiveness.

2.2 Humanization in Social Media Content: Parasocial interaction and Social Identity Theories

Humanization in marketing makes brands more relatable, authentic, and approachable by incorporating human elements like conversational tones, real employees, and behind-the-scenes content (Jeong et al, 2022). This fosters emotional bonds, strengthens trust, and deepens consumer-brand connections (Labrecque, 2014). Parasocial Interaction theory explains how people form one-sided, emotionally invested relationships with brands or influencers despite their unawareness. Humanized content builds intimacy and trust, enhancing persuasiveness through personal connection (Tukachinsky and Stever, 2019). Conversely, Social Interaction theory explores how individuals shape identity within social groups or brand communities. Brands aligning content with shared values and cultural norms strengthen audience bonds. Humanized content reinforces group belonging, reflecting norms within brand communities (Haudi et al, 2022). By appearing more human, brands become approachable, trustworthy, and authentic, fostering consumer loyalty, advocacy, and engagement. These effects highlight the importance of humanized strategies in modern marketing.

2.3 The Role of Humor in brand contents: The Relief theory of Humor, Emotional contagion and Affordance Theories

Humor plays a crucial role in capturing consumer attention and creating memorable brand experiences. It reduces psychological barriers, fosters positive emotions, and strengthens audience connections, enhancing engagement, positive affect, and purchase intentions (Eisend, 2009). On social media, particularly TikTok, humor fuels virality and shareability (Barta et al, 2023). Its effectiveness depends on context, varying across cultural and demographic groups. Younger audiences, especially Generation Z, engage more with playful, humorous content, associating it with creativity and modernity (Zhang and Chen, 2023). Humorous content generates higher engagement rates, encouraging interactions that amplify brand reach (Pandey, 2024). Relief Theory suggests humor relieves psychological tension, reducing stress and anxiety (Shurcliff, 1968). Emotional Contagion Theory highlights humor's ability to transfer positive emotions, boosting engagement and brand perception (Herrando and Constantinides, 2021). Affordance Theory explains how TikTok's design fosters humorous storytelling, helping brands deepen audience connections and expand their reach. Humor's multifaceted impact highlights its pivotal role in contemporary marketing strategies.

2.4 Brand Metrics

Brand metrics serve as indicators of a brand's overall health and its perception among consumers. In the competitive landscape of social media, measuring these metrics provides critical insights into the effectiveness of content strategies. The key metrics explored in this research (brand personality, brand authenticity, brand leadership and brand equity) offer a comprehensive framework for evaluating brand performance.

- **Brand Personality:** captures the human traits attributed to a brand, influencing how relatable and appealing it appears to its target audience (Aaker, 1997).
- **Brand Authenticity:** emphasizes transparency and genuine communication, crucial for building trust in digital environments (Beverland, 2005).
- **Brand Leadership:** assesses perceptions of a brand's ability to innovate, establish and maintain a strong position within its industry. Effective brand leadership can result in increased brand loyalty, market share, and overall brand equity (Aaker, 2023).
- **Brand Equity:** represents the overall value a brand brings to a company, encompassing both tangible and intangible elements. It refers to the value and strength of a brand in the marketplace, which is derived from consumer perceptions, experiences, and associations with the brand. It encompasses various dimensions such as brand awareness, brand loyalty, perceived quality, and brand associations, which collectively contribute to a brand's financial performance and competitive advantage (Rojas-Lamarena et al, 2022).

Humanized contents directly impact all brand-related metrics, while humorous content specifically strengthens brand personality and equity. Both influence brand image and trust, which are widely studied. Brand image reflects consumer perceptions shaped by associations, beliefs, and attitudes. It is a multidimensional construct influenced by cognitive, emotional, and symbolic elements (Parris and Guzmán, 2023). Brand trust drives long-term consumer loyalty, built through consistent, transparent messaging. It reflects consumer confidence in a

brand's reliability and integrity, influencing purchasing behavior (Heim et al, 2024). Integrating humanized and humorous content into social media strategies enhances engagement, trust, and loyalty. By leveraging emotional connections and cultural relevance, brands can optimize their communication strategies to build stronger relationships with their audiences.

2.5 Conceptual Framework and Hypothesis Development

The conceptual framework of this work is based on the impacts that humanized and humorous contents have on brand metrics, versus the impact of more rational and serious contents, mediated by socio-demographic characteristics of the sample. The formulated hypothesis are as follows:

- H1) Humanized and humorous contents in social media video format platforms have higher impacts on brand perceptions than rational contents.
- H2) The differences in brand perceptions are affected by socio-demographic characteristics of respondents.

3. Methodology

3.1 Research Design

The study employed a quantitative approach, collecting data through a structured questionnaire previously tested with three respondents. The final sample comprised 122 respondents. The data was collected using different social media platforms, such as LinkedIn, Facebook, Instagram and WhatsApp, both by the study author and by colleagues and family, with the aim of reaching as many participants as possible. In addition, stickers with QR codes, which redirected directly to the questionnaire, were distributed to several people who were randomly circulating in the region of the Porto. This diverse approach to outreach helped ensure a broader, more representative sample for the study. In the survey, participants evaluated content from Swee and Lidl, distinguishing between humanized/humorous and more serious/rational approaches. Two videos were shown related with the Swee brand and two other from Lidl (each one with a more humorous and humanized approach versus a more rational / serious approach) in terms of their impacts on several brand metrics.

3.2 Analyzed Videos

All the analyzed videos were published in TikTok social media platform. The first video chosen to be included in the Swee brand study was published in 2023, more specifically on October 19th of that year. This video lasts 20 seconds, uses the song “Rocking Around the Christmas Tree” and has a Christmas theme. It is a video focused on the product, in its duration we can see just a few hands preparing a bowl of ice cream with some toppings that allude to the Christmas season. This video was chosen because, despite containing a good representation of the use of Swee's product, it does not have any obviously humanized or humorous element, as expressed in figure 1.

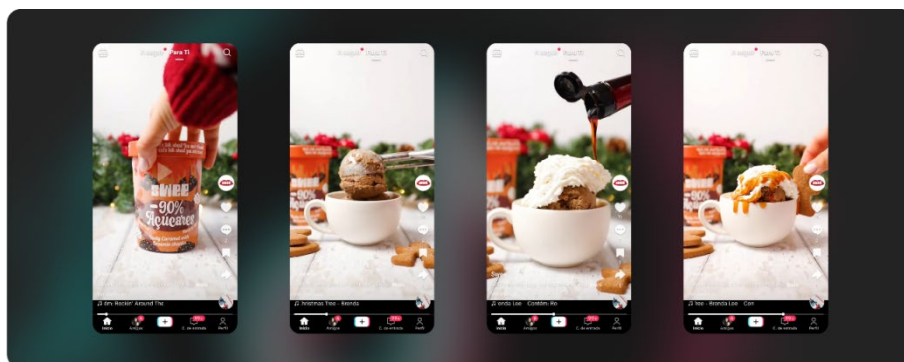


Figure 1: Frames from video A, published by Swee (rational tone)

The second video chosen from the Swee brand was published in 2024, July 8th, and lasts 27 seconds. It uses humanization and humor resources, as we can see a person from the Swee team (usually appearing in the social media of the brand). A joke is made about needing a budget to set up the set for a photo shoot, and as such Swee takes advantage of the displays and staging already set up in an IKEA store, as expressed in figure 2. This video was chosen because it clearly presents humanization and humor components, using people from the Swee

team and also being part of the trend relating IKEA with a humorous background that became popular among several brands during this period.

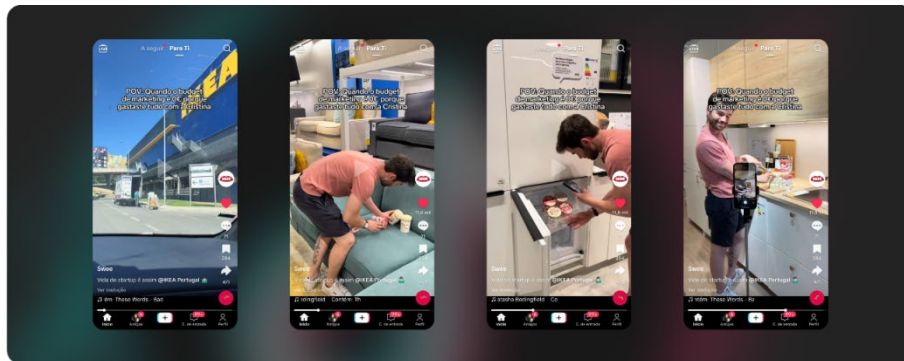


Figure 2: Frames from video B, published by Swee (emotional and humanized tone)

The first video chosen for Lidl was published on March 4th, 2024 and has 34 seconds. During the video, we can see a hand in the store showing new items from the Organic range available in Lidl stores, with simple music playing in the background, as expressed in figure 3. This video does not show many human and humorous characteristics.

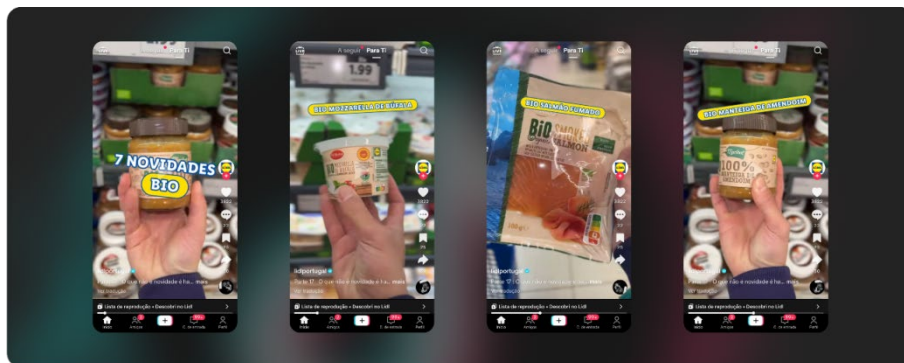


Figure 3: Frames from video C, published by Lidl (rational tone)

In the following video, we can see a very different approach to the previous one. Published on December 30, 2023, this video is one minute and sixteen seconds long. Its objective is also to show some of Lidl's new products for the upcoming festive season and to wish everyone a happy New Year, but with the help of an influencer this time. The video has a humorous connotation, and is part of a series of videos with other influencers in which in each clip, the respective influencer tries on items chosen by Lidl for them. In this video, we have the public figure Kikoishot who appears slightly frustrated by the items that were chosen for him compared to the rest of his colleagues, but deep down, he likes the choice. The frames of the video are expressed in figure 4.

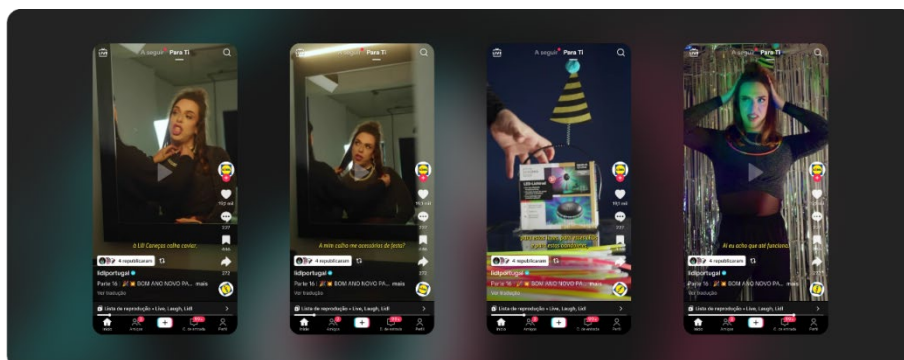


Figure 4: Frames from video D, published by Lidl (emotional and humanized tone)

3.3 Questionnaire Structure

The questionnaire involved three main sections regarding the socio-demographics of the respondents, the perceptions about humanized and humorous content, and the constructs related with brand metrics potentially affected by videos in social media platforms. The two sentences regarding the general evaluation of the humor and humanized contents in social media videos were *“The use of humor and humanized characters improves brand perception”*, and *“I would be more inclined to buy products/services from a brand that uses more humanized and humorous themes in its social media posts”*. The sentences used to measure the constructs (brand personality, authenticity, leadership and equity) are expressed in table 1.

Table 1: Constructs and sentences used in their evaluation.

Construct	Sentences
Brand personality	This video made the brand seem more friendly and approachable. This video made the brand seem fun and engaging. I felt like the brand was making an effort to genuinely connect with its audience.
Brand authenticity	The video made me feel that the brand is honest and transparent. I felt the brand was being sincere in its message. This video made the brand feel more genuine to me.
Brand leadership	The video gives the impression of authority in the market sector. I felt the brand stood out from its competitors after watching the video. In this video, the brand demonstrates leadership in using new trends.
Brand equity	This video increased my brand awareness. The brand seems more valuable to me after watching the video. The brand image improved in my perception after watching the video.

3.4 Statistical Analysis

The data analysis employed descriptive statistics, analysis of variance (ANOVA), and chi-square tests. These techniques were used to identify significant differences in consumer perceptions across content types and socio-demographic characteristics of the respondents.

The statistical analysis was performed using the IBM-SPSS 25 version.

4. Results

4.1 Descriptive Analysis

The sample was based on convenience. Most of the respondents belong to the generation Z (born between 1997 and 2010) with 76,2% of the respondents belonging to this generation. 13,1% of the respondents belong to Millennial generation (born between 1981 and 1996), 5,7% of the respondents belong to generation X (born between 1965 and 1980), and 4,9% of the respondents belong to Baby Boomer generation (born after 1964). In gender variable, 78,7% of the respondents are female, 20,5% are male, and 0,8% of the respondents said “other”. In frequency of use of social media platform TikTok, 66,4% of the respondents said they used TikTok daily, 8,2% weekly, 0,8% monthly, 10,7% rarely, and 13,9% said that never used TikTok.

4.2 Differences in Impacts of the Various Videos

All the sentences related with brand personality, authenticity, leadership and equity have significant statistical differences in averages of the four analyzed videos. Aggregating the metrics, seems that brand personality has the greatest increase in the sum of two brands, followed by leadership, equity and authenticity respectively. In all the sentences, and for both brands, Swee and Lidl, the videos with emotional and humanized tone have higher values than the videos with rational tone. The comparison between Swee videos and Lidl videos, as well as P-Values for each sentence are expressed in table 2.

Table 2: Videos average and statistical differences, using ANOVA results using Generalized linear model.

	A – Swee (Rational tone)	B – Swee (Emotional and humanized tone)	C - Lidl (Rational tone)	D – Lidl (Emotional and humanized tone)	P- Value
This video made the brand seem more friendly and approachable.	3,70	4,39 $\Delta = 0.69$	3,34	4,12 $\Delta = 0.78$	0,000
This video made the brand seem fun and engaging.	3,67	4,48 $\Delta = 0.81$	3,00	4,26 $\Delta = 1.26$	0,000
I felt like the brand was making an effort to genuinely connect with its audience.	3,48	4,27 $\Delta = 0.79$	3,38	4,16 $\Delta = 0.78$	0,000
The video made me feel that the brand is honest and transparent.	3,34	4,04 $\Delta = 0.70$	3,50	3,74 $\Delta = 0.24$	0,000
I felt the brand was being sincere in its message.	3,57	4,07 $\Delta = 0.50$	3,62	3,82 $\Delta = 0.20$	0,000
This video made the brand feel more genuine to me.	3,38	4,21 $\Delta = 0.83$	3,28	3,90 $\Delta = 0.62$	0,000
The video gives the impression of authority in the market sector.	2,78	3,14 $\Delta = 0.36$	3,20	3,62 $\Delta = 0.42$	0,000
I felt the brand stood out from its competitors after watching the video.	2,93	4,04 $\Delta = 1.11$	3,21	4,03 $\Delta = 0.82$	0,000
In this video, the brand demonstrates leadership in using new trends.	3,21	4,14 $\Delta = 0.93$	3,25	4,10 $\Delta = 0.85$	0,000
This video increased my brand awareness.	3,20	3,96 $\Delta = 0.76$	3,12	3,71 $\Delta = 0.59$	0,000
The brand seems more valuable to me after watching the video.	2,99	3,72 $\Delta = 0.73$	3,01	3,58 $\Delta = 0.57$	0,000
The brand image improved in my perception after watching the video.	3,11	3,89 $\Delta = 0.78$	3,06	3,82 $\Delta = 0.76$	0,000

4.3 General Evaluation of the Humor and Humanized Contents in Social Media Videos

More than 90% of respondents agrees or strongly agrees that the use of humor and humanized characters improves brand perception. About 87% of respondents agrees or strongly agrees that they would be more inclined to buy from a brand that uses more humanized and humorous themes in its social media posts, as expressed in table 3.

Table 3: Percentages of responses for the humor and humanized contents impact on brand perception and purchase intention.

	The use of humor and humanized characters improves brand perception.	I would be more inclined to buy products/services from a brand that uses more humanized and humorous themes in its social media posts.
1 – Strongly disagree	0,0%	2,5%
2 –Disagree	1,6%	1,6%
3 – Neutral	7,4%	9,0%
4 – Agree	23,0%	25,4%
5 – Strongly agree	68,0%	61,5%

4.4 Brand Perceptions and Purchase Intention Impacts and Socio-demographic Characteristics of the Respondents

In order to analyze the differences between gender and generation with brand perceptions and purchase intention, several chi-squared tests were performed. The variations among gender were not statistically significant, as P-Values were higher than 0,05. Furthermore, generations did not seem to affect purchased intention. Although that, generations affected the level of brand perception after the brands used humor and humanized characters in their videos, as P-values were higher than 0,05. Only the generation Z (born between 1997 and 2010) strongly agree that the use of humor and humanized characters improve brand perception more than expected in about 6% (as P-Values were less than 0,05).

5. Discussion

This study shows that humorous and humanized content significantly enhances brand metrics, especially for Gen Z and women who use TikTok daily. The general evaluation of humor and humanized content on brand perceptions and purchase intentions is also positive, but with a positive bias for generation Z in brand perception increase. No other age or gender differences were found. While humor boosts brand engagement, it might deter comments (Barry and Graça, 2018) and varies in effectiveness across cultural contexts (Núñez-Barriopedro et al, 2019). The research also highlights that such content most strongly impacts brand personality and leadership, with moderate gains in brand authenticity. Managerially, it confirms that short, humorous, and humanized videos on social platforms drive brand metrics growth. In summary, this study contributes to the academic knowledge by emphasizing the critical role of humanized and humorous content on social media platforms, particularly those centered around short video content. For brand managers, this research advocates for the adoption and support of such approaches.

6. Conclusion

This study highlights the strong appeal and effectiveness of humanized and humorous contents on social media over rational approaches. These contents positively impact brand metrics like brand personality, authenticity, leadership, and equity. However, the limitations of this research include a small sample size and reliance on survey data. Future research should use broader, more diverse datasets to validate the findings of this research. Moreover, the integration of qualitative methodologies, such as direct observations within corporate settings or in-depth interviews with brand managers, could yield richer insights into the real-world effectiveness of these strategies. Future research could also explore the influencer traits, brand audiences, and pre-existing brand associations. It could also be interesting to explore additional factors influencing consumer responses, such as cultural variations or content nuances specific to different industries, or cultural differences related with other geographies, and to study contents used in other social media platforms.

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Ethics Declaration

No ethical authorization was required for the research. However, questionnaire respondents were asked to consent to the use of the collected data, collected anonymously.

AI Declaration

AI was used to review the grammar of the text in english language.

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Beyond Content: Social Media Interfaces as "Texts" in Critical Media Literacy

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Abstract: The interface of a social networking service (SNS) plays a crucial role in shaping how users engage with and experience the platform (Suchman, 2007; Verbeek, 2015), influencing their interactions, self-expression, and social connections. However, young users may not always recognize interface elements—such as layout, colors, menus, buttons, infinite scrolling, autoplay, and notifications— and their potential influence on attention and engagement (Anderson and Wood, 2021). While media education initiatives frequently deconstruct media "texts" with young people, they largely focus on content-related issues such as misinformation, neglecting the impacts of interface design on perceptions and experiences. This study advocates for an expanded media literacy approach that considers interfaces as "texts" to be critically analyzed. Rooted in critical media literacy (Kellner and Share, 2005), this project aims to document adolescents' representations and experiences of social media interfaces and identify educational strategies promoting critical competences. Conducted in French-speaking Belgium, it adopts a design-based research method (Anderson & Shattuck, 2012) to create and evaluate an offline pedagogical activity. Initial focus groups with 35 adolescents aged 13–18 provided insights that shaped the activity's design, shedding light on young users' awareness of interface components, their potential role and effects, and their attitudes towards these design features. The prototype of the activity was tested in four schools. It combines semiotic approaches (Jewitt and Henriksen, 2016; Souchier, Candel and Gomez-Mejia, 2019) with experiential learning (Kolb, 2015), creating a game-based simulation where learners engage in speculative design (Willis and Anderson, 2013). This approach encourages students to analyze and (de)construct social media interfaces, reflecting on their production and reception contexts. Ultimately, this research calls for an expanded approach to media education that includes interface awareness as a key component of Digital Literacy.

Keywords: Interface, Media Literacy, Social Media, Design-Based Research, Critical Thinking, Adolescents

1. Introduction

Digital interfaces are ubiquitous: we see and use them every day. This omnipresence has made digital interfaces feel so "natural" that they often become "invisible", as noted by Souchier et al. (2019). In other words, we rarely reflect on their presence or their effects. We feel that we are in direct contact with our friends, with content, with the world, without reflecting on the mediating role of the interface. This experience is especially true for young people regarding social network service (SNS) interfaces, as they use these platforms extensively (Allen et al., 2014; Tiidenberg et al., 2017; Hamilton, Nesi and Choukas-Bradley, 2020).

Many media education initiatives already focus on social media. However, these efforts primarily address user interactions and content, whether textual or (audio)visual. Common topics include the influence of social media on representations related to issues such as climate change, disinformation, cyberbullying, hate speech, and political discourse. These approaches prioritize the "text" that mediates interactions between users, often overlooking an examination of the platforms themselves. Jeong, Oh, and Kim (2022) reported this content-focused tendency in digital media education, arguing for a broader perspective that considers platforms "*as media in their own right in the sense that they mediate information, knowledge and data*" (p. 166). They advocate for critically exploring the symbols that make up these platforms, encouraging an education that encourages children to "*unfamiliarise the familiar 'texts'*" (p. 167) of their media experiences.

This project aligns with this shift in perspective, proposing to view the interface with a mediating role deserving of critical educational attention. Instead of focusing on content that mediates between users, it examines interfaces as "texts" mediating between designers and users. As Jeong, Oh, and Kim (2022) observe, media literacy research rarely addresses interfaces. When it does, the focus is typically on technical skills, with critical literacy limited to content or security issues. This project seeks to fill this gap by asking: *How can we help adolescents develop critical skills regarding the interfaces of social networks?*

2. Theoretical Framework: Semiotics as a Tool for Developing Critical Media Literacy About SNS Interfaces

This project is grounded in critical media literacy (CML), as it aspires to foster reflective and critical thinking about media, particularly SNS interfaces. CML (Kellner and Share, 2007; Wright, Sandlin and Burdick, 2023) is an educational movement focused on critical thinking skills regarding media content, form, and media production's broader social and political implications. It is "*a transformative pedagogy with a theoretical base and practical teaching methodology to empower students to examine their world and challenge the dominant myths that seem "normal" or "natural"*" (Funk et al., 2016, p. 320). CML promotes analyzing dominant ideologies, interrogating power structures, and exploring the influence of media ownership and distribution on messages and audiences. Rooted in social justice, it seeks to empower learners to use media responsibly and ethically for a more just and equitable society.

Semiotics are a valuable tool for CML, examining how signs and symbols convey meaning. Grounded in the foundational work of authors like Saussure, Barthes, -Peirce or Austin, semiotics has long contributed to media education by equipping students to "read" media texts (De Smedt and Fastrez, 2022). Through semiotic analysis, students learn that media texts— e.g., newspapers, films, television programs, advertisements, or digital content—are not neutral but composed of semiotic resources imbued with specific meanings shaped by creators' intentions and sociocultural contexts. Treating SNS interfaces as media texts, this project explores semiotics as both a theoretical and methodological foundation to analyze and educate critically about them. Two semiotic approaches were identified to develop a critical *technosemiotic* approach to counteract the invisibility of SNS interfaces. Together, these approaches provide a comprehensive framework to question the design and use of these artefacts, drawing attention to their often-overlooked material and symbolic components and their mediating role.

2.1 Multimodal Analysis

The concept of multimodality, grounded in social semiotics (Lebrun, Lacelle and Boutin, 2012; Kress, 2014; Jewitt and Henriksen, 2016), refers to the use of culturally shared semiotic resources that produce various effects, enabling people to (re)construct meaning. Multimodal analysis examines how various modes— images, text, sound, and gestures— combine to create meaning.

As Eikenes and Morrison (2010) argue, interfaces are not flat layers but mediating cultural artefacts that dynamically combine semiotic resources. We suggest applying multimodal analysis to SNS interfaces to counter their naturalization by demonstrating that they incorporate a complex set of semiotic modes that actively shape meaning and user experience. By identifying and deconstructing semiotic resources, multimodal analysis can reveal how SNS interfaces comprise elements (e.g., words, menus, icons, buttons, layout, colors, and typography) that help users interact with the system and make sense of the available information. It can also shed light on auditory (e.g., notification sounds) and haptic elements (e.g., clicks, swipe, scroll), showing how they can influence attention and interactions.

Additionally, multimodal analysis highlights power and agency dynamics within interfaces by examining the affordances of modes—what they materially offer, how they are repeatedly used, and the social conventions shaping their use and meaning (Jewitt and Henriksen, 2016). Studies like Djonov and Van Leeuwen's (2018) on ResearchGate and Jewitt and Henriksen's (2016) on Pinterest illustrate how applying multimodal analysis to SNS interfaces reveals how affordances guide interactions, promoting certain interactions while constraining others (Mangen and van der Weel, 2016).

2.2 "Screen-Writing" and the Concept of Architext

Introduced in 1996 by Emmanuel Souchier, "screen-writing" refers to the reading and writing processes in digital environments. The contributions to screen-writing (e.g., Souchier, 1996; Jeanneret, 2007; Souchier, Candel and Gomez-Mejia, 2019) are rooted in a *technosemiotic* perspective, which links text interpretation to their production and reception contexts, shaped by material, technical, historical, social, and cultural conditions (Souchier et al, 2019).

Central to this literature is *architexts* (Souchier et al, 2019)—digital textual structures that organize and regulate other texts and communication processes closely linked to interfaces. Like multimodal analysis, screen-writing theory views interfaces as sites of power and agency, shaping user behavior by structuring text display and communication conditions. Authors argue that while interfaces may seem neutral, they are deliberate

constructions by designers. 'Small recurring forms' (e.g., menus, headings, lists, search bars), which guide users through digital spaces, are examined, highlighting how their familiarity and recursiveness contribute to the invisibility of interfaces. Screen-writing theory also explores interfaces' sociocultural and ideological dimensions, focusing on the conventions shaping their design and reception. More specifically, it critically reflects on the economic imperatives embedded in SNS design and its demand for user productivity, highlighted in discussions of semiocapitalism (Berardi, 2009). It also considers how digital writing-reading activities engage the senses and body.

Beyond its theoretical contributions, the literature on screen-writing provides practical tools, such as analytical grids and case studies, for deconstructing digital texts (Souchier et al., 2019). Saemmer, Tréhondart and Coquelin (2022) drew on this framework to develop media literacy workshops. These workshops invited participants to question their interpretative process of media texts, including the interface of media websites. This project is among the few media education activities we found to focus on deconstructing interfaces and examining their reception.

2.3 Definition of Critical Competences

By integrating the contributions of multimodal analysis and screen-writing within a competence-based approach (Fastrez, 2010; Lebrun, Lacelle and Boutin, 2012) of (critical) media literacy, we identified four competence areas for developing a critical education about SNS interfaces. The first is interface design, which refers to competences required to identify and evaluate (e.g., aesthetically, ethically, etc.) the techno-semiotic components of SNS interfaces. The second area concerns the socio-economic context in which SNS interfaces are produced. Related competences imply the ability to question this context (e.g., producers' identity, intentions, etc.). The third area concerns the reception contexts of SNS interfaces. Related competences concern the ability to reflect on reception conditions (e.g., users' identity, needs, difficulties, practices, etc.) and the potential effects on users. Finally, the fourth area pertains to personal practices regarding SNS interfaces, the ability to interrogate them and their correspondence to one's needs. By integrating these four areas, we identified five key critical competences regarding the understanding and use of SNS interfaces. They can be formulated as follows: (1) considering SNS interfaces as multimodal techno-semiotic system that conveys information/messages, (2) conceiving the role of the production context on the techno-semiotic choices of the SNS interface, (3) reflecting on the potential reception effects of the techno-semiotic choices of SNS interfaces at the individual and (4) collective levels, and (5) adopting a user behavior (as reader and producer) of the interface that considers these reflections/evaluations.

3. Method

This research adopts a design-based research (DBR) approach to address the question: "*How can we help young people (14-18 y/o) develop critical skills regarding social network interfaces?*" DBR is an iterative methodological approach for designing, evaluating and refining educational interventions like pedagogical tools, programs, and activities (Anderson and Shattuck, 2012; McKenney and Reeves, 2013). DBR enables us to develop and test educational activities that apply semiotic (de)construction of SNS interfaces to assess whether it can help enhance teenagers' critical competences. It is a collaborative approach where researchers and practitioners (e.g., teachers or educators) collaborate to co-create the intervention. In this study, we work with *Action Médias Jeunes*, a media education association active in French-speaking Belgium.

We conducted seven focus groups to inform the initial activity design phase and to document adolescents' representations and use of SNS interfaces. Participants drew an existing SNS interface, which served as the basis for group discussions. These sessions took place at a school in French-speaking Belgium and involved 35 adolescents aged 13 to 18. We analyzed session results using thematic analysis (Miles and Huberman, 1994) on NVivo. These discussions provided valuable insights into young people's practices, questions, challenges, and interests, grounding the educational activity in their lived experiences. The following sections summarize key findings from these focus group discussions and outline how they informed the design of our educational intervention.

4. Findings

4.1 Participants' Representations of SNS Interfaces

Participants demonstrated a high level of interest in the topic of SNS, likely due to their frequent use and the "fun" aspect of discussing these platforms. This engagement indicates that SNS is a relatable topic for young people and a suitable focus for exploring interfaces' roles and effects on the public.

The drawing exercise revealed participants' knowledge of key SNS interface components. The level of detail varied between individuals, though common trends emerged. First, common layout design was often drawn correctly, including menus, buttons, research bar, etc. Results show a solid, if basic, familiarity with the standard layout of SNS interfaces. Common interface elements related to content were also consistently depicted, such as username display, location tag, timestamps, and possible reactions. Second, students prioritized images over text. Posts were often depicted visually, while text was minimal or represented in simple, abstract forms like waves. Third, we observed a limited but specific use of color. Although colors were available, they were used sparingly, suggesting that color is perhaps not perceived as an important factor in SNS interfaces. A notable exception was the "like" feature, often highlighted in red, indicating its high visibility and memorability. Finally, metrics such as follower counts, likes, and *snapstreaks* were frequently included in drawings, reflecting an importance, whether conscious or not, accorded to the quantitative elements that shape engagement and user status on these platforms.

While participants were enthusiastic about discussing SNS and had mostly no trouble drawing their interface from memory, the term "interface" itself was unfamiliar or confusing for some and required further explanation. In addition, participants often strayed from the topic of interface design during the discussions. When questioned about the positive or negative aspects of SNS and their potential effects and affordances, they often shifted the discussion to the platform's content, interactions, or users. This resulted in difficulties steering discussions towards the design elements of SNS and their relevant roles and effects, but it also highlights the interest of the educational project.

4.2 Traces of Competences in Interface Analysis

Focus group participants received questions about the affordances of SNS interfaces (e.g., Do you feel the platform encourages or discourages specific actions?) and potential effects (e.g., What effects might these design elements have on you or others?). In response, some students were aware of how specific design features can extend the time spent on SNS. For instance, one student noted, *"It beeps, so you check it out"*, referring to notifications that draw users back to the app. Another observed, *"Short videos make you continue to the next one"*, illustrating an understanding of how content formatting can encourage prolonged usage. Some students recognized how specific design elements encourage repeated platform use and content sharing. For instance, one participant noted, *"I tell myself, oh I must make my snapstreaks"*, explaining how gamification features can create a sense of obligation or motivation, drawing users back to the platform to maintain their "score". Some students also acknowledged how the display of the number of followers can have effects on engagement dynamics. One participant mentioned, *"When I was younger, I think it was a bit of a race between friends, who had the most followers."* Some students also recognized the potential influence of likes and engagement metrics on users' well-being and emotions. A student noted, *"Some people can think, 'Wow, that person did this and got so many likes, while I barely got any'"*, highlighting how the display of engagement metrics on SNS interfaces can affect self-perception and contribute to feelings of insecurity. In addition, some participants reflected on the social implications of SNS interfaces. Talking about likes, one student shared: *"It's more about strengthening friendships,"* suggesting that engagement metrics can act as a form of social affirmation that reinforces connections. Conversely, they can also negatively influence these relationships, as one participant admitted: *"If my friends don't like my post, either they haven't seen it, or I'm taking it a bit personally."* Finally, some students identified privacy risks tied to the immediacy of social sharing: One student highlighted, *"It can go fast, you take a photo and don't pay attention to what's behind it, and that's it, it can be dangerous."* This comment suggests an awareness of how spontaneous content sharing, like on BeReal, may lead to unintended exposure and image right issues.

However, these examples represent traces of critical reflection on the effects of SNS interfaces, demonstrated only by some participants. Overall, the discussions revealed varying levels of awareness and critical thinking on the topic: While some participants could identify such potential effects spontaneously or in response to specific follow-up questions, others gave these implications less consideration. These differences and the potential

debates they could spark emphasize the importance of a pedagogical approach that exposes students to diverse perspectives on SNS interfaces, encouraging them to reflect on aspects they may not have previously considered.

We observed that time management and security were among the most frequently identified potential effects of SNS interfaces, reflecting that these are commonly discussed topics at school or home and/or are more clearly perceived. On the other hand, discussions about emotional, relational, and societal impacts were less prominent or tended to remain at a superficial level. These topics also emerged less spontaneously, surfacing when raised by the interviewer. This gap indicates a valuable opportunity for media educators to encourage deeper reflection on these dimensions, which may not naturally emerge in peer discussions. In addition, older participants tended to express a shift in perspective, particularly concerning social validation metrics like followers and likes. As adolescents age, their values, needs and/or practices may evolve, highlighting the interest in focusing on different aspects of the SNS interface during a pedagogical activity depending on the participants' age, questions, interests and challenges.

4.3 Personal Practices

Discussions revealed varying levels of awareness and intentionality among students regarding personalization settings like location sharing and profile privacy. For example, one student had selectively enabled location-sharing on Snapchat according to her needs, stating: *"I only activated it for my mother"*. Another admitted uncertainty, saying: *"I don't know if it's activated for everyone or not"*. Some students had deliberately set their profiles to public or private to align with their preferences, while others lacked clarity about their settings or related reasoning. These differences highlight the need for educational activities that help young people explore personalization options, understand default settings, and tailor their SNS experiences to their needs. The discussions also emphasized the value of peer learning as students were exposed to new perspectives and shared practical advice, potentially inspiring or enabling them to make more deliberate choices for greater control, safety, or personal preference.

Regarding screen time, participants also had mixed reflections. While most acknowledged spending significant time on social media (often one to several hours per day), their feelings about this usage varied. Some felt dissatisfied, seeing the time spent as *"too much"* or *"wasted"*. At the same time, they experience difficulties in cutting back. One student shared, *"I'm trying to reduce that more and more, and getting under an hour is my goal, but it's a bit hard"*. Others viewed their social media time with less concern. One student said, *"If I really wanted to stop, I'd know how to do it, but I don't necessarily mind spending a bit of time on it."* Another remarked, *"It's not like I'm addicted"*. These attitude differences suggest a need for educational approaches that address screen time awareness and self-regulation strategies through interface personalization, especially for students who feel a sense of dissatisfaction but struggle to make changes.

4.4 Design and Tests of the Educational Activity

These insights from focus groups, combined with the theoretical framework and the expertise of collaborative media educators, helped us develop a pedagogical approach to foster the identified critical competences regarding SNS interfaces. Experiential learning (Kolb, 2015) plays a central role in this approach. Students are encouraged to *"learn by doing"* as they engage in the creation of interfaces. By placing students in a creator's role, this approach aims to make participants reflect on the intentional design choices behind SNS interfaces. This approach aligns with CML's emphasis on production: Students will create alternative media to analyze and challenge mainstream design elements critically. This approach also connects with critical and speculative design principles, encouraging participants to use design to stimulate meaningful reflection and spark debate rather than to produce functional objects (Willis and Anderson, 2013; Wuyckens, 2024). The pedagogical approach is socio-constructivist (Amineh and Asl, 2015) via peer-to-peer interaction.

The developed educational activity based on this pedagogical approach is structured as follows: First, the educator initiates a general discussion about SNS, exploring which platforms students use, how they engage with them, and what purposes they serve. Students then divide into groups and assume the role of SNS designers. They start by analyzing existing SNS interfaces to identify strengths, weaknesses, and design features they like or dislike by using screenshots, their knowledge of platforms, etc. In a subsequent production/creation phase, they design their own SNS platform. Each group must adhere to a specific economic model: data monetization, public funding, crowdfunding, or subscription-based payment. Considering the model's implications, students work to create a prototype of their SNS, making key decisions about the platform's name, target audience, type of content, algorithm, notifications, etc. They must also draw the news feed interface and

user profile page. Each group presents their imagined SNS and its interfaces, explaining any rationale behind their design choices and how the economic model may have influenced their decisions. Finally, the educator guides a collective discussion about (1) game/design experience and user experience of SNS interfaces, (2) attention economy and data collection, (3) potential individual and (4) social/societal effects of SNS interfaces.

This activity was tested in four schools, and preliminary results highlight successes and areas for improvement. First, engagement and motivation were high in most groups. Students were enthusiastic about the activity and enjoyed the creative exercise of designing alternative interfaces. However, specific individual interests and personalities may have affected engagement levels in certain groups.

Secondly, the activity successfully sparked discussions, with some groups reflecting on how design elements can, for example, influence emotions or security. In some cases, this led to a shift in perspective, as students moved from a strictly positive view of SNS interfaces to a more nuanced critique of the choices embedded in SNS design. However, discussions varied in depth: some groups focused predominantly on aesthetics. Sometimes, one or two students also tend to lead or dominate overall group engagement, sparking fewer debates and limiting collaborative learning.

A recurring issue was keeping students focused on the interface rather than the content shared. The activity may require more structured facilitation to help students focus critically on the interface. Finding a balance between allowing students to learn through hands-on experience or learning from each other and providing structured guidance from educators is crucial to enhancing the activity's effectiveness.

Lastly, time constraints limited the depth of exploration in some sessions. Although extending the activity duration could allow for a richer critical analysis, teachers have limited time to dedicate to the topic, underscoring the need for efficient activity design.

4.5 Educational Implications

The findings underscore the potential of semiotics-based educational activities in fostering critical media literacy regarding SNS interfaces and interfaces in general. The activity's design—rooted in experiential learning and socio-constructivist principles—demonstrated notable success in engaging students and motivating them to reflect on SNS interfaces. By focusing on the design elements of SNS interfaces rather than content alone, students begin to recognize how design choices can influence users' attention, behaviors, emotions, and relationships. The educational activity developed for this purpose sparked engagement and critical reflection among students. It provided a platform for them to collaboratively imagine alternative interfaces, empowering them to question existing models. This reflective engagement marks a promising step in equipping students with skills to consciously and critically navigate social media environments, potentially raising their interest and ability to regulate their personal use.

However, the activity also revealed areas for refinement. One recurring challenge includes helping students focus on the interface rather than the content. An improvement might offer a more structured facilitation approach, particularly for groups struggling to develop critical debates independently. Providing educators with structured discussion guidelines could help students sustain a critical focus on interface design elements. These findings point to valuable directions for refining the educational approach. Iterative refinements will also include the development of an assessment tool to evaluate to what extent the activity enhances the identified critical competencies.

5. Discussion and Conclusion

This study explores the potential of integrating semiotics into media literacy education to empower young users in navigating SNS interfaces. The findings suggest that a structured yet flexible pedagogical approach, blending experiential learning with peer-to-peer discussions, can foster critical thinking. However, the study also highlights challenges, such as the difficulty students face distinguishing between content and design and the need for scaffolding from educators to maintain this focus. Addressing these challenges through iterative refinement will further strengthen the activity's impact.

Ultimately, this approach offers a promising avenue for equipping young people with the tools to question and consciously interact with the SNS interfaces in their daily lives. In an era where digital environments increasingly shape perceptions, emotions, behavior and social dynamics, fostering this critical awareness is essential for promoting healthy, intentional media practices. As social networks and their interfaces evolve, ongoing

adaptation of media literacy education will be crucial, positioning adolescents as informed, empowered participants in the digital age.

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Truth, Lies, and Algorithms: Interdisciplinary Pedagogical Strategies for Media Literacy

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Abstract: The spread of misinformation on social media presents a critical challenge for students across disciplines. Despite its far-reaching impact on diverse fields, media literacy is often relegated to specialized courses rather than integrated across curricula. This paper offers actionable pedagogical strategies—grounded in the theoretical frameworks of critical pedagogy, experiential learning, and transactional reading theory—to help postsecondary students navigate and resist misinformation in varied disciplinary contexts by emphasizing critical media literacy. The proposed activities encourage students to critically analyze social media content, evaluate its credibility, and reflect on its societal impacts. By bridging theory and practice, this paper contributes to the growing body of research on interdisciplinary media literacy; it also underscores the transformative potential of experiential learning in preparing students for ethical, informed, and cross-disciplinary digital engagement.

Keywords: Misinformation, Media Literacy, Higher Education, Teaching Methods

1. Introduction

In *What the Fact?!: Finding the Truth in All the Noise* (2022), Seema Yasmin highlights the pervasive influence of cognitive biases and emotional appeals in the spread of misinformation. These psychological drivers not only make falsehoods more appealing than facts but also erode public trust in institutions, hinder collective action, and amplify societal divisions. In an era during which misinformation can spread through algorithmically curated social media feeds, the need for robust media literacy education is urgent. However, media literacy is too often treated as an isolated skill set, confined to journalism, communication, or digital media courses, when in reality, the ability to critically evaluate information is fundamental.

Media literacy should be a shared responsibility across curricula. Misinformation affects every field—from public health and political science to business ethics and STEM—yet many students do not receive systematic training in how to critically engage with information within their disciplines. If media literacy education remains siloed, students may learn fact-checking techniques in one course but fail in the transfer of those skills to other courses and contexts.

This paper contributes to the growing body of research on misinformation education by exploring pedagogical strategies that empower students in varied disciplinary contexts. Building on established theories of critical pedagogy (Freire, 1970) and experiential learning (Dewey, 1933), we examine how fact-checking projects and creative assignments can serve as tools for fostering critical media literacy. These approaches are not only designed to help students analyze the rhetorical and contextual factors underpinning misinformation but also to develop ethical reasoning, interdisciplinary critical thinking, and rhetorical analysis skills that extend beyond media courses.

By situating these pedagogical innovations within broader scholarly discussions and practical classroom applications, this paper aims to provide educators with actionable strategies. It seeks to bridge the gap between theoretical insights and practical interventions and contributes to a larger conversation about the role of education in countering misinformation. We argue that media literacy should not be relegated to particular departments or courses but must be reinforced across the curriculum, helping students recognize its relevance across contexts, stakeholders, and modes of engagement.

2. Theoretical Frame

As misinformation studies have expanded, many contemporary media literacy efforts have prioritized quick digital heuristics, such as fact-checking and algorithmic analysis. While these strategies are valuable, they often overlook deeper interpretive traditions rooted in the humanities. Foundational theories from Dewey, Freire, and Rosenblatt emphasize that meaning-making is an active, relational process—one that requires slow, deliberate

engagement with texts and their rhetorical construction. Critical pedagogy, transactional reading theory, and experiential learning together suggest that literacy education must move beyond the identification of misinformation toward a deep, reflective engagement with media.

A return to these interpretive traditions is urgent in today's digital climate, where students encounter fragmented, high-speed media consumption habits. Recent reporting (Horowitch, 2024) indicates that many students struggle with sustained attention and critical engagement, preferring surface-level interactions over in-depth analysis. By reintegrating humanities-based reading strategies, educators can equip students with the patience and analytical depth necessary to navigate complex information that has been reduced to bite-sized social media content. This approach treats media literacy not as a checklist of detection skills but as a lifelong, evolving practice of critical inquiry and reflection.

The pedagogical strategies proposed in this paper are grounded in critical pedagogy, transactional reading theory, and experiential learning. Critical pedagogy, as articulated by Freire (1970), seeks to empower learners to question dominant narratives and critically reflect on their social realities. Freire's concept of praxis—combining reflection and action—is particularly relevant in addressing misinformation, as it equips students with the tools to both analyze and counter false narratives.

Louise Rosenblatt's transactional theory of reading (1978) adds another dimension by positioning reading as a dynamic interaction between the reader and the text, which is influenced by the reader's experiences, emotions, and social context. This perspective underscores the role of interpretation in media literacy. Rosenblatt's work presages the advent of "social" media with her emphasis on texts as only one part of the diagram of author-text-reader; this dynamic diagram opens up the door for educating readers, across disciplines, to take responsibility for their own media literacy.

Experiential learning, as proposed by John Dewey (1933), emphasizes the importance of participatory, real-world learning. Characterized by hands-on activities that reflect the complexity of misinformation circulation, experiential learning encourages critical thinking, ethical reasoning, and a deeper understanding of societal challenges.

These theoretical perspectives offer a historically grounded yet forward-looking framework for misinformation pedagogy that also addresses different dimensions of critical media literacy.

Table 1: Justification of Selected Theoretical and Empirical Findings

Source	Key Contribution	Relevance to This Study
Dewey (1933)	Experiential learning: Education should be inquiry-driven and rooted in real-world application.	Supports fact-checking projects as active learning tools, where students investigate claims rather than passively consume information.
Freire (1970)	Critical pedagogy: Literacy should empower students to challenge dominant narratives and ideological control.	Justifies treating misinformation as a rhetorical and ideological construct, aligning with critical engagement strategies in the classroom.
Rosenblatt (1978)	Transactional reading theory: Meaning is co-constructed between reader and text, shaped by context, experience, and interaction.	Reinforces the importance of slow, rhetorical reading in media literacy, arguing against overly simplistic detection-based approaches.
Yasmin (2022)	Cognitive and emotional psychology of misinformation: False information spreads due to bias, engagement-driven platforms, and emotional resonance.	Provides an empirical foundation for why students need more than just digital literacy—they must recognize the emotional and psychological forces that shape misinformation consumption.

This theoretical integration ensures that the study is not only rooted in established educational theories but also responsive to the evolving landscape of misinformation research. Rather than treating media literacy as a fixed skill set, this approach situates it within a dynamic, student-centered process that blends historical pedagogical insights with contemporary challenges.

Furthermore, the inclusion of both time-tested and contemporary perspectives ensures that the pedagogical strategies proposed in this study remain adaptable across different contexts. While Dewey's and Freire's theories remain widely influential in critical education, Yasmin's work highlights how modern digital ecosystems and psychological drivers complicate traditional literacy models. Together, these perspectives bridge

educational philosophy, rhetorical analysis, and cognitive science, offering a robust and broadly appealing foundation for misinformation pedagogy.

By drawing on these interdisciplinary perspectives, this paper builds upon existing media literacy research while expanding the conversation to include deeper interpretive strategies. The following literature review examines contemporary approaches to misinformation education, highlighting both their strengths and limitations in fostering sustained critical engagement.

3. Literature Review

Media literacy education often emphasizes digital literacy, fact-checking, and source evaluation as key strategies for combating misinformation. These approaches offer students valuable tools, particularly in an era of algorithmic content curation. However, they often prioritize efficiency over deep engagement, training students to recognize misinformation patterns rather than interrogating the rhetorical and structural mechanisms that sustain them.

Decades of pedagogical research from the humanities highlight the importance of close reading and rhetorical awareness as tools for fostering critical thinking. Yet, these practices are underutilized in media literacy curricula. Tekoniemi et al. (2022) highlight the effectiveness of experiential learning strategies, such as fact-checking exercises, in fostering critical thinking and ethical reasoning among students. These activities enable learners to dissect the origins and rhetorical strategies of misinformation, enhancing their ability to identify and counteract it in real-world contexts. Moreover, creative assignments, such as constructing and deconstructing fake news, provide students with a deeper understanding of how misinformation appeals to emotions and biases, a key theme in Yasmin's (2022) work. Bronstein et al (2019) suggest that given the demonstrated correlation between reduced engagement in analytical thinking and a belief in fake news, educators should help students by designing interventions which increase analytic thinking and/or actively open-minded thinking.

Yang and Li (2024) advocate for integrating media literacy into civic and political education to equip students with the skills necessary to critically analyze information and engage responsibly in democratic processes. Similarly, Cheung and Xu (2014) underscore the importance of teaching students to evaluate the credibility of information sources as part of a broader effort to promote informed citizenship. These scholars emphasize that rhetorical literacy—not just digital literacy—is crucial in helping students develop an enduring capacity to engage critically with misinformation.

The spread of misinformation through social media has become a major area of concern for educators, policymakers, and researchers alike. Studies have shown that the architecture of social media platforms, particularly their reliance on engagement-driven algorithms, contributes significantly to the amplification of false narratives. Chalke and Mishra (2023) emphasize that these algorithms prioritize sensationalist content and create echo chambers that reinforce cognitive biases and limit exposure to diverse perspectives. This dynamic has profound societal implications, particularly during moments of public crisis, such as election cycles or health emergencies (Sachdev and Ashfaq, 2023).

TikTok, one of the fastest-growing social media platforms, exemplifies how algorithmic prioritization shapes information dissemination. Adelhardt and Eberle (2024) explore the platform's potential for education but caution against its susceptibility to misinformation due to the platform's prioritization of engagement over credibility. Li's (2022) analysis of Zhihu (China's largest question-and-answer platform, similar to Quora but with growing content capabilities) similarly underscores how algorithms that maximize user engagement can exacerbate echo chambers, intensify the spread of misinformation, and limit exposure to diverse perspectives. Adaji (2023) further examines generational differences in misinformation susceptibility and finds that younger users are particularly vulnerable to spreading false narratives due to peer influence and digital habits.

Beyond the classroom, studies point to the societal implications of misinformation education. Sachdev and Ashfaq (2023) argue that misinformation undermines trust in public institutions, while Chalke and Mishra (2023) highlight its role in exacerbating polarization and public health crises. Addressing these challenges requires a multipronged approach that includes not only educational interventions but also algorithmic transparency and platform accountability. Such an approach equips students to critically engage with digital content while empowering them to advocate for systemic changes that prioritize truth and credibility.

4. Methodology: Humanities-Based Pedagogical Strategies for Critical Media Literacy

This study proposes a humanities-based pedagogical approach to critical media literacy, emphasizing slow, close, and rhetorical reading over quick digital heuristics such as source verification and fact-checking. This methodology prioritizes interpretive strategies drawn from rhetoric, composition, and literary studies. These strategies equip students to analyze not just the credibility of information but also the mechanisms that shape meaning and influence audiences.

A central concern driving this methodology is that many students, despite their digital fluency, struggle with the reading and interpretive skills necessary for critical media literacy. Three key challenges inform this approach. First, students' reading habits are often shaped by algorithmically curated, short-form content that encourages surface-level interactions rather than sustained analytical reading. Many students report that they do not engage in reading for comprehension or leisure (Horowitch, 2024), which hinders their ability to critically evaluate media texts. Second, a lack of familiarity with rhetorical frameworks prevents students from fully interrogating bias, argument structures, and persuasion tactics, leading to oversimplified evaluations of misinformation. Finally, the pace of online discourse discourages slow, reflective reading, making it harder for students to detect subtle rhetorical manipulations that contribute to misinformation's persuasive power.

This methodology addresses these challenges with three pedagogical strategies: (1) fact-checking as rhetorical inquiry, (2) crafting and analyzing misinformation, and (3) collaborative discussion-based learning. These strategies align with critical pedagogy (Freire, 1970), transactional reading theory (Rosenblatt, 1978), and experiential learning (Dewey, 1933), ensuring that media literacy is treated as an active, relational process rather than a mechanical set of detection skills. By embedding slow, close, and rhetorical reading practices into media literacy education, this methodology challenges dominant approaches that treat misinformation as a problem of fact-checking alone, instead positioning it as a complex rhetorical phenomenon that demands deeper engagement. Each pedagogical strategy addresses a key aspect of students' challenges in media interpretation and is designed to be adaptable across higher education contexts.

The first strategy, fact-checking as rhetorical inquiry, reframes fact-checking as an interpretive and analytical process rather than a simple act of verification. Students engage in a multi-step analysis of how misinformation is rhetorically constructed, circulated, and received. Rather than treating misinformation as a deceptive mistake, students learn to recognize it as a persuasive phenomenon shaped by digital affordances, platform incentives, and ideological biases.

The second strategy, crafting and analyzing misinformation, immerses students in experiential learning by placing them in the role of content creators who deliberately design misinformation. Students also analyze their own work, reflecting on how their rhetorical choices influenced persuasiveness, how digital platforms amplify misinformation, and what ethical boundaries exist between persuasion and manipulation. This approach aligns with Rosenblatt's transactional theory of reading, which emphasizes that meaning is co-constructed between creator and audience. Students move beyond passively evaluating misinformation and instead actively engage with its persuasive mechanisms, making them more adept at resisting its influence in real-world contexts.

The third pedagogical strategy, collaborative and discussion-based work combined with experiential activities, extends these individual exercises into a peer-driven, knowledge-building process. Students analyze misinformation trends, apply rhetorical reading strategies across different digital platforms, and discuss broader societal implications of misinformation's spread. Discussions and experiential follow-up activities foster critical synthesis, as students integrate personal experiences with misinformation, peer insights, and academic research.

While this study does not employ quantitative experimental methods, the effectiveness of these pedagogical strategies is assessed through qualitative measures that emphasize student reflection, interpretive engagement, and classroom discourse. Three primary evaluation methods guide this assessment: 1) student reflection essays, in which students articulate how their understanding of misinformation evolved through these activities. These reveal how students engage with their own biases, apply rhetorical literacy skills, and critically evaluate persuasive digital content, 2) classroom discussions and peer feedback, serving as informal assessments of students' ability to articulate the rhetorical mechanisms behind misinformation in a collaborative environment, and 3) comparative analysis assignments, which evaluate how well students apply rhetorical and critical reading techniques across different media forms, ensuring that their learning is transferable beyond the classroom.

5. Classroom Applications

5.1 Assignment: Fact-Checking as Rhetorical Inquiry

This assignment reframes fact-checking as a rhetorical and interpretive practice rather than a simple act of verification. Traditional approaches to media literacy often emphasize heuristics such as lateral reading and source triangulation; these strategies, while essential, can obscure the deeper rhetorical mechanisms that allow misinformation to take hold. Rather than positioning fact-checking as a true-false binary, this assignment invites students to critically examine how and why misinformation circulates, how digital platforms influence its reception, and how rhetorical framing shapes audience interpretation.

To begin, students engage in a structured close reading exercise of a selected misinformation text, annotating for key rhetorical features such as emotional appeals, argument structures, and credibility markers. Rather than immediately fact-checking the claim, they first analyze its construction: What specific language choices lend it authority? How does it frame its central claim to appeal to audience biases or preexisting beliefs? Which rhetorical appeals—such as ethos, pathos, or logos—are most prominent? This deliberate, slow reading approach disrupts the common impulse to treat misinformation as an obvious fallacy to be debunked and instead encourages students to consider why certain narratives are compelling, persistent, and difficult to refute. Once they have analyzed the misinformation on its own terms, students then compare it to fact-based reporting on the same topic, mapping out the rhetorical and structural differences between misleading and reputable sources. This comparative analysis reinforces the idea that credibility is not merely a function of accuracy but of how information is framed, contextualized, and presented to different audiences.

Beyond analyzing individual texts, students also investigate the role of digital platforms and algorithms in shaping the spread and visibility of misinformation. Rather than treating social media as a neutral channel for content distribution, they examine the ways in which platform affordances and engagement-driven incentives amplify misinformation's reach. Students research how specific features—such as TikTok's For You Page, Twitter's trending topics, or Facebook's engagement-based ranking system—contribute to the virality of misleading claims. Additionally, they explore how format influences rhetorical effectiveness: Does the misinformation appear as a headline, meme, short video, or long-form article? How do the genre and medium shape its persuasive impact? By critically engaging with the rhetorical ecology of digital misinformation, students develop an understanding of how infrastructure and ideology intersect in online spaces.

As a final step, students reverse-engineer the misinformation they analyzed by engaging in a reflective writing exercise that prompts them to consider not just how misinformation spreads, but why it resonates and persists. They reflect on questions such as: *Who benefits from the circulation of this misinformation? Who is harmed? Why might certain audiences find this claim persuasive despite counter-evidence?* They also analyze how reputable sources attempt to refute misinformation and assess whether these strategies are rhetorically effective or limited in their reach. To deepen the metacognitive dimension of this assignment, students track their own media consumption for a week, identifying moments where they encountered rhetorical manipulation in real time. In a short reflective analysis, they examine how their own biases shaped their initial interpretations and consider which strategies—such as deliberate reading, cross-referencing, or skepticism toward emotionally charged content—helped them resist misinformation.

By integrating rhetorical inquiry, platform analysis, and reflexive engagement, this assignment challenges students to see fact-checking not as a mechanical process of verification but as a form of critical literacy. Rather than simply identifying falsehoods, students develop the interpretive and analytical skills necessary to assess how and why misinformation operates as a persuasive force in today's digital landscape. This reorientation toward fact-checking as a rhetorical act ensures that students do not just consume and reject information but actively engage with the ideological, emotional, and technological conditions that make misinformation so powerful.

5.2 Assignment: Crafting & Analyzing Fake News

Building on experiential learning principles, this assignment immerses students in the mechanics of misinformation production to deepen their rhetorical awareness, interpretive skills, and metacognitive reflection. This assignment challenges students to construct and deconstruct deceptive content, helping them engage more critically with the persuasive strategies that fuel misinformation's effectiveness. By stepping into the role of content creators, students gain firsthand experience in the deliberate choices that shape misleading

narratives—reinforcing the idea that misinformation is not simply consumed but constructed. This perspective aligns with Rosenblatt’s transactional theory of reading, which emphasizes that meaning is actively created through an interaction between the text and the reader.

The assignment unfolds in three interrelated stages, designed to move students from active rhetorical production to reflective critical analysis.

In the first phase—Creating Misinformation as Rhetorical Experimentation—students fabricate a news post, meme, or short-form social media message that mirrors the rhetorical and visual strategies commonly found in misinformation. This process requires them to employ key persuasive techniques to craft a seemingly convincing but false narrative. They also consider the role of visual rhetoric: How do provocative imagery, clickbait-style headlines, and strategic formatting amplify persuasion? What makes misinformation engaging and shareable within specific digital environments? By deliberately constructing misleading content, students move beyond passive critique and begin to recognize the subtle mechanics that contribute to misinformation’s success in digital spaces.

At this stage, students also consider the platform affordances that shape the spread of misinformation. Rather than treating all digital content as functionally equivalent, they analyze how the format and genre of their misinformation influence its potential reach. Would their deceptive message work best as a meme on Instagram, a short-form TikTok video, or a long-form Facebook post? How do algorithmic incentives—such as virality triggers, engagement loops, and personalized feeds—contribute to the spread of misleading content? This component of the assignment builds platform literacy, ensuring that students recognize misinformation not just as a textual phenomenon but as one deeply shaped by digital infrastructure and audience behavior.

After creating their misinformation, in the second phase— Reverse-Engineering Persuasion Through Critical Annotation—students deconstruct their own rhetorical strategies by annotating and reflecting on their persuasive choices. This stage requires them to engage in structured analysis, responding to questions such as:

- **Intent & Framing:** What initial rhetorical decisions shaped their misinformation? How did they structure their message to appeal to a specific audience?
- **Language & Visual Cues:** How did specific word choices, imagery, and design elements enhance persuasion?
- **Cognitive Biases & Emotional Triggers:** What psychological and emotional appeals did they exploit, and why might they be effective?
- **Platform Strategy:** How did their chosen format (e.g., meme, TikTok video, headline) shape the rhetorical effectiveness of their misinformation? What aspects of platform design and algorithmic incentives made it more likely to be shared?
- **Ethical Reflection:** What responsibilities do content creators bear when constructing persuasive media? How do these same rhetorical strategies operate in legitimate persuasion, and where do ethical boundaries emerge?

This reverse-engineering process shifts students from the role of persuader to analyst, reinforcing that misinformation thrives not only because it is false, but because it is persuasive.

The third and final phase of this assignment— Metacognitive & Ethical Considerations (i.e., beyond just misinformation detection)—pushes students to reflect on the broader ethical and cognitive dimensions of misinformation. Rather than positioning misinformation production as an isolated academic exercise, they consider its real-world consequences: Who benefits from the spread of misinformation? How do economic, political, and ideological forces shape its circulation? What are the ethical implications of using persuasion techniques that are also common in legitimate advertising, advocacy, and journalism?

To extend this reflection, students also conduct a self-analysis of their own media habits, tracking their engagement with persuasive digital content for one week. They analyze moments when they felt drawn in by emotionally charged, misleading, or rhetorically manipulative media and identify strategies that helped them resist or question deceptive content. This step reinforces metacognitive literacy and skills transfer, encouraging students to recognize not just how misinformation works, but how they personally engage with and interpret persuasive media.

By integrating rhetorical production, platform analysis, and ethical reflection, this assignment moves beyond surface-level fact-checking or media skepticism. Instead, it positions students as rhetorically informed participants in digital culture. Dewey’s model of participatory learning suggests that deep understanding

emerges through hands-on engagement, and this assignment operationalizes that principle by making students active experimenters in the persuasive dynamics of misinformation.

5.3 Activity: Create, Collaborate, Discuss, Experience, and Reflect

Students who learn about and create social media posts are well-positioned to work with peers to analyze their own and others' work, to produce content together, and to reflect and discuss the process and product of their efforts. Such collaboration adds the voices and experiences of participants as context, allowing for a more complex synthesis (Rosenblatt 1978). Finally, collaborative and discussion-based activities bring private work into the public realm; this is the goal of academic knowledge-building.

Bronstein et al (2019) suggest that given the demonstrated correlation between reduced engagement in analytical thinking and a belief in fake news, educators should help students by designing interventions which increase analytic thinking and/or actively open-minded thinking. Experiential learning modes, such as role plays, real-time negotiations, or active construction of materials in a laboratory, qualify as such interventions. A pedagogy that combines collaboration, discussion, and experiential learning modes offers students an enriched playground for analysis and synthesis in higher education environments and enhances their media literacy.

In this classroom activity that combines these learning modes, students learn about a particular social media trend from 2018 that spread across platforms and cultures: the "Flaunt Your Wealth" challenge. This trend has been studied as a response to state-sponsored censorship and information control (Victor & Hui, 2018) and can be characterized as misinformation. The activity unfolds in three interrelated stages.

In Stage One, prior to convening in the classroom, students read selections from social class theorists; they are performing close readings through annotation and other reading practices. Students in this course have also been developing characters that they use in classroom role play scenarios, through continuously adding to the biographies they are writing after performing close readings.

In Stage Two, in the classroom, students do the following:

- Read about the trend in contemporaneous news articles;
- Work in pairs and quads to find archived posts and describe the arc of the trend online;
- Discuss the trend with peers; and
- Apply what they have learned by inventing and publicly explaining a social media trend that relates to the character whose biography they have been developing over the term. Students in this activity must apply knowledge of one culture's trend to their own character's culture and context.

In this public, discursive process, building on each other's experiences as enhancements to what they can find through research, students are compelled to recognize that no country or culture is immune from forms of misinformation, disinformation, and censorship. They are compelled in discussion to ask and answer questions such as 'what cultural values are implied by the virality of these posts in certain contexts?'

In Stage Three, beyond the classroom, students write reflective analytical essays. Much as Dewey (1933) suggests, reflection is a metacognitive act that lays bare a student's process and, in this particular exercise, demands that a student make the connection between self and character, self and other characters, and self and context. This rich analytical armature lasts; the skills transfer. Students are leaning away from simple forensic analysis of a social media trend and into analytical engagement. This process is neither passive nor reactive, but instead slow, deep, active reading combined with meaning-making and contextualizing. It is proactive engagement.

Grounding this set of activities in the foundational theories of literature and rhetoric helps students recognize that 'Flaunt Your Wealth' is more than just a trend that misinforms and glamorizes vapid consumerism. Slow, controlled reading of social media posts, supplemented with theoretical reading and collaborative classroom discussion helps students go beyond facile analyses. This pedagogy can be a platform for understanding cultural attitudes, self, economics, ethics, and more. In the case of 'Flaunt Your Wealth', its origins in Russian and Chinese social media also prompt questions about sourcing, language and linguistics, translation, cultural norms, assumptions, and critiques of capitalism. Finally, as Rosenblatt (1978) suggests, experiencing this social media trend through the lens of a character and then one's self demands that the student play—and understand—all the parts essential to a reading event: author, text, and reader.

Students in any academic discipline who are given the luxury of attending to the production of meaning through close reading, collaborative discussion, and experiential learning will enhance the media literacy skills necessary to combat misinformation and disinformation.

6. Implications, Challenges, and Future Directions

This study has proposed a humanities-based pedagogical approach to critical media literacy, emphasizing slow, close, and rhetorical reading over quick digital heuristics. By drawing from critical pedagogy, transactional reading theory, experiential learning, and contemporary misinformation research, it argues for a fundamentally interpretive, inquiry-driven approach to misinformation education. The findings highlight the importance of deep rhetorical analysis, participatory learning, and student engagement in misinformation pedagogy. However, the practical application of these strategies raises several important implications, challenges, and opportunities for further research.

6.1 Implications for Media Literacy Education

For educators, this study suggests that traditional media literacy curricula, which often emphasize fact-checking and source verification, may be insufficient on their own. While digital heuristics remain valuable tools, they do not account for the rhetorical, psychological, and ideological dimensions of misinformation (Yasmin, 2022). Educators should consider incorporating interpretive humanities-based approaches, such as rhetorical analysis, experiential misinformation exercises, and slow-reading techniques, to equip students with deeper critical thinking skills. These strategies help students not just detect misinformation but also understand why it is persuasive, how it circulates, and how they engage with it.

For higher education institutions, the study highlights the need for interdisciplinary collaboration in media literacy education. Critical media literacy should not be relegated to journalism, communication studies, or digital humanities courses alone. Instead, institutions should explore cross-disciplinary partnerships, integrating media literacy principles into business ethics, political science, public health, and STEM disciplines, where misinformation has tangible real-world consequences. Institutional support for centers of teaching and learning, faculty training, and curriculum development will be crucial in expanding the reach and effectiveness of these pedagogical approaches.

For policymakers and digital platform regulators, these findings suggest that misinformation education should extend beyond classroom settings to broader public literacy efforts. The rapid proliferation of AI-generated content, deepfakes, and emotionally charged misinformation campaigns presents new challenges that require more than individual critical thinking skills. Policymakers should consider investing in media literacy programs that emphasize interpretive reading skills, ideological critique, and awareness of digital platform algorithms.

6.2 Challenges and Limitations

While this study presents a compelling case for humanities-based approaches to media literacy, several challenges and limitations should be acknowledged.

One major limitation is scalability. The close reading, rhetorical analysis, and experiential misinformation exercises described in this study require time-intensive engagement, which may be difficult to implement in large-enrollment courses or settings where standardized assessments and curriculum constraints limit flexibility. Future research should explore how these approaches can be adapted for different instructional contexts—for example, by leveraging digital annotation tools, discussion-based online forums, or AI-assisted rhetorical analysis exercises.

Another challenge is student resistance to slow, deliberate reading practices. Many students, accustomed to fast-paced digital content consumption, may initially struggle with the intellectual patience required for deep textual engagement (Rosenblatt, 1978; Horowitch, 2024). Educators must consider how to scaffold these practices effectively, integrating both digital heuristics and interpretive strategies to ease the transition from surface-level to deep reading.

Additionally, this study is theoretically grounded but does not include empirical assessment of its pedagogical effectiveness. While the strategies presented have been classroom-tested and refined through iterative practice, future studies could build on this work by incorporating empirical assessment methods.

6.3 Future Research Directions

Given these limitations, there are several important avenues for future research.

1. Empirical Assessment of Humanities-Based Media Literacy – While existing studies have explored the effectiveness of fact-checking and lateral reading strategies (Wineburg & McGrew, 2019), there is limited empirical research on the impact of slow reading, rhetorical analysis, and interpretive media literacy approaches. Future studies should investigate how these strategies influence students' ability to analyze misinformation, resist cognitive biases, and engage in ethical digital discourse.
2. Interdisciplinary Applications – Future work could explore how rhetorical media literacy strategies apply beyond humanities courses. In business ethics, for example, misinformation related to corporate social responsibility (CSR) and marketing practices could be analyzed through a rhetorical and ethical lens. In public health, researchers could examine how misinformation about vaccines and medical treatments is framed and circulated. Expanding this research into STEM and policy studies would help bridge the gap between humanities-based critical inquiry and practical, industry-specific misinformation challenges.
3. AI, Algorithmic Literacy, and the Future of Misinformation Pedagogy – With the rise of AI-generated misinformation and synthetic media, future research should explore how humanities-based strategies can be adapted to address these emerging challenges. For example, how can rhetorical analysis be applied to deepfake detection? Future work should also examine how educators can integrate AI-assisted tools in a way that enhances, rather than replaces, critical reading and writing skills.
4. The Role of Emotion and Bias in Misinformation Engagement – While this study has highlighted Seema Yasmin's (2022) work on the psychological dimensions of misinformation, future research should further explore how emotional triggers influence students' media consumption habits.

7. Conclusion

By foregrounding slow, close, and rhetorical reading as the cornerstone of critical media literacy, this study challenges the traditional focus on digital heuristics and rapid misinformation detection. While fact-checking and source verification remain valuable, they do not sufficiently equip students to understand the rhetorical and ideological mechanisms driving misinformation's persuasiveness. The pedagogical strategies outlined in this paper demonstrate the potential of humanities-based approaches to foster deeper critical engagement.

Crucially, if we frame media literacy and misinformation education as "someone else's job," students will likely never receive sustained, systematic training in it. Instead, critical media literacy must be a shared responsibility across disciplines, integrated into writing instruction, business ethics, STEM coursework, public policy, and beyond. Misinformation impacts every sector, and therefore, its pedagogical interventions should be woven throughout curricula rather than siloed into electives.

By further developing empirical research on humanities-based misinformation pedagogy, expanding interdisciplinary collaborations, and addressing emerging digital literacy challenges, we can build a more robust, reflective, and critically engaged media landscape for future generations.

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Do Food-Related Social Media Content Influence Dietary Habits Among Young Adults? An Empirical Examination

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Abstract: In recent years, there has been a remarkable increase in the usage of social media for exchanging and sharing information across several domains, including but not limited to lifestyle trends, fitness routines, entertainment contents, food related contents, and dietary practices, among others. This study aims to unravel the complexities involved with the influence of food related social media content on dietary habits. The primary objective is to explore how exposure to such contents affects food choices, body image perceptions, and nutritional awareness among young adults. This study utilized both quantitative and qualitative methods to assess the association between exposure to food related social media content and dietary habits. Individuals in the age range of 18 to 26 are considered as young adults in this study. The quantitative data was collected through an electronic survey completed by 110 respondents, and additional interviews were conducted with 30 selected individuals. The survey examined participants view on body image and the impact of social media food ads on food purchasing behaviour and dietary choices. Some of the important findings obtained from this study are as follows: First, participants indicated accessing several social media platforms such as Instagram, Facebook, YouTube, and Tik-Tok, with a substantial majority engaging for over 5 hours a day. Fashion, lifestyle, entertainment, and food were the most popular genres, with one-third of participants trying new diets or recipes after engaging with food content online. Two-third of participants felt body image pressure, often altering diets due to food-related social media content, while many prioritised visual appeals over nutrition, with 50% influenced by social media marketing. This study is a novel attempt to unravel the complex interplay between social media and dietary behaviors particularly among young adults.

Keywords: Social Media Platforms, Young Adults, Food Related Content, Dietary Trends, Social Psychology.

1. Introduction

Social media has revolutionized the communications landscape of the twenty-first century and has gradually occupied a prominent space in people's daily lives, fundamentally altering their thoughts, perceptions, and behaviors (O'Reilly, 2018; Rani and Tyagi, 2023). Social networking sites (SNS) such as Facebook, YouTube, Snapchat, Instagram, and Tik-Tok offer a wide variety of content genres each catering to the unique user objectives and interests. The pervasive influence of social media is distinctly evident across several facets of life, including but not limited to fashion and lifestyle trends, health, music, education, entertainment, sports, fitness trends, dietary habits, geopolitics, among others. Swart (2021) finds that the younger generation has a greater propensity to consume social media, characterized by interactions such as comments, reactions, likes, shares, among others. Several studies (Moghbali et al., 2023; Rini et al., 2024; Canet et al., 2021; Patwardhan et al., 2024) have observed substantial influence of social media on food consumption behavior of individuals. This study refers to the intersection of social media and food content as 'food-related social media content.'

In recent years, food related social media content has emerged as a prominent content genre and has attracted a great deal of attention. As per a latest report published by Statista¹, food related social media content stands at the third position as the most popular influencer genre in the United States. This genre encompasses a great deal of categories, such as food reviews, diet and nutrition advice, culinary trends, autonomous sensory meridian response (ASMR) style eating, fermented foods and fusion dishes, plant-based diet, recipes, eating challenges (mukbang), among others, each enjoying substantial popularity among users. Digital media has evolved the way food is presented, accessed, and consumed by people. This shift reflects people's dietary habits in the way they engage with food culture and participate in culinary trends (Tortolini, 2021). Social media is a place where visual cues meet social cues, and when users interact with images of impeccably presented, delicious looking meals, it exerts an undeniably powerful impact on their cravings. Hoogstin (2017) observes that the presence of food on social media gives the users an inspiration to seek out and try new food choices which in turn sways their daily

¹ Statista. (2024b, August 9). Most popular influencer genres in the U.S. 2024.

<https://www.statista.com/forecasts/1409176/most-popular-influencer-genres-in-the-us>

dietary routine. The phenomena of "phone eats first," when individuals prioritize documenting their meals before consuming them, illustrates the profound integration of social media into everyday culinary practices, particularly among adolescents and young people. Social media has become a powerful medium that shapes our perceptions of food, altering traditional eating habits and introducing novel trends (Rounsefell et al., 2020).

A great wealth of literature exists that has examined the relationship between exposure to food-related social media content and dietary habits. Scholars have observed that increased exposure to food related contents on social media have resulted in overconsumption, disordered eating habits, unreasonable body images, unhealthy eating patterns, and heightened consumption of dense calorie food (Chung et al., 2016; Sidani et al., 2016; Ventura et al., 2021; Wayles, 2020). Pancer et al. (2021) emphasized that food media, especially calorie dense content, is designed to capture users' attention, thereby contributing to an obesogenic online environment that increases cravings and impulsive eating behaviors particularly among adolescents. Zeeni et al. (2024) found a positive association between exposure to food media on Instagram and increased consumption of junk items among young adults. Social media platforms and food content have significantly influenced dietary choices while simultaneously commercializing them, thereby blurring the distinction between consumption and commerce. Food marketing demonstrates a significant correlation between the excessive consumption of sugar, fast food, and snacks among children and adults and their exposure to images of these unhealthy products on social media. Both snacks and fast-food items have contributed to unhealthy consumption, while restaurant services also promote and serve high energy-dense foods instead of low energy-dense options (Alwafi et al., 2022). Social media serves as a platform for restaurants to display visually appealing dishes to enhance user engagement, as prospective customers often seek reviews prior to dining. These social platforms function as marketing tools and positively influence business valuation, enhance sales, and improve market share². Notwithstanding the perceived negative impact of social media on food consumption habits, studies such as Aldossari and Al-Mahish (2021) and Sharma and De Choudhry (2015) have shown that exposure to social media platforms have resulted in increased awareness about healthy eating behavior and healthy eating choices among young adults.

Given the pervasive presence of food-related content on social media and its impact on dietary habits, it is essential to examine how social media platforms affect the eating behaviors of young adults. This study seeks to investigate this relationship by addressing several key questions: Does the time spent on food-related social media content correlate with changes in dietary habits among young adults? Does food-related social media content contribute to body consciousness among young adults? How frequently do young adults consult nutritional information when purchasing food products? The remainder of the paper is organized as follows: Following this is a section on review of literature followed by a section on research methods and data sources. Next section presents the results and discussions. The last section concludes with certain policy recommendations.

2. Review of Literature

The impact of food-related advertisements on individuals' dietary habits has traditionally been examined through television media. The unfolding of digital age, however, has reduced people's television media usage (Twenge et al., 2018; Anderson and Jiang, 2018). Frazier and Harris (2018) found that the time spent watching television has declined dramatically from an average of 2.6 hours per day in 2013 to 1.8 hours per day in 2017, leading to a 43% reduction in exposure to food related TV content being viewed. Further, the study revealed a substantial increase in adolescents' engagement with social media platforms, including YouTube, Facebook, Instagram, and Snapchat, increasing from 24% in 2014 to over 50% in 2018. Social media has increasingly become one of the most preferred sources of information, particularly among adolescents and young adults, thereby considerably influencing their food choices and nutritional perspectives (Simeone and Scarpato, 2020). It not only influences dietary choices but also has become a platform of visual focus for food enthusiasts transcending mere aesthetics. Social media users are often swayed by visually captivating food posts

² Wong, B., JD. (2023, May 18). Top social media Statistics and Trends of 2024. Forbes Advisor.
<https://www.forbes.com/advisor/business/social-media-statistics/#source>

accompanied by engaging storytelling³. Adrini et al. (2022), in their study on college students' engagement with food contents on YouTube, revealed that the participants found the online food presentation as 'enticing' and 'aesthetically pleasant'. Additionally, the study suggested that visual content generates on average 94% more engagement than text-based content alone, underscoring the importance of visual elements in online food marketing and promotion. Moreover, social networking platforms have enabled users to explore diverse cuisines and international flavors, facilitated by collaborations and advertisements that promote various food trends. Available research indicates that food advertising on social media, including contents from food influencers, reviews by food vloggers, and the accompanying social environment, frequently impacts adolescents' food choices. Qutteina et al. (2021) found a positive association between exposure to food marketing contents and eating behaviors, attitudes, and perceived norms in young adults. Additionally, the study revealed that food marketing content has contributed to promotion of unhealthy eating behaviors and has increased the intake of calorie-dense food among adolescents. Molenaar et al. (2021) conducted a qualitative study to understand the effects of food advertising on social media on the eating behavior of adolescents. The study revealed that energy dense, nutrient poor foods were associated with negative health consequences, and that young adults had the poorest dietary behaviors compared to other groups, with diets often high in energy dense, nutrient poor foods and low in fruits and vegetables.

The perception of one's body image is another significant area significantly affected by food-related content on social media. A body image is a combination of thoughts and feelings one has regarding their body and is influenced by both internal (e.g., personality) and external (e.g., social environment) factors. The intricate connections between social media engagement and body image have been examined through two main theoretical frameworks: social comparison theory and objectification theory. Social comparison theory posits that individuals evaluate themselves by comparing their attributes to their peers, particularly those perceived as more attractive or slender (Perloff, 2014). This upward comparison is a well-documented precursor to body dissatisfaction. Objectification theory complements this theory by investigating how societal and media portrayals, particularly the sexual objectification of women, contribute to a culture where women internalize objectifying messages (Fredrickson and Roberts, 1997). Men, too, are influenced by objectifying portrayal, often leading to similar self-objectifying behaviors. Social media exacerbates these dynamics by prominently featuring fitness imagery, thin ideal body types, and evocative food content, further perpetuating body dissatisfaction and disordered eating behaviors. There is a substantial body of research that provides evidence linking social media exposure to negative body image and disordered eating, especially among young adults (Holland and Tiggemann, 2016; Rounsefell et al., 2019; Tiggemann and Zaccardo, 2015). Holland and Tiggemann (2016) found that negative social media use was linked with greater body dissatisfaction and disordered eating in young adults.

Rounsefell et al. (2019) found social media feedback influences young adults' dietary choices, linking image-focused engagement to body dissatisfaction and disordered eating. Tiggemann and Zaccardo (2015) similarly noted that negative social media use and exposure to idealized images heighten body dissatisfaction, with fitness content perpetuating unrealistic beauty standards.

An important source of food literacy is social media, it can either educate its users or distort their understanding of nutrition and healthy eating habits, depending upon the nature of the messages encountered. Research suggests that exposure to content promoting "core" foods— nutrients-dense items such as, fruits, vegetables, grains, can reinforce food literacy, increase the intake of food core foods, and act as a buffer against the influence of messages promoting less nutritious, "non-core" foods (Steils and Obaidalahe, 2020). The surveyed literature clearly indicates the role played by social media in influencing food choices and body image, particularly among young adults. While social media platforms serve as a source of inspiration and information for dietary habits and meal preparation, it simultaneously fosters an environment of comparison, competition, and self-criticism among young adults that makes them evaluate their bodies and food choices against those portrayed online. Addressing these challenges requires continued exploration and targeted interventions to promote critical media literacy, positive body image and healthy eating behaviors among young adults in the digital age.

³ killer Influencer Marketing campaigns in the Food sector (2022). [https://www.kolsquare.com/en/blog/5-killer-influencer-marketing-campaigns-in-the-food-sector#:~:text=Influencer%20Marketing%20Food%20is%20also,views%20on%20TikTok%20\(Source\).](https://www.kolsquare.com/en/blog/5-killer-influencer-marketing-campaigns-in-the-food-sector#:~:text=Influencer%20Marketing%20Food%20is%20also,views%20on%20TikTok%20(Source).)

3. Research Methods

This exploratory study employs both quantitative and qualitative methodologies to assess the association between exposure to food-related social media content and dietary habits. Further, the study utilized convenience sampling strategy for data collection for two primary reasons: first, it targets at a specific cohort of young adults, and second, it enables straightforward and easy access to consenting participants. Additionally, Jager et al. (2017) finds that the convenience sampling method offers precise generalizability when the population is homogeneous. Individuals in the age range of 18 to 26 are considered as young adults in this study. Quantitative data was collected using an online Google form in the month of September 2024. A pilot survey was conducted prior to the main electronic survey to evaluate the feasibility and reliability of the questionnaire responses. A total of 110 responses were received, comprising students from various educational institutions within a private university in India. The survey explored social media use, including content types, interactions with food-related posts, and their influence on dietary choices and body image. Quantitative data was supplemented with 30 interviews, averaging thirty minutes each, to examine socio-psychological factors affecting young adults food behaviour. The interview questions were structured, and all the interviews were conducted in English to avoid any confusion or misinterpretation of the questions. The interviews facilitated a deeper understanding of the participants' exposure to online food content, the extent of such content's influence on their perception of body image, and the role of peer influence in shaping their dietary choices. Additionally, it examined the impact of online food advertisements on participants' food purchasing decisions and their level of nutritional awareness when selecting these products.

Of 110 respondents, 63% (n=70) were female, and 37% (n=40) were male. Approximately two-thirds of the sample fall within the age range of 20 to 24. The mean age of the sample is 22 years. An overwhelming majority of the participants (69%) are enrolled in undergraduate programs. A total of ninety-eight participants reported engaging with social media multiple times daily (with a total duration of more than three hours of usage), whereas only six participants reported using social media once daily. Additionally, content related to fashion and lifestyle, entertainment, and food emerged as the most popular genre among the respondents. More than half of the participants (n=57) reported interacting with food-related social media content daily. Approximately two-fifths of the participants reported actively searching for food-related content on social media platforms. Instagram and YouTube (n=76) are the primary platforms preferred by participants for engaging with or encountering food-related content.

4. Results and Discussions

A preliminary analysis of the study's results indicates that social media has become a preferred source of knowledge on food and diet among young adults. The interviews conducted with the participants offer important insights into the impact of food-related social media content on body image, purchasing patterns of food products, access to food and nutrition information, and, crucially, their dietary habits. Food-related social media content significantly influences individuals' meal preparation techniques, providing creative ideas to enhance nutrition or transform meals into calorie-dense, flavorful options. A limited number of participants indicated that food and nutrition information on social media was advantageous. Food reviews (58%), followed by cooking/meal preparation reels and recipes (33%) were identified as the predominant types of food content among the survey participants. An interviewee narrated:

"It has a huge impact, especially in the amount of calories I plan to take in a day. It has also helped me with my weight loss. Food related contents have also helped me in giving ideas on how to make food visually aesthetic, gives an opportunity to try new recipes and it also suggest what's healthy and unhealthy for you." An interviewee, age 22 years, India, September 2024.

It is worthwhile noting that users' choice of content significantly influences whether the impact of social media on their food choices is detrimental or beneficial. More than two-thirds of the participants reported interacting with content pertaining to both calorie-dense (unhealthy/junk) and less calorie-dense (healthy) foods, while nine participants reported interaction only with junk food content. This finding corroborates with Stamatiou's (2022) study, where participants reported a moderate impact of social media on their perceptions of food consumption. Additionally, participants expressed that, posts about healthy eating and new recipes were inspiring, while the image of delicious but less nutritious food appeared to enhance their desire to consume such foods. An interviewee illustrated:

"I mainly focus more on calorie food and making sure to try out both less and high calorie-based food (in a healthy manner) have made a noticeable change in my nutritional choices, through online food content." An interviewee, age 24 years, India, September 2024.

Interactive content on social networking sites significantly enhances follower engagement through diverse formats, including posts, reels, long-form videos, and advertisements related to food products. Such content can influence individuals, often driving them to make purchasing decisions. Moreover, aggressive food marketing targeted towards children, teens, young adults and older adults have contributed to this trend. The responses from participants clearly demonstrate the influence of engaging with food-related social media content on disordered eating patterns. A total of sixty-seven respondents (61%) exhibited impulsive behaviors related to dining out, ordering food online, and snacking while watching food-related content online. The complex interlinkages of globalization and novel marketing strategies have resulted in a nutritional transition from minimally processed to ultra-processed food products. This transition underscores the influence of food marketing exposure on purchasing patterns and eating behaviors. An interviewee narrated:

"I end up buying a pack of instant ramen or noodles after watching a trending video on how to upgrade them into fancy meal. I want to try the same recipe myself; this happens a lot of times, but I try different restaurants and fast foods based in what I see on online ads." An interviewee, age 22 years, India, September 2024.

There is a wealth of literature available (Holland and Tiggemann, 2016; Rounsefell et al., 2019; Tiggemann and Zaccardo, 2015; Perloff, 2014) that have found an association between social media use and negative body image among women, especially exposure to idealized body images have led to body dissatisfaction and disordered eating attitudes. Out of a total of 69 female respondents, 25 of them agreed to feel pressured to follow certain diets or food trends because of the body images promoted in the food related social media posts. On the contrary, only 10 males agree to feel pressured about the same. Adolescent girls exhibit greater vulnerability to the adverse effects of social media on body image. Social media trends such as, "What I Eat in a Day" have contributed to restrictive diets and contributing to toxic diet culture and leading to disordered eating by glorifying thinness and harmful eating behaviors. Whereas, as per a study, males exhibit greater positive agency over their bodies and social media use, often employing more active coping styles, in comparison to females, however, it is important to recognize that men are still exposed to trends that may make them feel bodily dissatisfied. The survey participants in this study, however, reported minimal effects from social media on their body image, with few of them reporting a positive influence. An interviewee illustrated:

"Social media has a mix of reactions towards body standards as it depends on which side of the app you are on. I've seen the - eat what you want and don't restrict your craving as you will cave in more side. But I don't really follow it so much. I don't really follow diets as such so that's that. But as I scroll on apps, i do get a sense of insecurity when I scroll but I don't do anything drastic." An Interviewee, age 22 years, India, September 2024.

Checking the nutritional value of food products is essential for making informed and healthy choices. It often suggests 'per serving' sizes, thereby helping individuals to manage daily energy intake based on dietary goals. Majority of individuals do not check nutritional values or levels while purchasing a food product and this could lead to severe implications for a healthy lifestyle, such as, it can lead to overconsumption of calories, imbalance nutrient intake, increased health risk or allergies. 11 out of 69 females always look for nutritional content of a food item before trying a recipe or food trend, whereas 34 of them tend to refer nutritional value at times and 24 of them do not check for these values. Conversely, only 5 out of 40 males always look for nutritional value. Available research suggest that this difference could be due to females exhibiting higher levels of health consciousness and more likely to align their dietary choices with perceived health benefits. Few participants in the study reported a tendency to overlook nutritional values when purchasing food products, instead prioritizing visual aesthetics, such as appealing packaging and product presentation. This indicates that the visual appeal of food items can significantly influence consumer behavior, often overriding more health-conscious decision making.

5. Concluding Remarks

This study endeavored to offer new insights into the relationship between food-related social media content and various aspects of dietary choices among young adults. The findings of the study highlight the intricate relationship between food related social media content and dietary behaviors among young adults. In an era where social media usage has become an integral part of daily life, this study sheds light on the significant influence that food related content has on food choices, body image and nutritional awareness. Participants predominantly accessed social media platforms like Instagram, Facebook, YouTube, Tik-Tok, dedicating

considerable amount of time to engage with diverse content, such as food-related material. One of the key findings of this study was that food related social media content did significantly affect dietary habits, such that approximately one-third of the respondents reported trying new dietary practices, food products and recipes, while a substantial amount of respondents also neglected to assess nutritional value of food before attempting any new food or purchasing any food product. Another critical finding is the pressure social media exerts on body image perceptions. While respondents did feel compelled to achieve certain body standards depicted in food content, few other respondents did not feel pressured to achieve certain body type and rather enjoyed the food content as it is. The role of food marketing on social media platforms also emerged as a significant factor influencing purchasing behavior. Majority females acknowledged that the appeal of food products overshadowed critical considerations like nutritional values.

The study has certain limitations. First, the small sample size and the use of convenience sampling constrain the generalization of findings to a broader and more diverse demographic population. Second, the sensitive nature of topics concerning personal eating habits and body image may have introduced potential bias among participants during the interviews. This study, despite these limitations, offers significant insights. Overall, this study emphasized the complex role of food related social content and dietary behaviors, revealing both opportunities and challenges. On the positive note, social media can serve as a platform for promoting healthy eating habits but conversely, it also promotes unhealthy food trends, prioritizing food aesthetics over nutritional value. From a policy perspective, the findings of this study underscore the urgent need for health promotion strategies that leverage social media's reach while lessening its negative impact. Public health campaigns and interventions should focus on promoting nutritional literacy and fostering a balanced healthy diet.

6. Conflicts of Interests

The authors of this paper declare that they have no conflicts of interest. Further, we have not received any funding/grant from any organization.

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How Destination Familiarity Impacts on Word of Mouth of Tourist Destinations: The Moderation Effects of Social Media Engagement

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Abstract: With the advent of the Internet, communication has changed, and new concepts have emerged, especially in tourism. Today, there are many tourist destinations, so competition is increasing. However, cities must find an effective method of differentiating themselves and demonstrating the value of their brand through social media posts since almost everyone is active in the digital world. Using social media, citizens can create and send content or choose word-of-mouth to pass on information about touristic destinations. Communication is vital for marketing and building a close relationship with the customer. Familiarity with the destination is essential because tourists should be prepared for what they will find when visiting a country. This article aims to study the effects of familiarity on the acceptance of tourist destinations moderated by engagement in social media. A quantitative approach was used, and a questionnaire was used to conduct the research. Using literature-tested scales, this study collected data from a sample of 915 individuals, which was analysed using SMART PLS software. The results identified that social media engagement is vital in moderating the relationship between familiarity with the destination, advertising stimulation and word of mouth.

Keywords: Familiarity with the Destination, Advertising Stimulation, WOM, Social Media Engagement

1. Introduction

Tourism is a critical factor in the lives of all citizens, as people want to travel and enjoy themselves. It is a broad concept, so when a person goes on a trip and enjoys it, it can already be a reason to influence someone else to go, too. It has been proven that if people go to a destination they already know and have been to, i.e. a destination that is familiar to them, it feels like home. The risks seem more significant when individuals go somewhere they do not know. Baloglu (2001, p.128) states that "familiarity with a destination can be increased through experience or information from previous trips".

Advertising stimulation causes a person interested in a product to look at an advertisement in the media. It influences people to buy, depending on the type of advertising in question. According to Moorman, Neijens and Smit (2002), social media platforms and advertising are associated with the likelihood of ad reviews becoming increasingly positive.

WOM can also be used to disseminate content among family or friends. According to several authors (Choi et al., 2007; O'Reilly, 2006; Xiang & Gretzel, 2010), WOM is vital to the tourism sector to inform visitors about the destination they intend to visit. In this way, Word-of-Mouth helps to transmit and gather information.

Finally, social media engagement is a crucial factor to consider, as it is through posts and interactions that many individuals perceive the quality of travel destinations and are influenced in their decisions to visit them.

This is relevant to society, as it analyses the effects of familiarity on the choice of a particular tourist destination, moderated by engagement in social media. The shortcoming of this research is the low number of scientific documents found and the number of authors writing on the subject and its variables.

2. Literature Review

2.1 Familiarity with the Destination

In tourism, familiarity is crucial in revealing the differences in people's behaviour, whether they are tourists or not (Baloglu, 2001 & Gursoy, 2011). Familiarity also reflects a person's direct experience of the destination (Vogt & Andereck, 2003). This approach, considered measurement, needs to fully cover the concept of familiarity, which is seen as the experience of individuals. A high level of knowledge can be an asset to a reasonable term construction. Information from social networks, books and contact with others helps create familiarity (Gursoy, 2011; Terzidou et al., 2018). Thus, informational familiarity refers to the extent of the information that has been used; self-rated to the level of familiarity that tourists believe they have about the place chosen for the trip and experiential familiarity, as the name suggests, has to do with previous travel experiences (Baloglu, 2001).

Familiarity delimits the components of the image, emphasising that the central role is essential for the positive construction of the so-called "cognitive image". On the other hand, they have failed on the affective side (Smith et al., 2015; Vogt & Andereck, 2003). Familiarity is responsible for highlighting the components of a particular image, bearing in mind that a specific function may positively influence the construction of the cognitive image (Smith et al., 2015; Vogt & Andereck, 2003).

2.2 Advertising Stimulation

The senses are activated by the human body and are known as the five senses (tactile, olfactory, hearing, taste and visual). These are central to behavioural intention, or so-called 'real' behaviour (Biswas, 2019; Yoon & Park, 2012). Human beings can create images linked to the environment and acquire a sense of presence, making available sensory information that has already been acquired and prompting judgements or decisions (Alyahya & McLean, 2021; Yoon & Park, 2012).

Sensory marketing emphasises the role of the human body, which is very important in the cognitive process of users. This type of marketing 'influences consumer perceptions and judgements, involving consumer behaviour' (Krishna, 2010, p. 333). It also can offer a new point of view on the marketing of tourist destinations, and both types are related and compatible. On the one hand, tourism can be understood as a typical experiential product, but it can only be experienced after a purchase is made or before arriving at a destination (Fodness & Murray, 1997). Thus, when advertising information is passed on, it also includes what are known as multisensory experiences. These can help to create a sense of virtual presence and competent pre-experience and even design a tourist destination that is attractive to consumers (Flavian et al., 2019; Hyun & O'Keefe, 2012; Lee et al., 2010).

Therefore, the tourist experience also includes the process of sensory stimulation using the senses (Fakfare et al., 2021).

This concept has been explored in two areas: tourism and hospitality. However, sensory information in adverts has also been worked on to stimulate customers' senses. Therefore, in order to perfect consumers' senses, the studies carried out cover topics such as new technologies in sensory marketing, such as augmented reality and the Internet of things, among others (Alyahya & McLean, 2021; Laukkanen et al., 2021; Pelet et al., 2021). Other studies have also been concerned with studying the mechanisms that underlie the advertising of tourist destinations, such as the sensory advertising of the destination, which is interlinked with consumer behaviour. Following the example of Laukkaden et al. (2021) of Stimulus-Organism-Response, the effects of sensory stimuli on behaviour were investigated using emotion, affective experience and eudaemonism. Eudaemonism is "the ethical theory according to which the good life for a human being, 'eudaemonia', is the ultimate moral standard" (Atwater, 1984, p. 55).

However, Alyahya and McLean (2021) have shown that sensory content, if used in virtual reality, can have the capacity to improve the cognitive process and the quality of the images created through the mind. Moreover, it could improve the sense of presence and influence the attitude and willingness to visit a destination.

Therefore, the first hypothesis is:

H1: Familiarity influences Advertising Stimulation.

2.3 WOM (Word-of-Mouth)

WOM is "informal communications directed at other consumers about the ownership, use or characteristics of certain goods and services and/or their sellers" (Westbrook, 1987, p.261). With the advance of social media, WOM has come to influence consumers' purchasing decisions more than other communication methods encompassed in marketing since they have built a place where marketers volunteer and transmit content using their social media (Goh et al., 2013; Kimmel & Kitchen, 2014). Regarding face-to-face or online interaction, WOM is a necessary foundation since communication occurs between peer consumers, and the intention is not to receive any reward for the communication.

Researchers studying the motivations behind consumers' intentions to share content (WOM) have shown that emotion is a crucial aspect because it is preponderant and influential (Heath et al., 2001). Also, Berger and Milkman (2013) emphasise the importance of attractive content and suggest using good content because it is more efficient than taking opinion leaders to spread the word. Therefore, customers are willing to pass on content if it arouses their emotions (Berger & Milkman, 2012).

Meinselman (2015) defends the importance of the most recent and current studies on positive emotions since research has been high. This is because there is a hypothesis that positive emotion is linked to relationships with WOM in so-called promotional advertising. Botha and Reyneke (2013) argue that consumers who harbour positive emotional reactions to the broadcast audiovisual content will easily share it. When going through a decision-making process, "the emotional connection" with the information is seen as an essential aspect for viewers to share (p.168).

In the field of tourism, word-of-mouth communication begins with the dissemination of experiences to other people through tourists who are adventurers. WOM stands out in tourism since travellers depend on online information to make decisions, help gather content, and use electronic word-of-mouth communication (Choi et al., 2007; O'Reilly, 2006; Xiang & Gretzel, 2010). Traditional and electronic word-of-mouth interactions have some similarities and aspects of their own. In traditional word-of-mouth marketing, credibility comes from consumers and not from the sellers of a particular product.

This method helps with customers' purchasing decisions, choices and intentions (Zeithaml et al., 1996). Thus, the second hypothesis is:

H2: Advertising Stimulation influences WOM.

2.4 Social Media Engagement

Defining engagement is a challenge for both the brand and the consumer. There are many different ways to define this concept (Hollebeek, 2011). According to the authors Calder, Isaac, and Malthouse (2016), engagement is "a multilevel and multidimensional construct that emerges from thoughts and feelings about one or more rich experiences involved in achieving a personal goal" (p. 40). This type of involvement is integrated into various situations and differs according to the respective brands and products (Calder et al., 2009).

Many studies have been conducted to understand the media's usefulness through specific experiences, such as information, transportation, interaction, identification and pastime (Neijens et al., 2006; Malthouse et al., 2007).

Social media is "a tool that can increase civic engagement, offering a cost-effective means of promoting inclusion, broad reach and fostering deeper interactions" (Tai et al., 2020, p.280). Platforms have the advantage of reducing the barriers to interaction between users and content creators (Wachhaus, 2017).

Digital engagement, as defined above, stands out through actions centred on likes, comments, and sharing of content already obtained (Yoon et al., 2018).

People are expected to use social networks and be familiar with the different platforms, considering their characteristics, functions, content and interaction. As such, media can be seen as "a group of Internet-based applications based on the ideological principles and technological foundations of Web 2.0 and allow for the creation and exchange of user-generated content" (Kaplan & Haenlein, 2010, p.61). This means many social media types, such as Facebook, Snapchat, Instagram, LinkedIn, Google and Pinterest. Each has its working format and defined rules (Djick, 2013).

According to Muntinga et al. (2011), COBRA's model reflects the behaviours that exist about a customer in the online format, separating them into the various users who exhibit specific behaviours. The first level of this method is the minimum, also known as the "consumption", where people dedicate themselves to online tasks

linked to the brand. In other words, consumers are present with the brand but do not actively contribute or focus on creating content. The medium activity level is “contribution” and relates to the brand, where there is user-content and user-user interaction. Finally, the highest level is the “creation”. In this method, consumers are already actively producing and publishing content.

In addition, social media should also have the functionality to include different types of communication, such as one-to-one interaction, with the help of instant messaging, one-to-many interactions, as the case with blogs, and many-to-many interactions, as is the case with wikis (Zyl, 2009). Thus, it brought about the emergence of new technologies and a change in human communication (Sirait, 2020).

Tourists use social media in three stages: before a trip to research and save information about destinations and tourist services, during the trip to post photos, videos, etc. and finally to highlight the positive and negative aspects of the trip (Tsiotsou, 2019). This is to help potential travellers with their decisions (Tsiotsou, 2022). Therefore, social networks can be used to search for information about a destination and be considered an opportunity for sharing and an e-WOM channel (Tsiotsou, 2022). This channel type is known for being dynamic and interactive, allowing information to circulate (Ducoffe, 1996). Thus:

H3: Social Media Engagement moderates the relationship between familiarity and Advertising Stimulation.

Social media should also include different types of communication, such as one-to-one interaction with the help of instant messaging, one-to-many interaction, such as blogs, and many-to-many interaction, such as wikis (Zyl, 2009). This has brought about the emergence of new technologies and a change in human communication (Sirait, 2020). In this way, tourists use social networks in three stages: before travelling to learn more about destinations, when they arrive in the country to learn about the various services and during the trip to share audiovisual content. This helps tourists make their own decisions (Tsiotsou, 2022). In this way, social networks can help find relevant information about a tourist destination and can be considered a new form of sharing and an e-WOM channel (Tsiotsou, 2022). This channel is easily recognisable, as it is dynamic and interactive, with the advantage of allowing information to circulate (Ducoffe, 1996). Therefore:

H4: Social Media Engagement moderates the relationship between Advertising Stimulation and WOM.

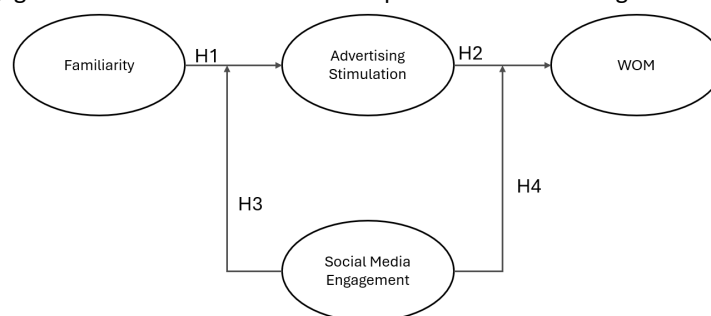


Figure 1: Conceptual Model

3. Methodology

The study used a cross-sectional quantitative approach with closed-ended questions to obtain homogeneous and comparable data. The data collection method was a self-administered questionnaire applied to the general population. This choice was justified because people value experiences and often express their preferences in travel choices. A 5-point Likert scale was used to measure the study constructs, with options ranging from (1) “Strongly Disagree” to (5) “Strongly Agree”. The items were adapted from validated scales widely used in scientific literature, namely: Familiarity with the Destination four items adapted from Bianchi et al. (2017); Advertising Stimulation four items were used based on the study by Voorveld et al. (2018); Word of Mouth we adapted three items from Kang et al. (2020); and Social Media Engagement used the six items from Ferreira et al. (2021). Adapting the scales made it possible to ensure suitability for the study context, enabling accurate measurement of the relevant variables. Therefore, the measurement items were critically evaluated before the definitive data collection. Following the recommendations of Hair et al. (2018), the questionnaire was reviewed by three academics and five professionals with experience in the area of communication and marketing research. To ensure the clarity and adequacy of the questions, a pre-test was carried out with 12 tourists from different regions of Portugal, selected because they had prior knowledge of the regions under study. The final items used were the following.

Advertising Stimulation (Voorveld et al., 2018)

I was excited about this promotional film.
 This promotional film seduced me.
 This promotional film is original and unique.
 With this promotional film, I was informed about this region.
 This promotional film gave me something new.

Destination Familiarity (Bianchi et al., 2017):

I know this region well.
 I am aware of the attractions this region has to offer tourists.
 I often look for information about this region.
 I know this region better than my friends and family do.

Social Media Engagement (Ferreira et al., 2021)

I know this region's website.
 I frequently visit this region's website.
 I know the Facebook/Instagram pages of this region.
 I will follow/I follow this region's Facebook/Instagram pages.
 I want to comment on content from this region on its Facebook/Instagram page.
 I frequently share content from this region on Facebook/Instagram.

Word of mouth (Kang et al., 2020)

I will talk to friends about this video.
 I recommend that my friends and family watch this video.
 I will talk about this region with my friends and family.

The sampling technique used was non-probabilistic for convenience, a common approach in marketing studies to test theories and especially appropriate in the context of this research. Data collection was conducted by the researchers responsible for this study. Respondents were contacted online, mainly through social networks, and directed to a promotional video about a tourist region in Portugal. After watching the video, they were asked to answer the questionnaire. All participants were approached under identical conditions, and the purpose and objectives of the study were duly explained to minimise response errors. The sample of this study is presented in Table 1.

Table 1: Sample Characterisation

Variable	Category	Percentage (%)
Gender	Female	68,3
	Male	31,3
Age	≤ 22 years	47,6
	23 to 38 years	23,8
	39 to 54 years	21,5
	55 to 73 years	7,0
	≥ 74 years	0,1

To ensure the minimisation of common method bias (CMV), preventive (ex-ante) and corrective (ex-post) measures were adopted as recommended by Podsakoff et al. (2003). Before applying the questionnaire, it was ensured that respondents were unaware of the research model, reducing the possibility of a direct link between the items. The questionnaire was carefully structured to prevent participants from reviewing previous responses. Additionally, respondents could not proceed to subsequent sections without fully answering the questions in each section. It was also emphasised that there were no right or wrong answers, guaranteeing the anonymity of participants and creating an environment conducive to honest and impartial answers. After data collection, ex-post strategies were applied to verify the presence of CMV. Harman's single-factor test revealed that the first factor explained only 24.88% of the variance, a value much lower than the critical threshold of 50%. This result indicates that common method bias is not a relevant problem.

Additionally, a multicollinearity analysis was applied using the Variance Inflation Factor (VIF), with values ranging between 1.213 and 4.338, confirming that there are no significant concerns with multicollinearity since the values are below the limit of 5.0 recommended by Hair et al. (2018). Based on the results obtained by both ex-ante and ex-post procedures, it is concluded that the probability of standard method bias is reduced, ensuring the robustness and quality of the data collected. A confirmatory factor analysis (CFA) was performed to evaluate the validity and reliability of the measurement model, consisting of 4 latent variables and a total of 15 items that revealed loadings above 0.7, as recommended in the literature (Hair et al., 2018).

Convergent validity (Table 2) was confirmed with the factor loadings of all items exceeding the minimum value of 0.70, suggesting a good ability of the items to measure the latent variables to which they belong. The average variance extracted (AVE) presented values between 0.660 and 0.820, further reinforcing the convergent validity of the constructs. The composite reliability was between 0.894 and 0.931, guaranteeing the results' consistency.

Table 2: Reliability and Validity of Constructs

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
ADST	0,870	0,906	0,660
ENG	0,912	0,931	0,692
FAM	0,844	0,894	0,679
WOM	0,889	0,932	0,820

Notes: ADST: Advertising Stimulation; WOM: Word of Mouth; ENG: Social Media Brand Engagement; FAM: Familiarity with the Destination

The results obtained confirmed the adequacy of the model to the data collected. Internal consistency was verified using Cronbach's Alpha, with values between 0.844 and 0.912, all higher than the threshold of 0.70 recommended by Hair et al. (2018). These values demonstrate the high reliability of the constructs. Discriminant validity was checked using the Fornell-Larcker (1981) criterion, where the AVE of each construct exceeded the squared correlations between the constructs. This result proves that each variable measured is distinct from the others in the model, avoiding conceptual overlaps. Additionally, the Heterotrait-Monotrait (HTMT) ratio presented values below the critical limit of 0.9, as Henseler et al. (2015) suggested, reinforcing the discriminant validity of the assessed constructs.

Table 3: Fornell and Larcker criterion (1981)

	ADST	ENG	FAM	WOM
ADST	0,812			
ENG	0,398	0,832		
FAM	0,270	0,529	0,824	
WOM	0,602	0,595	0,372	0,905

Notes: ADST: Advertising Stimulation; WOM: Word of Mouth; ENG: Social Media Brand Engagement; FAM: Familiarity with the Destination

Table 4: HTMT – Henseler Ratio (2015)

	ADST	ENG	FAM	WOM
ADST				
ENG	0,429			
FAM	0,308	0,593		
WOM	0,677	0,642	0,421	

Notes: ADST: Advertising Stimulation; WOM: Word of Mouth; ENG: Social Media Brand Engagement; FAM: Familiarity with the Destination

Thus, the results obtained in the confirmatory factor analysis demonstrate that the proposed model presents satisfactory levels of reliability and validity, both convergent and discriminant, guaranteeing the robustness and precision of the measurements used in the study. Following this, the research hypotheses were tested, the results of which are presented in Table 5.

Table 5: Hypotheses Test

Hypotheses	β	p Values	Result
H1: FAM $\rightarrow$ ADST	0,084	0,047	Corroborated
H2: ADST $\rightarrow$ WOM	0,425	0,000	Corroborated
H3: ENG x FAM $\rightarrow$ ADST	0,008	0,829	Not Corroborated

Hypotheses	β	p Values	Result
H4:ENG x ADST $\rightarrow$ WOM	-0,067	0,003	Corroborated

Notes: ADST: Advertising Stimulation; WOM: Word of Mouth; ENG: Social Media Brand Engagement; FAM: Familiarity with the Destination

4. Results Discussion

Hypothesis testing revealed that four of the five research hypotheses were corroborated. Therefore, each of the hypotheses is discussed below. The relationship between destination familiarity and advertising stimulation, corroborated in H1, suggests that familiarity with the destination positively influences advertising stimulation. This is supported by the literature, which explores the importance of prior knowledge and experience in perceiving destination stimuli. Baloglu (2001) argue that familiarity, acquired through previous experiences, information or proximity, facilitates the cognitive processing of advertising, making it more relevant and impactful.

Furthermore, Vogt and Andereck (2003) point out that consumers familiar with a destination demonstrate greater ease in associating advertising stimuli with positive memories and feelings, intensifying the effectiveness of promotional campaigns. Thus, familiarity is a facilitator that enhances the reception and response to advertising stimulation, making it more persuasive and emotionally engaging, especially in tourism, where trust and previous experience are crucial factors in influencing future decisions. Hypothesis H2, which sought to test the effects of advertising stimulation on word of mouth, was corroborated, indicating that advertising stimulation positively influences word of mouth. This result is in line with existing literature, which highlights the central role of advertising in creating perceptions and stimuli that lead consumers to share information. Berger and Milkman (2012) argue that effective advertising content, which arouses positive emotions, is more likely to be transmitted through WOM, functioning as a catalyst for message dissemination. Thus, advertising influences individual decisions and stimulates informal communication between consumers, an essential element in tourism, as advocated by Choi et al. (2007) and Xiang & Gretzel (2010), given the role of WOM in credibility and the travel decision process. Hypothesis H3 was not corroborated, indicating that the moderating effects of engagement on social networks and familiarity with the destination do not significantly influence advertising stimulation. Although the literature suggests that digital engagement and familiarity can amplify advertising reception (Kaplan & Haenlein, 2010; Baloglu, 2001), the results suggest that the interaction between these two factors does not generate a relevant combined effect.

Furthermore, Hollebeek (2011) argues that digital engagement is more effective in contexts with low familiarity, as it creates new connections and insights. Thus, when consumers are already familiar with the destination, engagement on social networks may not add significant value to advertising. This suggests exploring other mechanisms or contexts where this moderation manifests more significantly. Hypothesis H4 was corroborated, demonstrating that the moderating effects of engagement on social networks strengthen the relationship between advertising stimulation and word of mouth (WOM). This result aligns with studies that highlight the amplifying role of social networks in disseminating advertising content. Berger and Milkman (2012) suggest that content that arouses positive emotions is more likely to be shared, and digital engagement enhances this dynamic by facilitating interaction and visibility among tourists (Yoon et al., 2018).

Furthermore, Kaplan and Haenlein (2010) highlight that social platforms facilitate e-WOM, allowing advertising messages to reach broad audiences more quickly and efficiently. The interaction between advertising stimulation and engagement creates an environment where consumers absorb the message and amplify it through sharing, as Xiang and Gretzel (2010) advocate. Thus, engagement on social media strengthens the influence of advertising, converting it into more robust and effective WOM, which is essential for promoting tourist destinations and authentic experiences.

5. Conclusions

This study's theoretical contributions are the exploration of the relationships between familiarity with the destination, advertising stimulation, engagement on social networks and word of mouth (WOM), expanding the understanding of the factors that influence consumer behaviour in the context of tourism. The validation of hypotheses, such as the moderating factors of engagement in the relationship between advertising stimulation and word of mouth, reinforces theories about the impact of social media engagement and advertising on the dissemination of information through word of mouth. For business practice, the results provide interesting

contributions as companies can leverage engagement and advertising strategies to increase the visibility and attractiveness of tourist destinations, emphasising the critical role of social networks in amplifying WOM and building positive experiences for customers. Consumers. Although the conclusions are relevant, one of the main limitations of this study is the focus on a specific tourism context, which may restrict the generalisation of the results to other sectors or markets.

Furthermore, the cross-sectional nature of the data does not allow for robust causal inferences, limiting understanding of effects over time. Therefore, future investigations can expand the scope of this study, exploring other cultural contexts and sectors beyond tourism to verify the robustness of the observed relationships. Longitudinal studies could be carried out to capture the evolution of digital engagement and its impact on WOM over time. Furthermore, it would be valuable to investigate the role of emerging technologies such as virtual and augmented reality in strengthening advertising stimulation and engagement and exploring mediating variables such as emotions and trust that may influence the identified dynamics.

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Influence of Social Media Platforms on the Purchase Decisions of Luxury Apparel

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Abstract: The widespread usage of social media and its impact across several dimensions of individuals' daily lives has attracted a great deal of scholarly attention to providing insightful explanations. However, very few studies have looked into understanding how social media directly influences the decision-making process regarding purchases in the luxury apparel sector. This study seeks to add onto the discipline's understanding of this dimension. A pilot survey was conducted prior to the main electronic survey to evaluate the feasibility and reliability of the questionnaire responses. An electronic survey was rolled out and a total of 100 responses were received. The respondents fall within the age range of 20 to 40. Additionally, in-depth interviews were conducted with six selected individuals to gain further insights. The study's primary findings indicate that, on average, the respondents reported that, on average, they spend between three to six hours per day on various social media platforms. Social Media is generally preferred over traditional media primarily for two main reasons: real time updates and information available on social media and the various forms of multimedia content that are supported upon social media platforms. It is understood that social media plays an influential role in every stage of the consumer decision making process, but especially the stages of product awareness and evaluation of alternatives. Positive brand reputation and ease in the purchase process are crucial factors that motivate consumers to complete a purchase decision. Negative reviews may not completely prevent purchase decisions, but they possess the potential to postpone or prompt consumers to consider alternative products. Numerous factors contribute to the final purchase decision, yet various forms of social media content serve as motivational elements that enhance purchase intentions. This study aims to provide valuable insights into the intricate relationship between social media content and consumer purchase decisions of luxury apparel, contributing to both academic discourse and practical marketing strategies.

Keywords: Social Media, Consumer Behavior, Purchase Decision, Luxury Apparel

1. Introduction

Social media has undergone significant transformation since the inception of early platforms such as Myspace and Friendster, culminating in the current prominence of giants like Facebook, Twitter, and Instagram. This progression reflects not only technological advancements but also a profound shift in communication practices. The widespread use of social media has attracted a great deal of scholarly attention in examining its impacts across several dimensions of individual lives, including mental health, empathy, consumer behavior, among others. In recent times, social media has emerged as a crucial factor influencing consumer behavior. Consumer behavior is a multifaceted area of study that encompasses various contexts. When contemplating the purchase of a product or service, a person engages in a multi-phase procedure referred to as the consumer decision-making process. The five stages are problem identification, data collection, alternatives exploration, purchase decision, and post-purchase evaluation. Several factors play a role in the decision-making stage; social influences such as familial relationships, friendships, social status, psychological elements that include individual motivations, perceptions, and attitudes. Furthermore, marketing factors—including advertising strategies, brand image, and discounts—contribute to shaping consumer preferences. Personal factors like age, income, and lifestyle further tailor the purchasing landscape, influencing decisions in diverse ways. Consumers, equipped with a comprehensive understanding of this process, are more predisposed to making informed choices that align with their needs, leading to heightened satisfaction post-purchase. This study attempts to understand the convergence of social media and the consumer purchase process.

In today's rapidly evolving digital landscape, social media platforms have introduced profound changes in consumer behavior, particularly in the way individuals evaluate products. A significant factor is the ability of social media to generate viral trends. Visually captivating material is used by social media platforms to draw consumers in and introduce them to a variety of companies. Promotions and discounts shared on social media could influence consumers' decisions regarding purchase decisions. Another significant factor affecting consumer purchase decisions is the emergence of user generated content (UGC). All consumer-produced content, including reviews, testimonials, images, videos, and social media posts, is referred to as user-generated content. Social media platforms offer a broad ecology for UGC to thrive. Brands are actively encouraging customers to share content about their goods as they increasingly understand the value of incorporating UGC into their marketing

campaigns. The high quality of UGC improves consumers' perception of product reliability, their impression of the products, improves trust, reduces transaction risk, and enhances purchase intention (Wirtz and Lwin, 2009). Studies conducted on fashion apparel brands (Godey et al., 2016; Sunday and Bello, 2016) found that marketing through social media has a positive impact on consumers' purchase decisions. The use of digital technologies, to promote fashion companies to consumers has been found to be beneficial in attracting new customers within the fashion sector (Kalbaska and Cantoni, 2018). Fashion heritage encompasses both physical and intangible aspects such as cultural practices, social knowledge, and local knowledge (Permatasari and Cantoni, 2019). Burmann (2010) observed that users find it simple to judge the quality of fashion items on social media platforms since consumers share both positive and negative experiences. Companies with positive feedback and superior customer service tend to generate brand loyalty among customers and brand trust is established in shorter time than traditional methods (Alatawy, 2021).

Influencer marketing has become a powerful tool for brands to reach their target audiences. A study by Lou and Yuan (2019) found that influencer endorsements positively affect brand attitudes and purchase intentions, especially when the influencer's values align with those of the brand. The influencer marketing sector has evidently reshaped the marketing landscape, enabling brands to bridge the gap with their potential customers via the powerful tool of influencers as a medium via the usage of social media platforms. (Mishra and Ashfaq, 2023). Influencer authenticity has been proven to sway purchase decisions, which prompts the idea that influencer sincerity could impact the consumer's view of said product (Lee and Eastin, 2020). Influencers tend to have the greatest impact when buying clothes, shoes, cosmetics. (Zak and Hasprova, 2020). Luxury goods encompass highly exclusive personal items, including apparel, footwear, eyewear, watches, jewelry, and cosmetics that convey the status of their owners. The luxury market continues to and is projected to expand and evolve in the upcoming years, ongoing research in the area remains crucial for maintaining a competitive edge and fostering sustainable growth. Taking in consideration of the significance social media holds upon consumer purchase decision, it is essential for businesses in the luxury apparel sector to hold a reputable and appealing brand image. Social media serves as a platform wherein brands can directly engage with their target audience through the usage of marketing strategies that would foster a sense of loyalty and exclusivity among consumers. Comprehending the impact of social media interactions on customer satisfaction and loyalty can aid brands in formulating strategies that improve engagement and establish long-lasting relationships.

Given the pervasive nature of social media presence in luxury goods purchases, it is imperative to investigate how social media influences the process of consumer decision making. The study seeks to investigate these relationships by addressing several key research questions: Do negative reviews have an impact on purchase decisions? What type of social media content - Brand Image, Influencer Content or User Generated Content - most significantly influences purchase decision? What factors lead to the actual decision to purchase? The rest of the paper is organized as follows: Following this is a section on review of literature followed by a section on research methods and data sources. Next section presents the results and discussions. The last section concludes with certain policy recommendations.

2. Review of Literature

Hudson (2019) defines social media as "websites and applications that are designed to allow people to share content quickly". The monotonic upward rise in users on social media platforms and the heightened budgetary allocations in social media marketing by businesses have rendered the examination of social media increasingly relevant for stakeholders across multiple sectors (Mehta and Funde, 2014). Gupta (2016) noted that consumers are increasingly becoming cautious regarding their spending habits, thereby prompting businesses to reconsider their marketing strategies and align them with the evolving consumer landscape. Further, the study reported social media as a vital tool for businesses seeking to increase brand awareness and visibility in the modern marketplace. The nature of reviews about a product or brand on social media platforms affect consumers' choices to make a purchase or consider alternative options (Oumayma, 2020). Most respondents in Oumayma (2020) study reported that while social media plays an integral part in consumers' decision-making process, it does not necessarily lead to the final product purchase. Additionally, the choice the consumer makes at the final stage may be influenced by several factors, including the payment method and the number of delivery days. Bloemer and Ruyter (1998) define brand image as thoughts people hold about a company and all its information. Brand image plays a significant role in consumers' perception, which is crucial for decision-making (Guliyev, 2017; Parris and Guzmán, 2022).

The emergence of social media and internet platforms has fundamentally changed the way consumers interact with brands and make decisions about their purchasing decisions in the digital age. User generated content (UGC)

has been a game changer in influencing consumers' purchase decisions. Chen et al. (2022) observed that when users see others praising a product, it enhances trust and credibility and therefore helps reduce perceived risks and boosts consumers' confidence in their purchasing decisions. Previous consumers' experiences offer potential buyers with authentic insights about products (Geng and Chen, 2021). Filieri et al. (2015) highlights the importance of trustworthiness in guiding consumer choices. In an empirical study on high-end fashion firms, Kim and Ko (2012) found that UGC significantly enhanced customer equity by improving brand awareness, perceived quality, and loyalty. The study revealed that recommendations had the greatest impact on consumer purchase decisions, followed by product reviews and ratings, all of which were important in shaping consumer perceptions.

The fashion industry has made extensive use of social media networking sites and other online channels to engage with its consumers (Ahmad et al., 2015). Available research on fashion apparel manufacturers have shown social media marketing to positively influence consumer purchasing decisions (Godey et al., 2016; Sunday and Bello, 2016). The concept of 'luxury', that was previously associated with very exclusive and highly prized goods available only to the wealthiest of people, is currently evolving (Mundel et al., 2017). Balabanis and Stathopoulou (2021) find the emergence of 'affordable luxury goods' in this digital era. Premium brands are trying to remain ahead of the curve by influencing even middle-class consumers, who are drawn to the luxurious lifestyles of the upper classes and seek "affordable luxury products" (Atwal and Williams, 2009; Bai et al., 2021; Truong et al., 2009). Consumers' demand for prestige, which pushes them toward the benefits and values of luxury goods, is one of the primary variables influencing their willingness to accept them (Lo and Yeung, 2020). Affordable luxury serves as a viable option to make a prestige-price trade-off, as it combines a high perceived prestige with reasonable price premiums to attract such consumers (Truong et al., 2009; Kumar & Paul, 2018). Since these products can enhance consumers' status and taste (Mundel et al., 2017) and boost brands' sales volume (Deloitte, 2017), brands are creating "sub-brands" at "lower entry-level prices" in product categories like apparel, cosmetics, accessories, and perfumes to attract the current generation of affluent. The surveyed literature for this essay clearly demonstrates the ever-increasing role that social media platforms play in influencing consumers' purchase decisions through several social media marketing strategies, including user-generated content, social media influencers, among others.

Income as a factor was carefully excluded from the scope of the study. There is an understanding that income plays a role in determining whether the final purchase decision takes place. This aspect can be taken up to gather further insights into this exploratory study.

The influence of social media in post purchase decision of luxury apparel remains underexplored. Much of the existing literature focuses upon the consumer decision making process that lead up to the purchase of the product. There has been less attention given to how consumers respond after the purchase has been done, how do brands encourage repeat purchase behaviour, aspects of consumer satisfaction and so on. Also, there is a lack of extensive literature in the aspect of corporate social responsibility. Although it is a well-documented topic, when considering the interlay of social media and purchase decision of luxury apparel, there is a deficiency in the extant literature. Understanding this aspect would enable brands the importance of incorporating sustainable and ethical ways of running their business.

3. Research Methods

This study employed a quantitative and qualitative methodology to assess the association between content on social media platforms on purchase decisions. The study utilizes a convenience sampling strategy for data collection. The criteria were that the respondent uses at least one social media platform like Instagram, Facebook, YouTube, etc. and engages with different types of social media content on these platforms. Individuals in the age range of 20 to 40 were included in this study. Quantitative data was collected using an online Google form in the month of September 2024. A pilot survey was conducted prior to the main electronic survey to evaluate the feasibility and reliability of the questionnaire responses. A total of 100 responses were received. It sought to give an overview of the general social media usage. The questions sought to understand which platform was popularly used, how many hours was it used for, for what reasons, why is it preferred over traditional media, and so on. It also sought to uncover the impact of different types of content on social media and the influence each of them has on consumers' purchase decision of luxury goods. Quantitative data was complemented with conducting in-depth interviews with selected six individuals to gain insights into the respondent's social media usage, influence of social media in the consumer decision making, understanding the different types of social media content and degree of influence on purchase decision, impact of negative reviews on purchase decision. An interview, on average, lasted for approximately thirty minutes. The interview questions were structured, and all the interviews were conducted in English to avoid any confusion or misinterpretation of the questions.

Of 100 respondents, 61% were female, and 39% were male. Approximately two-thirds of the sample fall within the age range of 20 to 24. The mean age of the sample is 26 years. A total of forty-nine participants reported using social media for around 3-6 hours daily, whereas only five participants reported social media for 9 or more hours. The primary reasons that respondents use social media for is for entertainment/leisure, this segment constituted a significant majority, amounting to 85% followed by gathering information/news. Instagram, comprising about over three quarters of the total responses, was opted as the most preferred social media platform by the respondents. Three-fifths of the participants have purchased a luxury product, while the rest of the participants have not.

4. Results and Discussion

Now, we present the analysis of the results obtained from this study. More than seventy-five percent of the survey respondents identified positive customer reviews as the most important factor influencing a brand's image on social media. This finding concurs with Yang's (2015) analysis, which reports that the customer reviews of a product or service influence the purchase intentions of potential consumers. The presentation of products, high quality visuals, and the quality of content on these platforms were identified as the second most important factor in evaluating a brand's social media image. Brand image is related to the consumers' use of the brand to reflect their symbolic meaning of consumption and identity in self-expression (Lau and Phau, 2007). Consumers ascribe high quality to esteemed brands (Rubio et al., 2014). This is reflected by the interview participants' responses which point out craftsmanship and heritage as crucial factors that play a motivational role in the purchase decision of luxury apparel. An interviewee narrated:

"Brand's social media image plays a significant level of importance. Key factors, when considering purchase of luxury apparel would be its heritage and craftsmanship. The frequency with which the brand engages with its audience, is another important criterion I look for." (An interviewee, age 23 years, India, September 2024)

The constant availability of social media at consumers' disposal has enabled consumers to make more informed purchase decisions. Consequently, brands must maintain a positive and consistent social media presence to effectively engage with their audience. Kotler and Pfoertsch (2007) posited that branding via the use of social media platforms can serve as key components in determining a business's success if it is aligned to meet the market trends.

Influencer marketing has become a powerful tool for brands to reach their target audiences. A study by Lou and Yuan (2019) found that influencer endorsements positively affect brand attitudes and purchase intentions, especially when the influencer's values align with those of the brand. Approximately seven-tenths of the survey respondents reported that the authenticity and credibility of influencers' endorsements are the most important factors influencing their purchase intentions. An interviewee narrated:

"Expertise and authenticity, personally to me, are the most appealing factors of an influencer endorsement when considering a purchase decision of a luxury apparel. If they are an expert or possess good knowledge about both the luxury apparel and the brand, they are giving a review of, I will be inclined to consider that product. But influencer content alone, or within itself is not enough to ensure I go ahead with the purchase decision or whether the purchase decision will happen altogether but plays a motivational role in aiding my purchase decision." An interviewee, age 25 years, India, September 2024.

Studies conducted on influencer content (Hajli, 2014; Mishra and Ashfaq, 2023; Lee and Eastin, 2020) emphasized the role that trust plays in influencing the intention to purchase. The responses received from interview participants reflect upon the role of trust - if a product is endorsed by an influencer whom they have followed for an extended period, and if they regard the review as authentic and trustworthy, they are likely to purchase the recommended product. More than fifty percent of the survey participants agreed that they were more likely to consider purchasing a luxury apparel item if it were endorsed by an influencer. This finding is in line with Ayoubi and Naweer's (2024) study conducted on impact of brand endorsement by influencers on consumers.

The rise and influence of user generated content has only increased with the increased usage of social media platforms. Consumers trust other consumers because unlike most influencers, customers are usually not paid to promote a product, so thereby the reviews put forth by customers will be authentic and credible. Specifically, consumers use comments from other users to avoid possible risks from information asymmetry due to the untouchability of online shopping (Hong et al., 2017). More than two-thirds of the respondents, interact with user generated content. Most of the UGC that respondents interact with come in form of customer reviews and

social media posts. User generated content usually acts as a reference point to base purchase decisions. This is reflected in the words of an interview respondent:

“User Generated Content is very useful when I decide about buying a product. Many consumers out there have bought the same product. They have different opinions about a product, so as a consumer it helps me as I can obtain different customer experience of the same product, evaluate the pros and cons of it and come to a more informed decision based on it”. An interviewee, age 23 years, India, September 2024.

The nature of customer reviews is crucial in determining purchase decision. When there is an influx of negative reviews, the consumer may consider alternative options or may delay the purchase of a certain product/service but generally does not consider giving up on the purchase decision altogether. Around four-fifth of the survey participants indicated that negative reviews are the most popular type of negative content that influences respondents' perception of a brand. When asked about their approach to working around negative reviews, the most common responses (around 66%) were that they were inclined to research more about the brand before proceeding with the purchasing decision. Few of the participants indicated that they would avoid purchasing from the specific brand and consider alternatives. An interviewee illustrated:

“If there is a negative review about the product I want to purchase, I will reassess and double check the information. Additionally, I will ask my friends and family for their opinions or maybe go on social media to the brand's social media page, check related hashtags, how other people's experiences have been about the product and what their overall reviews are. I will not avoid purchasing that product altogether, but I may delay the purchase decision”. An interviewee, age 25 years, India, September 2024.

Undoubtedly, purchase intentions do not always lead to purchase decisions. However, factors influencing purchase intentions have a significant role to play in consumers' actual purchases. Income as a determining factor has been excluded from this study. The survey participants indicated numerous factors influencing their purchasing decisions. About three-fifths of the respondents reported about emotional and psychological barriers, including feelings of discomfort from spending lots of money, and guilt. Long term consideration about the maintenance costs and whether a product will remain trendy also is a contentious factor on why purchase intention does not translate into purchase decision. The most repetitive response is the awareness of a new alternative which may shift their purchase decision or sometimes the availability of different options brought to consumers' awareness may lead to a sense of confusion.

5. Concluding Remarks

This study has attempted to explore the influence of three types of content on social media – brand image, influencer content and user generated content – on purchase decisions within the luxury apparel sector. Findings from the survey and interviews corroborate existing literature, revealing consistent themes. Additionally, the research explores the impact of negative reviews on purchasing decisions, aiming to ascertain whether such reviews can entirely dissuade consumers from completing a purchase. The analysis indicates that while negative reviews may not completely prevent purchase decisions, they possess the potential to postpone or prompt consumers to consider alternative products. Numerous factors contribute to the final purchase decision, yet various forms of social media content serve as motivational elements that enhance purchase intentions. Ultimately, this study highlights that social media wields significant influence over purchasing decisions by providing a platform where consumers can swiftly access information. Among the content types analyzed, user-generated content emerges as the most influential, engaging users from the initial stages of product awareness through to post-purchase evaluation in the consumer decision-making process.

This study acknowledges its limitations, such as the inability to generalize findings due to convenience sampling and potential self-reported bias among respondents; however, it provides significant insights. Overall it can be understood that social media holds a significant influence in shaping purchase decisions, as it offers the platforms upon which consumers gather their information from in a more quick and comprehensive manner. User Generated Content is understood to be the most influential type of content on social media most users engage with from the very first stage of product awareness to all the way to post purchase evaluation in the consumer decision making process.

A practical recommendation for businesses in the luxury fashion sector would be to analyse the existing competitors and to understand how they tailor their marketing strategy around luxury apparel to deliver a well curated and concise branding image. Social media can help in deriving meaningful insights. Interactions on social media platform pages of different brands allow brands to collect data and analyse this information. With this

insight, brands can tailor the shopping experiences of users to be more attentive and reciprocatively of consumer's needs. This would allow them to adapt their marketing strategies and provide product recommendations based on personalized consumer preferences.

Exclusivity, craftsmanship and storytelling are crucial aspects of a brand's image. A brand can foster these characteristics in a conducive manner through their presence in various social media platforms. Creating a personalized and exclusive experience around the concept of the product are what customers look forward to along with superior quality and a brand's ability to stand out among its counterpart competitors. Customers are further willing to pay a premium as long as this criterion is fulfilled.

Brands must pay attention to the UGC as this is understood as the most effective social media content opted by most customers. They need to ensure to be responsive to consumers' feedbacks and complaints in a professional and respectful manner. Consumers are more inclined to purchase from those brands that do not surround themselves in any negative limelight.

6. Conflicts of Interests

The authors of this paper declare that they have no conflicts of interest. Further, we have not received any funding/grant from any organization.

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Factors Influencing Purchase Intention on Social Commerce – A Preliminary Study

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Abstract: This preliminary study seeks to explore the factors influencing purchase intention on social commerce platforms among young Portuguese consumers. Understanding these factors is essential, as social commerce continues to grow rapidly, particularly among younger demographics who increasingly rely on social media for purchasing decisions. Portugal serves as an ideal context for this investigation due to the lack of relevant research in social commerce and to its flourishing digital economy and the high social media engagement among its youth population. To gain deeper insights into these consumer behaviours and preferences, a focus group was conducted with nine participants who actively engage with social media platforms, aiming to get insights on the key elements that shape consumer behaviours in online shopping environments. The discussion, recorded in participants' native language, was later transcribed and translated for analysis. Key findings revealed that trust is a critical factor, with participants emphasizing the importance of customer reviews, clear return policies and secure payment options. Additionally, personalised shopping experiences, leveraging social media's customisation capabilities, were highlighted as significant drivers of purchase intention. Participants also suggested that social commerce platforms could boost visibility for small and local businesses through discoverability features. The use of interactive tools, such as live videos, was identified as the main way to build trust and engagement. These insights offer valuable implications for social commerce platforms and sellers aiming to enhance user trust and increase purchase intention. The findings offer valuable insights into consumer behaviour in social commerce, informing platform design strategies to optimize consumer involvement and improve purchase intentions.

Keywords: Social Commerce; Consumer Behaviour; Purchase Intention; Focus Group

1. Introduction

The rapid expansion of social commerce represents a significant transformation in the shopping landscape, essentially changing how consumers engage with brands and make purchase decisions. Defined as the use of social media platforms to facilitate online shopping through various tools—such as product reviews, social shopping features, and influencer marketing—social commerce integrates social interaction with e-commerce (Lin and Wang, 2022). Social media platforms like Facebook, X, and Instagram have gained recognition as highly interactive online platforms in recent years (Lin *et al.*, 2019). And moreover, the extensive integration of Web 2.0 technologies to facilitate online interactions has led to the emergence of social commerce as a popular consumer tool for sharing socially oriented commercial information about goods and services (Hu *et al.*, 2019).

Social commerce platforms offer a unique shopping experience that combines social interactions and entertainment with the convenience of shopping opportunities (Wang and Huang, 2022). A positive online customer shopping experience (OCSE), characterized by elements such as pleasure, addiction, and satisfaction, can contribute to increased customer immersion in the shopping activity. This immersion, as suggested by Anshu *et al.* (2022), can then have a profound influence on customers' online buying behaviours. Research conducted by Barari *et al.* (2020) and Novak *et al.* (2000) supports the notion that a positive OCSE has an enhancing effect on buying behaviours in the online context. With this emergence of social media platforms, technology has transformed the way people shop online, being social commerce an increasingly popular trend (Niemann, 2023).

In recent years, social commerce has emerged as a significant player in the retail landscape, integrating social media platforms with e-commerce activities. In 2024 the market size is expected to hit 1.7 trillion US dollars (\$), which represents a 30.8% increase from the previous year, when social commerce sales worldwide surpassed the \$1 trillion mark for the first time, with a total of \$1.3 trillion (Chevalier, 2023). As more consumers turn to platforms like Facebook, Instagram, and TikTok to make purchases, understanding the motivations, behaviours, and concerns of these users is crucial for businesses aiming to optimize their social selling strategies (Doan and Lee, 2023).

However, despite the increasing relevance of social commerce globally, Portugal has seen a significant gap in academic research within this domain, which constitutes a considerable limitation in analyzing and understanding social commerce practices in the Portuguese context.

Addressing this gap is essential for conducting meaningful comparisons with findings from other countries, allowing for a broader understanding of social commerce dynamics (Silveira, 2018). From a global perspective, Europe provides the least amount of academic contributions on social commerce, further complicating cross-cultural comparisons. The biggest amount of academic information is coming from Asia, 77%, and North America, 18%, with Europe only representing 5% of the overall social commerce research (Zhao *et al.*, 2023). To address this limitation, it is crucial to increase the production of research both in Portugal and across Europe, in order to generate reliable data that ensures more accurate and meaningful results for comparative studies (Păuceanu *et al.*, 2023).

While there are numerous valid empirical studies on factors influencing purchases on social commerce (Chun *et al.*, 2023; Doan and Lee, 2023; Hoang and Khoa, 2022; Hyun *et al.*, 2022; Silalahi and Heruwasto, 2022; Tuncer, 2021), there are relatively few qualitative analyses addressing the issue of s-commerce, like the one presented in this article. Which aims to reveal factors influencing the purchase intention on social commerce platforms, serving as a preliminary investigation within the larger research framework.

Businesses looking to thrive in the social commerce landscape must understand these dynamics and tailor their strategies accordingly. By enhancing trust through transparency, leveraging social media features effectively, and focusing on personalized experiences, brands can cultivate stronger connections with consumers. Furthermore, recognizing the ethical and local considerations that influence purchase decisions can position brands favourably in a competitive market.

As social commerce continues to evolve, ongoing research is needed to deepen our understanding of consumer behaviours and preferences. By exploring the nuances of social commerce further, researchers and practitioners alike can develop more effective strategies to engage consumers and drive sales in this rapidly changing environment.

2. Methodology

Given the exploratory nature of this preliminary study, a qualitative approach was considered more suitable for this specific context, given the ability to provide detailed answers (Bernard, 2005; Ghauri and Gronhaug, 2010). Specifically, a focus group method was selected to examine the determinants influencing purchase intention on social commerce. This approach facilitated in-depth exploration by bringing together a group of individuals to discuss a relevant topic of interest (Kotler *et al.*, 2019), in this case, their use of social media.

The focus group, which took place in 2024, had nine participants - six women and three men - that were selected based on their social media usage, which aligns with the recommended group size of six to ten members set by Ghauri and Gronhaug (2010). This sample represented a diverse range of genders, ages, and occupations, and also encompassed varied backgrounds and shopping experiences on social media, enabling a rich, varied exploration of social commerce behaviours. The session took place in the participants' native language, Portuguese, and was subsequently transcribed and translated into English. A rigorous translation process was employed, including back translation to ensure the meaning was preserved across languages, and bilingual experts reviewed the final text to maintain cultural and contextual accuracy. This careful process ensured that both the literal content and intended meaning were faithfully conveyed.

The focus group format encouraged active engagement, facilitating a comprehensive understanding of the factors influencing purchase intentions in social commerce, see *figure 1*. Observing non-verbal cues, such as body language and facial expressions, provided additional depth to the qualitative data collected (Fern, 1982). The discussions, held in a collaborative environment, enabled knowledge-sharing and ultimately enhanced the understanding of participants' experiences and perceptions surrounding social commerce, as well as their attitudes toward future research needs.

The main objective of utilising a focus group approach was to leverage its strengths in interpreting findings from prior studies and generating practical insights (Ghauri and Gronhaug 2010). Furthermore, the focus group was a cost-effective method, enabling efficient qualitative data collection while fostering valuable insights into participants' preferences, behaviours, and challenges associated with social commerce (Stewart and Shamdasani, 2014). The findings revealed both opportunities and challenges within social media shopping, with particular concerns arising around trust issues and the need for personalised experiences as barriers to purchase.

Participants were not compensated for their involvement, and discussions took place in an environment supportive of extensive knowledge-sharing about social media, ultimately contributing to a deeper recognition of the value of further research on this topic.

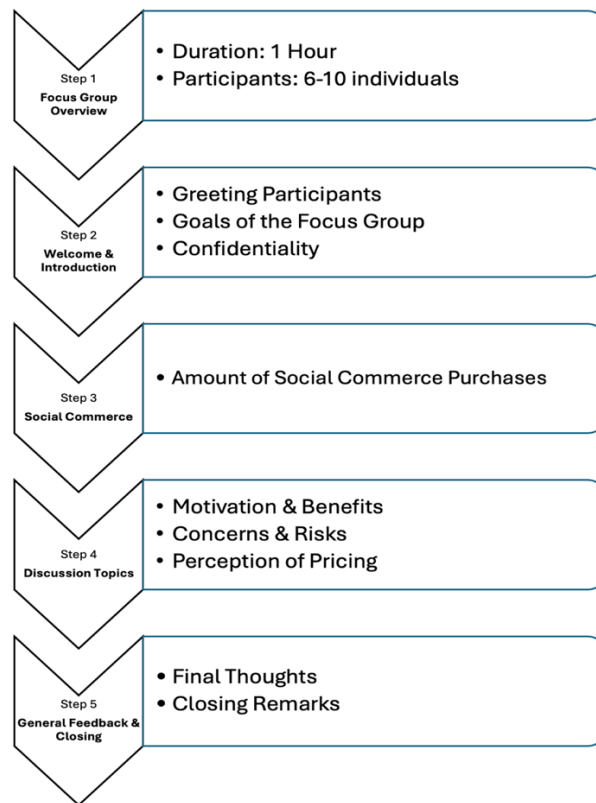


Figure 1: Focus group process

2.1 Data Analysis

The focus group discussions were recorded and manually transcribed to ensure the accuracy of participants' contributions. The qualitative data was analysed using a combination of thematic analysis and content analysis, each selected to fulfil specific analytical needs and provide a comprehensive understanding of the data.

A thematic analysis approach was applied to identify recurring patterns and key themes within the data, enabling an in-depth examination of participants' experiences and perceptions regarding social commerce (Braun and Clarke, 2006). This method allowed for the extraction of significant insights into the factors influencing social commerce purchases, revealing both explicit and subtle participant concerns. The analysis process began with a thorough review of the data to gain familiarity, after which data points were grouped into broader themes that captured the core issues discussed. NVivo software supported this process, helping to organise and structure the data rigorously through recurrence tracking, which ensured accuracy and consistency in identifying themes. In addition to thematic analysis, a content analysis was conducted to quantify the frequency of key terms and topics raised by participants, providing a structured way to interpret the qualitative data. Content analysis was particularly suitable for this study as it enabled a systematic approach to capturing the prevalence and distribution of central themes across participant responses (Krippendorff, 2019). By measuring specific, recurring elements within the data, content analysis complemented the thematic analysis, adding a quantitative layer that provided insights into the most prominent concerns and motivations expressed. This dual approach allowed for the exploration of both prominent patterns and more nuanced details within the data.

The integration of thematic and content analysis methods ensured both depth and breadth in interpreting the qualitative data collected from the focus groups. This combined approach enabled the study to address its aims comprehensively, yielding a nuanced understanding of participants' perspectives about purchases on social commerce.

3. Results of the Focus Group

The focus group consisted of a diverse group of individuals, with different backgrounds, very active on social media and with different levels of experience regarding purchases on social commerce. Some individuals reported frequent use of social media for purchasing decisions, while others engaged only occasionally. These variances in engagement levels highlight broader trends in consumer behaviour and preferences across demographic lines (Hajli, 2015; Santos *et al.*, 2022; Xue *et al.*, 2020).

The diversity in gender, age, and backgrounds among participants significantly enriched the discussion, see *table 1*, fostering a comprehensive exploration of the dynamics within social commerce. This varied representation allowed for multiple perspectives, which are crucial for understanding the complex interplay between social media and consumer purchasing behaviour (Solomon and Tuten, 2017).

This section categorises the findings into two key themes that emerged during the session: behaviours and motivations. Both themes reflect the participants' insights and experiences, providing valuable implications for understanding social commerce in contemporary consumer environments.

Table 1: Diversity of participants

Individual	Gender	Age	Occupation	Shopping experience on social media
1	Female	38	Professor	Yes
2	Female	30	Designer	Yes
3	Female	19	Student	Yes
4	Male	32	Doctor	Yes
5	Female	25	Translator	Yes
6	Female	31	Veterinarian	Yes
7	Male	22	Student	Yes
8	Male	21	Student	Yes
9	Female	29	IT Officer	No

3.1 Behaviours on Social Commerce

Behaviours reflects participants' social commerce usage patterns, covering both the frequency with which they make purchases and the platforms they prefer.

Purchase Frequency and Social Commerce Platform Usage: Participants exhibited a wide range of behaviours when it came to purchasing through social media. Some reported frequent purchases, while others indicated very rare engagement with social commerce. For instance, Participant 1 mentioned, "Maybe 1 or 2 times a year on social media, OK? On social media, it will be 1-2 times a year." In contrast, Participant 6 stated, "Probably once a month, every 2 months at least I shop on social media." This variability suggests that social commerce is not uniformly adopted across different individuals, and various factors may influence how often consumers choose to buy through these platforms.

One participant expressed caution, noting, "I rarely buy anything directly from social media, maybe once or twice a year. I'm more cautious." This sentiment underscores the importance of understanding individual attitudes towards online purchasing and the potential barriers to engagement. The diverse purchase frequencies observed in the focus group emphasize the need for businesses to tailor their marketing strategies based on the purchasing habits of different consumer segments.

Common Platforms: When discussing the platforms most frequently used for social commerce, Instagram and Facebook emerged as the top choices among participants. Some also mentioned using TikTok and Facebook Live as avenues for making purchases. Participant 2 noted, "Yes, I have made a purchase in my entire life through social media; in this case, it was on Instagram." Another participant added, "Mainly on Facebook, not through the Marketplace, but through Facebook Lives," highlighting the significance of live selling features in fostering consumer interest.

This reliance on popular social media platforms indicates that businesses should focus their efforts on enhancing their presence and marketing strategies on these channels to capture the attention of potential buyers. As social commerce continues to evolve, platforms like Instagram and Facebook will likely play a central role in shaping consumer purchasing behaviour. Therefore, businesses must remain agile and responsive to changes in platform algorithms, features, and user engagement trends.

3.2 Motivations on Social Commerce

Motivations covers a range of factors influencing purchases on social commerce.

Convenience and Practicality: A recurring theme among participants was the convenience and practicality of making purchases directly through social media. The ability to quickly communicate with sellers and complete transactions was seen as a significant motivator for engagement. Participant 8 stated, “It is literally sending a message to the page that we are interested, sending our MbWay or making a bank transfer, so I prefer to do it through social media platforms than to go to a store.” This ease of use suggests that streamlining purchasing processes on social media can enhance user engagement and drive sales.

The desire for convenience is particularly relevant in today’s fast-paced world, where consumers increasingly seek quick and efficient shopping experiences. By offering seamless transaction processes, businesses can better cater to the preferences of modern consumers who may prioritize convenience over traditional shopping experiences.

Personalization and Custom Orders: Another motivation for purchasing through social media is the opportunity for more personalized interactions with sellers. Participants expressed a desire for custom orders that may not be available through traditional e-commerce platforms. Participant 1 explained, “I customized, said what I wanted, they texted me the design, I accepted, and came home.” This illustrates the potential for businesses to foster closer relationships with consumers by offering tailored products and services.

Personalization extends beyond product customization; it also encompasses personalized marketing approaches. Businesses that leverage data analytics to understand customer preferences and behaviour can create targeted advertising campaigns that resonate with specific segments of their audience. By doing so, they can increase the likelihood of engagement and conversions.

Supporting Small Businesses: The focus group revealed a strong sentiment towards supporting local or small businesses. Participants felt that these companies were more accessible and relatable on social media. Participant 3 remarked, “To support a smaller company that is growing and, for example, also to value a little the fact that it is Portuguese.” This highlights the importance of building a community around local brands and emphasizing their unique offerings to attract consumers.

Supporting small businesses is increasingly becoming a priority for many consumers, who appreciate the personal touch and community connection these businesses often provide. As consumers become more aware of the economic impact of their purchasing decisions, brands that emphasize their local roots and commitment to community values can differentiate themselves in a crowded market.

Trust Issues: Despite the motivations to engage in social commerce, some participants expressed concerns about trust and security when making purchases directly through social media. Many preferred to visit the company’s website to complete transactions. Participant 9 stated, “What happens is that I see ads and jump directly to the websites to make the purchase there for the sake of trust and convenience; I never ended up making the purchase directly on these platforms.” This indicates that building trust through social media is a crucial factor for encouraging more direct purchases.

Trust is a critical component of any online transaction, and social commerce is no exception. Businesses must invest in strategies that enhance trustworthiness, such as displaying customer reviews, utilizing secure payment gateways, and ensuring transparent return policies. By doing so, they can alleviate consumer concerns and foster a sense of security that encourages engagement.

Verification Through Familiarity: Familiarity with a brand or previous positive experiences often influenced participants' trust in making purchases via social media. Participant 3 shared, “If I were to buy from this company again, I would already have greater confidence in the process.” This reliance on prior experiences highlights the importance of customer reviews and testimonials in building trust among potential buyers.

Additionally, creating a consistent brand presence across multiple channels can help reinforce familiarity and build trust over time. Brands that maintain clear and consistent messaging, visuals, and customer engagement strategies can enhance their credibility and foster long-term relationships with consumers.

Algorithm Recommendations: Participants noted that algorithmic recommendations on social media platforms were helpful in presenting relevant products, often influencing their purchase decisions. Participant 4 stated, "And it is always often products that the algorithm finds for me. And that helps me, therefore, in the choice; I do not seek." This suggests that businesses should consider optimizing their content for social media algorithms to enhance visibility and engagement with potential customers.

Understanding how algorithms work can significantly influence a brand's visibility on social media. Businesses that actively engage with their audience, create shareable content, and encourage user interaction can improve their chances of being favoured by algorithms, thereby increasing their reach and potential for conversion.

Live Selling: The interactive nature of features like Facebook Live was appreciated by participants for creating a more personal shopping experience. Participant 5 explained, "I prefer to buy through someone who is showing clothes or jewellery, then actually buying through, for example, Instagram." This indicates that live selling can effectively bridge the gap between online shopping and in-person retail experiences, fostering a sense of connection between consumers and sellers.

Live selling not only allows for real-time interaction but also enables consumers to ask questions and receive immediate feedback, enhancing their overall shopping experience. Brands that utilize live selling can create a more dynamic and engaging shopping environment, thereby increasing consumer interest and encouraging purchases.

Types of Products: The focus group identified various types of products commonly purchased through social media, including art, handicrafts, jewellery, clothing, and second-hand items. Participants expressed a particular interest in unique, custom, or hard-to-find items. Participant 2 noted, "Knowing how the product is made, and we end up falling in love with it, let's say, the way it is made." This suggests that storytelling and product transparency can play a vital role in driving consumer interest.

Brands that effectively communicate their stories and values can create a deeper connection with consumers, enhancing their likelihood of making a purchase. Moreover, highlighting the craftsmanship and unique attributes of products can differentiate offerings in a saturated market, appealing to consumers' desire for authenticity.

Seasonal Shopping: Participants indicated an increased tendency to use social media for shopping during holidays and special occasions. This reflects a periodic spike in social commerce activities tied to significant events. Participant 4 stated, "I think that I use more at the times of the holidays, therefore Christmas and the beginning of the year; that is also when family birthdays come together more." This insight highlights the potential for businesses to create targeted marketing campaigns during peak shopping seasons.

Leveraging holiday-specific promotions, limited-time offers, and themed content can attract consumers and encourage spending during these high-traffic periods. Businesses should consider developing seasonal marketing strategies that align with consumer behaviours, maximizing their opportunities for sales.

Ethical and Local Considerations: Participants also considered ethical factors, such as the environmental impact and labour practices associated with products, when making purchasing decisions. Supporting local businesses and causes was mentioned as a motivating factor. Participant 6 said, "I just wanted to add that it is also possible to make sure that we are buying a national product. Instead of making an import, and another thing that came to mind is certain products that we buy through social networks; we can associate them with a cause."

The growing awareness of ethical consumption is influencing how consumers approach their purchases. Brands that prioritize sustainability and ethical practices can tap into this growing consumer sentiment, positioning themselves as responsible choices in the marketplace. By transparently communicating their values and practices, businesses can connect with value-driven consumers who prioritize ethical considerations in their purchasing decisions.

4. Conclusion

The focus group discussions revealed important insights into consumer behaviour within social commerce, characterized by diverse experiences and engagement levels. Participants exhibited differing purchase frequencies, with some actively using social media for transactions while others engaged occasionally or

expressed caution regarding direct purchases on these platforms. This variability suggests that businesses should tailor their marketing strategies to address the unique predispositions and behaviours of different consumer segments.

The discussion highlighted Instagram and Facebook as the primary platforms for social commerce, indicating that brands should enhance their presence and user engagement on these channels (Statista, 2023).

Convenience emerged as a significant motivation for purchasing through social media, with participants appreciating the ease of communication and transactions. Additionally, the desire for personalized experiences and the inclination to support local businesses were prominent themes, underscoring the importance of building relationships and emphasizing community values in marketing strategies.

However, trust and security concerns were evident, as many participants preferred to complete purchases on official websites rather than through social media. This highlights the need for businesses to implement strategies that enhance trust, such as displaying customer reviews and ensuring secure payment options.

Moreover, participants noted the influence of algorithmic recommendations in their purchasing decisions, suggesting that businesses should optimize their content for social media algorithms to increase visibility and engagement. Ethical considerations also emerged, with a growing emphasis on sustainability and supporting local businesses, indicating a shift toward more conscious consumer behaviour.

Finally, the discussions revealed patterns of increased social commerce activity during holidays and special occasions, presenting an opportunity for businesses to create targeted marketing campaigns during these peak periods.

In summary, the focus group findings provide valuable insights into the complex dynamics of social commerce, highlighting the need for businesses to adopt flexible, consumer-centric strategies that address trust, convenience, and ethical considerations while leveraging the unique features of popular social media platforms.

5. Limitations and Future Research

This exploratory study was conducted at a single moment in time with a specific group of participants. The opinions expressed by this particular group are exploratory and do not adequately represent those of other individuals in similar contexts. To enhance the validity of the findings, future research should aim to involve a broader and more diverse sample of participants, facilitating a more comprehensive consensus on the insights derived from this study.

Another limitation pertains to the lack of extensive validation of the findings, given the small sample size. To address this, future work could draw on the recommendations of Venkatesh et al. (2012) and Martins (2014), who advocate for the integration of mixed methods in research. Conducting an empirical study that includes a survey distributed among a larger population of social media users would help validate the significance and relevance of the recommendations identified in this research. This approach would provide a more robust evaluation of the findings and contribute to a deeper understanding of the dynamics of social commerce.

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Media Modalities and the Spread of Fake News: Diagnosticity and Involvement Effects

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Abstract: The proliferation of fake news about climate change presents a significant challenge to global efforts to address this urgent environmental issue. While fake news was previously predominantly text-based, it has evolved in recent years to incorporate more dynamic multimedia formats like pictures, audio, and video, with the potential to significantly influence users and amplify its spread online. This study investigates how different presentation modalities (text-only, image with text, and video with text) influence the believability and dissemination of fake news about climate change. An online experiment was conducted with 456 participants randomly assigned to view fake news posts in one of the three formats. The study examined the effects of these presentation formats on perceived accuracy and sharing intentions, as well as the mediating role of content diagnosticity and the moderating role of personal involvement. The experimental outcomes reveal the following: 1) Video with text significantly enhances perceived accuracy compared to text-only format, while image with text shows no significant difference; 2) The effect of presentation format on perceived accuracy is mediated by perceived diagnosticity; 3) Personal involvement moderates these relationships, with highly involved individuals being less influenced by presentation format; 4) Perceived accuracy positively correlates with sharing intentions across all formats. The study contributes to our understanding of fake news dissemination by integrating the MAIN model, cognitive theory of multimedia learning, and elaboration likelihood model. It highlights the role of the "realism heuristic" in processing fake news content and reveals how perceived diagnosticity influences accuracy judgments. These findings provide valuable insights for researchers, practitioners, and policymakers working to develop effective strategies for combating fake news and promoting media literacy in the context of climate change communication. They suggest that media literacy programs should focus on enhancing critical evaluation skills, particularly for video content. Additionally, increasing personal involvement in climate change issues may lead to a more critical evaluation of information across different modalities.

Keywords: Fake News, Climate Change, Presentation Modalities, Perceived Diagnosticity, Personal Involvement, Social Media

1. Introduction

The proliferation of fake news about climate change poses significant challenges to global efforts to address this urgent environmental issue (Lewandowsky 2021). The rise of online platforms has further amplified the dissemination of climate change misinformation, reaching broad audiences and fostering public confusion and skepticism (Treen et al. 2020). This evolution is further exacerbated by the transition of misinformation from traditional text-based formats to dynamic multimedia such as images and videos, which significantly enhance its potential to mislead and influence public opinion (Peng et al. 2023; Sundar et al. 2021). While existing research has focused predominantly on text-based misinformation, less attention has been paid to the impact of multimedia formats. Lee and Shin (2022) argue that this creates a critical gap, as visuals are often perceived as more realistic and credible, increasing their influence. Vaccari and Chadwick (2020) and Wang et al (2021) further suggest that the sensory richness of multimedia formats, such as videos, amplifies their persuasive power. This study seeks to address this gap by comparing how three modalities - text-only, image with text, and video with text - affect the perceived accuracy and sharing intentions of climate change-related fake news.

To guide this investigation, this study employs the Modality–Agency–Interactivity–Navigability (MAIN) model, which explains how digital content features influence user perceptions and engagement. Sundar (2008) contends that modality, or the sensory presentation of information, significantly shapes user responses. Multimedia formats combining visuals and audio, such as videos, are perceived as more credible due to their realism and emotional engagement.

This study introduces perceived diagnosticity as a mediating factor, reflecting the extent to which users find information helpful for understanding an issue. Jiang and Benbasat (2007) note that diagnosticity influences trust and acceptance of information. It has been shown that in contexts like website interfaces, multimedia content can enhance perceived diagnosticity, making information appear more credible and useful (Jiang and

Benbasat 2007). In addition, this study suggests that personal involvement, or the relevance and interest individuals place on a topic, moderates these effects. Sundar et al. (2021) highlight that individuals who are more personally involved with a topic engage in systematic processing, while those with lower involvement are more likely to rely on heuristics. This reliance on heuristics often leads to greater susceptibility to video-based fake news compared to text or audio formats.

In summary, this study examines the interplay of presentation modalities, perceived diagnosticity, and personal involvement to enhance understanding of fake news dynamics and inform strategies to mitigate the spread of climate change misinformation.

2. Literature Review

Understanding how different presentation modalities influence belief formation and sharing behavior regarding fake news requires a comprehensive analysis of cognitive processing. This study draws on theoretical frameworks, including the MAIN model (Sundar 2008), the cognitive theory of multimedia learning (Mayer 2009), and dual coding theory (Paivio 1991), to examine these dynamics, particularly in the context of climate change misinformation.

2.1 Media Modality Impact on Cognitive Processing and Credibility

The MAIN model (Sundar 2008) provides a theoretical foundation for exploring how media modalities influence cognitive processing and credibility perceptions. According to this model, different formats - text, audio, images, and video - affect how individuals process information. Text-based formats require abstraction and active interpretation, which fosters deeper and more reflective cognitive engagement (Molina and Sundar 2019). Conversely, videos with vivid sensory details are easier to process but tend to encourage heuristic, surface-level cognitive processing due to reduced cognitive effort (Sundar et al. 2021).

The realism heuristic, a core component of the MAIN model, posits that multimedia formats, particularly video and audio, enhance perceived credibility by creating immediacy and vividness akin to real-life experiences (Sundar et al. 2021). This “seeing is believing” phenomenon can bypass critical evaluation mechanisms, leading individuals to judge multimedia-based content as more credible (Sundar et al. 2021). Generative AI has further complicated this dynamic by producing highly realistic visual and audio content. Studies reveal that AI-generated imagery and text evoke trust due to their authentic replication of visual cues, increasing susceptibility to misinformation (Chen and Shu 2024; Ferrara 2024).

2.2 Diagnosticity in Multimedia Credibility Evaluation

Diagnosticity, defined as the perceived utility of information for understanding an issue, is critical for evaluating credibility (Jiang and Benbasat 2004). The cognitive theory of multimedia learning (Mayer 2003) and dual coding theory (Paivio 1991) emphasize the importance of sensory integration in enhancing comprehension and information retention. Multimedia formats that leverage both visual and auditory channels can reduce cognitive load, thereby fostering deeper learning.

Empirical evidence supports these theoretical claims. Multimedia combinations, such as text paired with images or audio, enhance perceived diagnosticity and simplify content evaluation (Moreno and Mayer 2002). Lim et al. (2000) highlight that verbal and nonverbal cues complement rather than compete for cognitive resources, thereby enhancing perceived diagnosticity by providing multiple pathways for evaluation. Shin et al. (2024) observed that diagnosticity fosters trust, increasing engagement with potentially misleading information. This research extends these insights by examining the interplay between media modality and diagnosticity to understand their combined impact on fake news believability.

2.3 Personal Involvement and Cognitive Processing

Personal involvement, or the extent to which an individual finds a topic relevant, critically affects how information is processed. According to the elaboration likelihood model (Petty and Cacioppo 1986), highly involved individuals engage in systematic processing, scrutinizing content critically. In contrast, those with low involvement rely on superficial cues such as graphics (Metzger et al. 2010). Research by Lee and Kim (2016) demonstrates that multimedia features, such as images or videos, enhance message elaboration among highly involved individuals, prompting deeper cognitive engagement. Conversely, individuals with lower involvement often judge content based on surface features, finding video formats more persuasive due to their realism and

immediacy. Demuyakor and Opata (2022) show that users with limited knowledge are particularly susceptible to video-based misinformation. The vividness and perceived realism of such content make it compelling and more likely to be shared. These findings highlight the role of presentation modalities in shaping user engagement and susceptibility to fake news, especially among less informed audiences.

3. The Research Model and Hypotheses Development

3.1 Impact of Presentation Modality on Fake News Accuracy and Sharing

The MAIN model (Sundar 2008) posits that multimedia formats, particularly video, enhance perceived credibility by engaging multiple cognitive pathways. Studies confirm that video-based fake news is perceived as more credible and widely shared than text-only formats (Sundar et al. 2021). Lee and Shin (2022) found that video-based deepfake content increased source vividness and engagement intentions compared to text or image-based formats. Building on these insights, we propose:

H1: Perceived accuracy of fake news will be higher in (a) video with text or (b) image-based with text modalities compared to text-only formats.

H2: Sharing intentions will be higher for fake news presented in (a) video with text or (b) image-based with text modalities compared to text-only formats.

H3: Perceived accuracy will be positively related to sharing intentions.

H4: The relationship between presentation format and sharing intentions will be mediated by perceived accuracy.

3.2 Mediating Role of Diagnosticity

Multimedia formats enhance clarity and richness, increasing diagnosticity (Lim et al. 2000; Yin and Zhang 2020). Higher diagnosticity promotes content credibility and influences belief formation (Yin and Zhang 2020). Thus, we hypothesize:

H5: Perceived diagnosticity will be higher for fake news presented in (a) video with text or (b) image-based with text modalities compared to text-only formats.

H6: Perceived diagnosticity will be positively related to perceived accuracy.

H7: The relationship between presentation format and perceived accuracy will be mediated by perceived diagnosticity. Specifically, the effects of (a) video with text or (b) image-based with text modalities compared to a text-only format on perceived accuracy of fake news will be mediated by perceived diagnosticity.

3.3 Moderating Effect of User Involvement

We hypothesize that the impact of presentation format on perceived accuracy, mediated by diagnosticity, varies with user involvement. According to the elaboration likelihood model (Petty and Cacioppo 1986), highly involved users critically evaluate content based on its quality, reducing the influence of sensory cues (Lee and Kim 2016). In contrast, low-involvement users rely on sensory appeal, such as video realism, to judge credibility (Demuyakor and Opata 2022). Thus, for low-involvement users, presentation format significantly shapes accuracy perceptions.

H8: The indirect effects of presentation format on perceived accuracy through diagnosticity will diminish as user involvement increases.

4. Methodology

This study examined how different presentation modalities of fake news about climate change affected perceived accuracy and sharing intentions. Participants were shown identical content in three formats: (1) Text-only: A post with only textual information, serving as a baseline. (2) Narrated video with text: A one-minute video with narrated climate data and text overlays. (3) Image with text: A static image (e.g., a graph) paired with the same text.

4.1 Procedure

The study was conducted online on a mobile-compatible platform to simulate typical social media use. After providing informed consent, participants completed demographic questions (age, gender, education level) and rated their involvement with climate change. They were then randomly assigned to one of three conditions. Participants viewed the assigned fake news post and subsequently evaluated its perceived accuracy, sharing intentions, and diagnosticity. A debriefing followed, informing participants that the content was fictional and intentionally misleading to ensure ethical transparency.

4.2 Measurements

Scales were adapted to the study context and translated into Hebrew using the backward translation method.

Perceived accuracy: Measured using a 6-point Likert scale ranging from "definitely false" (1) to "definitely true" (6), adapted from Martel et al. (2020).

Sharing intention: Measured on a 7-point Likert scale, from "very unlikely" (1) to "very likely" (7), to assess the likelihood of sharing the post.

Perceived diagnosticity: Assessed using a modified version of the scale by Jiang and Benbasat (2004, 2007). Items included statements such as "The post provided valuable information on the climate change crisis," rated on a 7-point Likert scale (Cronbach's $\alpha = .94$).

Personal involvement: Measured using an adapted version of the revised Personal Involvement Inventory (Zaichkowsky 1994), as modified by Nekmat (2020). Participants rated five items on a 7-point semantic differential scale (e.g., "Irrelevant–Relevant"; Cronbach's $\alpha = .97$).

4.3 Participants

Participants were recruited via iPanel, a national online panel provider, with sampling stratified to reflect Israeli census demographics. The sample included 456 participants aged 18–70 ($M = 41.25$, $SD = 15.29$), with 239 females (52.4%) and 217 males (47.6%). Comparisons of background variables across conditions showed no significant differences ($p > .05$).

4.4 Statistical Analysis

Data analysis was performed using IBM SPSS Statistics 29, with alpha set at .05 (two-tailed). One-way ANOVAs and χ^2 tests assessed group differences in demographic and background variables. Hypotheses $H1$, $H2$, and $H5$ were tested using ANOVAs or Welch's F-tests with post-hoc tests (Tukey's HSD or Games-Howell). Zero-order correlations tested $H3$ and $H6$, examining relationships between perceived accuracy, sharing intention, and diagnosticity. Mediation ($H4$, $H7$) and moderated mediation ($H8$) were analyzed using the PROCESS macro for SPSS (Hayes 2022). Indirect effects were determined using 5,000 bootstrap samples, with significance indicated by confidence intervals excluding zero (Shrout and Bolger 2002). Interactions were probed using simple slopes analysis (Aiken and West 1991). Predictor variables were mean-centered, and variance inflation factors (VIF) were examined to ensure no multicollinearity ($VIF < 10$; Hair et al. 2014).

5. Results

Table 1 presents the comparison of study variables across different presentation formats. Results revealed that perceived accuracy scores were higher when presented in video with text compared to text-only, supporting $H1a$. However, there were no significant differences in perceived accuracy between image-based with text and text-only, which did not support $H1b$. Contrary to $H2a$ and $H2b$, no significant differences were found in the inclination to share scores across the groups ($p > .05$). Aligned with $H3$, perceived accuracy was positively related to inclination to share.

Table 1: Means and standard deviations of the study variables by presentation format

Variable	Presentation Format							
	Text-only		Video with text		Image with text		F	η^2 / ω^2
	(n = 151)		(n = 151)		(n = 154)			
	M	SD	M	SD	M	SD		
Perceived accuracy	2.64 _a	1.33	3.06 _b	1.43	2.79 _{ab}	1.42	3.47*	.02
Inclination to share	1.58	1.42	1.92	1.70	1.68	1.46	1.79	.004
Perceived diagnosticity	2.39 _a	1.49	3.20 _b	1.83	2.79 _{ab}	1.62	8.88***	.03

Note. Means with different subscript letters differ significantly from each other at the .05 level.

* $p < .05$. *** $p < .001$.

Regarding the mediation hypothesis (*H4*), the relationship between presentation format and perceived accuracy was significant, as was the relationship between perceived accuracy and inclination to share. However, the direct effect of presentation format on inclination to share was not significant ($p > .05$). Bootstrapping the indirect effect revealed significant results ($B = 0.17$, $SE = 0.08$, 95% CI: 0.04, 0.35), supporting *H4*. Perceived accuracy was higher when information presented in video with text as opposed to text-only, and higher perceived accuracy predicted a greater inclination to share. Perceived accuracy did not differ between image-based with text and text-only.

Differences in perceived diagnosticity scores indicated higher scores when presented in video with text compared to text-only format, but not when presented in image-based with text compared to text-only, indicating support for *H5a* but not for *H5b*. In line with *H6*, perceived diagnosticity was positively related to perceived accuracy. Mediation analysis for *H7* revealed significant relationships between presentation format and perceived diagnosticity, and between perceived diagnosticity and perceived accuracy. However, the direct effect of presentation format on perceived accuracy was not significant ($p > .05$). Bootstrapping the indirect effect yielded significant results ($B = 0.44$, $SE = 0.11$, 95% CI: 0.23, 0.65), supporting *H7a*. Perceived diagnosticity was higher for video with text compared to text-only format, and higher perceived diagnosticity predicted higher perceived accuracy. Since perceived diagnosticity scores did not differ between image-based with text and text-only, *H7b* was not tested.

Table 2 presents results of moderated-mediation analysis (*H8*). The relationship between presentation format and perceived diagnosticity was moderated by personal involvement. Simple slopes analysis showed that perceived diagnosticity scores were higher for video with text relative to text-only at low and moderate levels of involvement, but not at high levels. Additionally, the relationship between perceived diagnosticity and perceived accuracy was significant and positive. However, the direct effect of presentation format on perceived accuracy was not significant ($p > .05$). Conditional indirect effects analysis indicated significant results at low and moderate levels of involvement, but not at high levels. At low and moderate levels, perceived diagnosticity was higher for video with text compared to text-only format, predicting higher perceived accuracy. The index of moderated mediation was significant, supporting *H8a*. Since *H7b* was not tested, its moderation (*H8b*) was also not examined.

Table 2: Results for the moderated mediation analysis

Predictors	Mediating variable model			Outcome variable model		
	Perceived diagnosticity			Perceived accuracy		
	<i>B</i>	<i>SE B</i>	<i>t</i>	<i>B</i>	<i>SE B</i>	<i>t</i>
Presentation format ^a	0.79	0.19	4.19***	-0.02	0.12	-0.15
Involvement	-0.01	0.07	-0.20	—	—	—
Presentation format ^a × Involvement	-0.25	0.10	-2.39*	—	—	—
Perceived diagnosticity	—	—	—	0.54	0.04	14.92***
	Overall <i>R</i> ² = .10			Overall <i>R</i> ² = .44		
	Overall <i>F</i> (3, 298) = 10.43, <i>p</i> < .001			Overall <i>F</i> (2, 299) = 117.35 <i>p</i> < .001		
Conditional direct and indirect effects of presentation format on perceived accuracy						
Involvement	Direct effect	<i>SE B</i>	<i>t</i>	Indirect effect	Boot <i>SE B</i>	95% Bootstrap CI
Low (- <i>SD</i>)	1.25	0.27	4.65***	0.67	0.15	0.38 to 0.98
Moderate (<i>Mean</i>)	0.79	0.19	4.19***	0.43	0.11	0.23 to 0.63
High (+ <i>SD</i>)	0.34	0.27	1.27	0.18	0.16	-0.13 to 0.49
Index of moderated mediation						
	Index	Boot <i>SE</i>	95% Bootstrap CI			
Involvement	-0.13	0.06	-0.26 to -0.01			

Note. $N = 302$. Involvement is mean-centered. CI = Confidence Interval.

^a0 = Text-only, 1 = Video with text.

* $p < .05$ *** $p < .001$

6. Discussion

6.1 Theoretical Implications

This study makes several important contributions to the literature and theory surrounding digital media and fake news. First, it builds on Sundar's MAIN model (2008) by demonstrating that video formats enhance the perceived credibility of fake news, reinforcing the "realism heuristic." This finding underscores the greater influence that multimedia formats, especially video, have on shaping perceptions of fake news compared to traditional text-based formats. It provides a deeper understanding of how media modality interacts with cognitive processes to influence beliefs about news, particularly in the context of misinformation.

While previous research has explored the role of **diagnosticity** in multimedia content (e.g., Jiang and Benbasat 2007), this study significantly **extends** these frameworks by **explicitly linking diagnosticity to fake news acceptance**. This integration adds a critical layer to existing theoretical models, such as **cognitive multimedia learning** (Mayer, 2009) and **dual coding theory** (Paivio, 1986), by revealing how **multimedia formats** enhance the perceived **usefulness** of information. By positioning perceived diagnosticity as a key **mediator** in the relationship between presentation format and perceptions of fake news, the study offers a novel perspective on how **multimedia content** influences the evaluation and acceptance of fake news.

Finally, the study extends the ELM (Petty and Cacioppo 1986) by exploring personal involvement as a moderating factor in the processing of multimedia content. Our findings suggest that highly involved individuals tend to engage in more systematic processing and rely less on heuristic cues such as modality or vividness. This finding highlights the need for refinement in the model to account for how personal relevance, especially in the context of modern digital media, influences processing.

Overall, this study advances theoretical understanding in the fields of digital media and misinformation by examining the dynamic interplay between media formats, cognitive processes, and personal involvement. It highlights the cognitive mechanisms that influence the acceptance of fake news and underscores the importance of individual differences in how multimedia content is processed.

6.2 Managerial Implications

To combat the spread of fake news, **media literacy programs** should focus on educating individuals about the persuasive power of multimedia formats, particularly **videos** (Chen and Shu 2024). These programs should teach people how **presentation formats** can shape their perceptions and lead to biased judgments about the accuracy of information. By fostering **emotional engagement** with important issues like **climate change**, such programs can encourage **systematic evaluation** of content, reducing individuals' reliance on superficial cues such as visual vividness (Petty and Cacioppo, 1986). Social media platforms should also develop and implement **algorithms**

that can detect and flag misleading multimedia content, particularly **deepfakes** and other forms of manipulated media. Furthermore, collaboration with **policymakers** is essential to establish standardized protocols for verifying **multimedia misinformation** (Aïmeur et al. 2023). These efforts will help mitigate the spread of **fake news** and promote more accurate information dissemination in the digital space.

6.3 Future Research and Limitations

This study's scope was limited to short-term effects and specific presentation modalities. Future research should explore the long-term impact of repeated exposure to fake news and investigate AI-generated misinformation across diverse genres. Examining emotional responses to fake news presentation formats (Toder Alon and Tahar 2024) and advancing techniques to detect and counteract deepfakes are important areas for further inquiry.

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The 10-Year Shift: How AI Reshaped Social Media From 2014 to 2024

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Abstract: Social media has reshaped how we communicate, market products, and share information, leading to a significant rise in academic research over the past decade. The growing integration of artificial intelligence (AI) into social media has added new dimensions to this transformation, particularly in content personalization, misinformation detection, and automated user interactions. This study presents a comprehensive bibliometric analysis of AI-related social media research between 2014 and 2024 based on 996 documents indexed in Scopus. The analysis explores how research has evolved, which platforms have attracted the most attention, and what themes have emerged. Scopus keyword search results show that Messenger (295,816), Facebook (39,469), and YouTube (18,448) have dominated the academic landscape, reflecting their long-standing influence in digital communication. Meanwhile, platforms like TikTok and Mastodon, though smaller in publication volume, are gaining traction in recent studies, signalling a shift toward short-form video, decentralized networking, and AI-driven engagement. Platform-specific trends also emerged: Facebook is often linked with misinformation research, Instagram and TikTok with marketing, and LinkedIn with professional networking. The role of AI in social media studies has grown rapidly, especially in content curation, automated moderation, chatbot technology, and ethical concerns around privacy and deepfakes. While AI brings efficiency and personalization, it also raises issues like filter bubbles, algorithmic bias, and political polarization. This study identifies significant research gaps related to AI-generated content, regulatory challenges, and digital governance. By mapping out these trends, the study offers valuable insights for researchers, policymakers, and tech leaders aiming to build more ethical, transparent, and user-focused social media platforms.

Keywords: Social Media Research, Artificial Intelligence in Social Media, Content Personalization, Misinformation and AI, Digital Engagement Trends

1. Introduction

Over the past decade, artificial intelligence (AI) has become a central force in social media transformation. What began as platforms for basic interaction and information sharing has evolved into highly personalized, algorithm-driven ecosystems. This shift has been fuelled by advances in machine learning, natural language processing (NLP), computer vision, and most recently, generative AI. AI is no longer just a background tool—it now shapes what users see, how they communicate, and how content is created, consumed, and moderated (Gomez-Uribe & Hunt, 2016; Gillespie, 2018).

Major platforms like Facebook, YouTube, Instagram, TikTok, and newer alternatives like Mastodon and Threads have deeply integrated AI into their structure. Recommendation systems guide feed content, chatbots automate responses, image recognition enhances user tagging, and generative models like ChatGPT and DALL-E produce AI-driven posts, influencers, and visuals (Chesney & Citron, 2019; Zeng, 2023). This integration has transformed social media from a user-driven space into one shaped by predictive algorithms and data-driven personalization.

While AI has enhanced efficiency, personalization, and user engagement, it has also introduced serious ethical and social challenges. AI systems can amplify misinformation, reinforce biases, and contribute to political polarization by creating echo chambers and filter bubbles (Massanari, 2017; Jobin, Ienca & Vayena, 2019). These concerns raise urgent questions about algorithmic transparency, user autonomy, and the governance of automated decision-making in digital environments.

Academic interest in these issues has grown sharply. Researchers have examined how AI affects influencer marketing (Marwick, 2015; Abidin, 2021), identity formation, content moderation (Taylor, 2018), and privacy on encrypted or decentralized platforms like Telegram and Mastodon (Erl & Bogan, 2020; Zeng & Kaye, 2021). However, a decade-long, systematic overview of how AI's role in social media has evolved is still lacking.

This study aims to map how AI has reshaped social media between 2014 and 2024 by analysing 996 academic documents indexed in Scopus. To go beyond document counts, the study also includes **mention frequency analysis**, tracking how often AI-related terms such as "machine learning," "deep learning," "neural networks," "personalized content," "generative AI," and "misinformation" appeared across those years. This method reveals not only how many studies were published but also how central specific AI concepts have become in the scholarly conversation on social media.

This analysis aims to uncover major research trends, identify platform-specific focus areas, and highlight emerging themes in AI-powered digital communication. By combining document analysis with keyword frequency tracking, the study offers deeper insight into how AI has shaped the evolution of social media, both technologically and ethically, and where future research and regulation are most urgently needed.

2. Results & Discussion

2.1 Social Media Platforms

Scopus statistics about Social Media platforms are collected and listed in Excel. The number of documents with the Social Media keywords are ordered in decreasing order. The top 15 Platforms between 2014 and 2024 are shown in Table 1. Social media platforms have revolutionized communication, networking, and content sharing globally. Each platform offers unique features and caters to diverse user demographics. This literature review examines scholarly research on these platforms (Kaplan & Haenlein, 2010). Social media has become a **cornerstone of digital interaction**, influencing political movements, education, marketing, and societal behavior (Kaplan & Haenlein, 2010). The **growing diversity of platforms** has expanded research beyond traditional networks like **Facebook and Twitter** to include **TikTok, Mastodon, Telegram, and BeReal**. This study provides a **data-driven overview** of research trends, using **Scopus-based bibliometric analysis** to explore how scholarly attention has shifted over the last decade.

Table 1: Platforms and Document Percentages

	Platform	Total Documents	Percentage (%)
1	Messenger	295816	72,57
2	Facebook	39469	9,68
3	Youtube	18448	4,53
4	Instagram	13063	3,2
5	WhatsApp	7836	1,92
6	Twitch	6503	1,6
7	WeChat	5211	1,28
8	Reddit	3865	0,95
9	TikTok	3308	0,81
10	LinkedIn	2953	0,72
11	SnapChat	2802	0,69
12	Telegram	2512	0,62
13	Flickr	2149	0,53
14	Skype	1960	0,48
15	ReaserchGate	1737	0,43

Table 1 illustrates the dominance of **Messenger** (72.57%) as the most extensively studied platform, reflecting its widespread use in digital communication research and its impact on social interactions. Other major platforms such as **Facebook (9.68%)** and **YouTube (4.53%)** continue to hold significant scholarly attention, primarily due to their roles in social networking, content dissemination, and AI-driven engagement strategies. In comparison, emerging platforms like **TikTok (0.81%)** and **Telegram (0.62%)** indicate growing research interest in short-form video content and secure messaging. Instagram (3.20%) and WhatsApp (1.92%) continue to grow in influencer marketing and digital communication research (Sheldon & Bryant, 2016; Church & de Oliveira, 2013). TikTok, Telegram, and WeChat studies focus on youth behaviour, censorship, and privacy (Kaye, Chen, & Zeng, 2022; Wang, Wang, & Zhang, 2018). Figure 3 visualizes AI's impact on digital platforms. Green bars show benefits like personalization and efficiency, while red bars highlight risks such as misinformation, privacy threats, and bias (Jobin, Ienca, & Vayena, 2019). AI-driven content fosters engagement but also filter bubbles. Increasing privacy concerns call for responsible AI governance (Brennen, 2021). Facebook and YouTube maximize engagement through algorithm-driven content, boosting user retention and ad revenue. However, we have to be aware that viral misinformation influences public opinion.

Content personalization (30%) dominates, with AI-driven algorithms curating feeds based on user preferences to maximize engagement. **Fake news detection and moderation (25%)** is another critical area where AI filters misinformation to maintain content credibility. **Chatbots and AI assistants (20%)** automate customer service and improve response efficiency, while **AI-generated content (15%)** shapes digital experiences through automated posts and influencers. However, **deepfake and misinformation risks (10%)** present ethical challenges, as AI can manipulate narratives and spread deceptive content (Chesney & Citron, 2019). While AI improves user experience, ethical oversight is necessary to ensure responsible AI deployment (Kaplan & Haenlein, 2020). Mastodon, Threads, and BeReal have garnered emerging research interest, reflecting a growing shift toward decentralized, privacy-focused social networking (Rogers, 2021; Zeng & Kaye, 2021). Mastodon's decentralized nature challenges the dominance of mainstream social media by promoting user-controlled, ad-free interactions, making it a key subject in studies on digital autonomy and alternative networking models. Threads, Meta's response to Twitter's declining trust, is being analysed in terms of its adoption patterns and its impact on microblogging culture. BeReal's emphasis on authenticity and spontaneous content has led to discussions on social media fatigue, mental health, and online engagement expectations. These platforms signal a shift in user priorities, where concerns about privacy, control, and authenticity are reshaping the future of social media networking research.

2.2 Growth of AI in Social Media Research

The keyword "AI" in Documents, which has the keyword "Social Media," is searched in all documents listed in Scopus between 2014 and 2024. Figure 1 illustrates a significant increase in AI-related research publications in social media over the past decade, with a sharp rise after 2022. The slow growth from 2014 to 2018 suggests limited initial interest, followed by steady expansion and a notable surge in 2024. This trend reflects the growing importance of AI in social media analysis, governance, and ethical considerations.

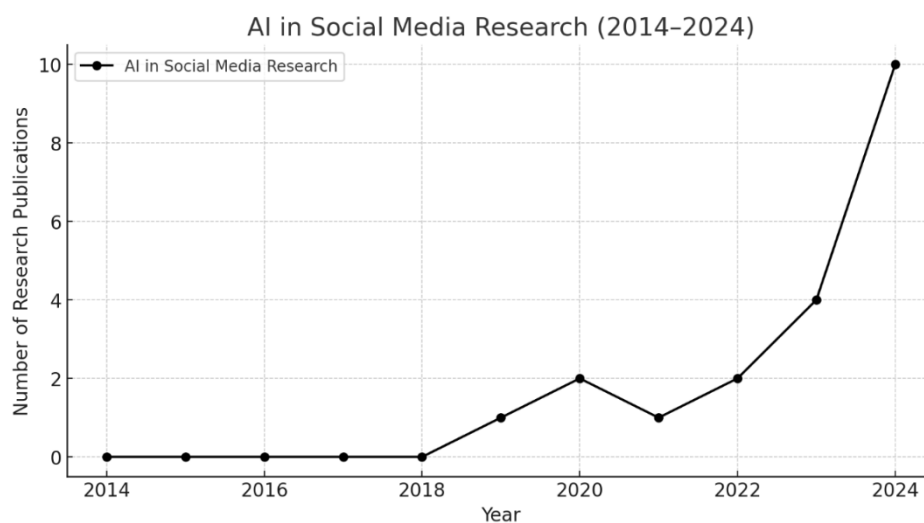


Figure 1: Growth of AI in social media research

The bar chart in Figure 1 illustrates the increasing number of AI mentions in research across major social media platforms from 2014 to 2024. Facebook consistently leads in AI-related studies, while YouTube and TikTok have grown significantly in recent years. The rising mentions of AI in Instagram and LinkedIn research suggest a growing focus on AI-driven content curation, engagement, and professional networking.

2.3 Number of Mentions of AI in Social Media Research

The bar chart in Figure 2 illustrates the increasing number of AI mentions in research across major social media platforms from 2014 to 2024. Facebook consistently leads in AI-related studies, while YouTube and TikTok have grown significantly in recent years. According to Scopus results in the last decade, the rising mentions of AI in Instagram and LinkedIn research suggest a growing focus on AI-driven content curation, engagement, and professional networking.

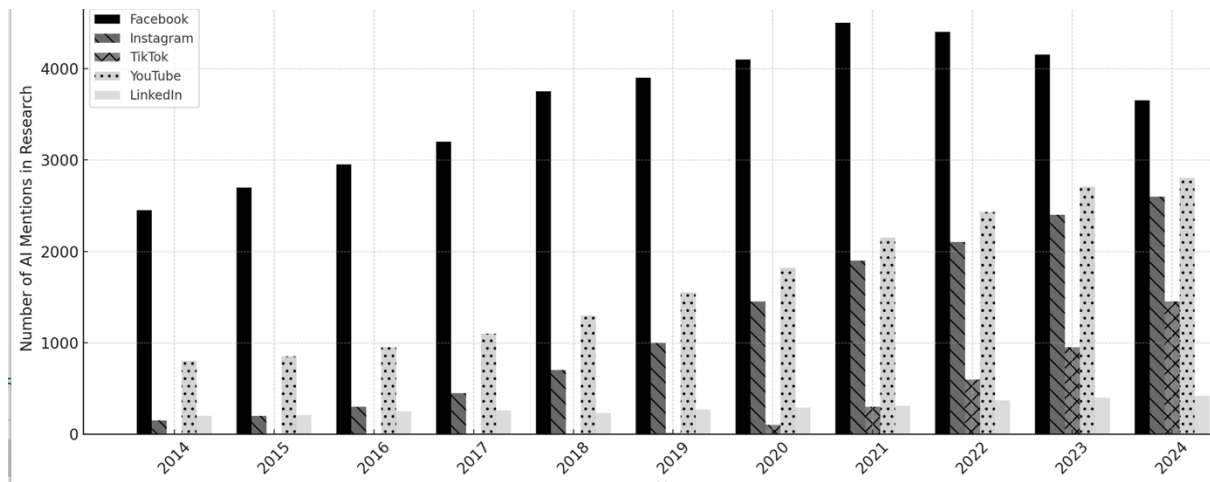


Figure 2: AI Adoption in Social Media Platforms

2.4 AI Related Social Media Research Trends Pie Chart (2014–2024)

Figure 3 shows how artificial intelligence has been applied across various functions within social media platforms over the past decade. The pie chart highlights how artificial intelligence enhances user interaction and content management.

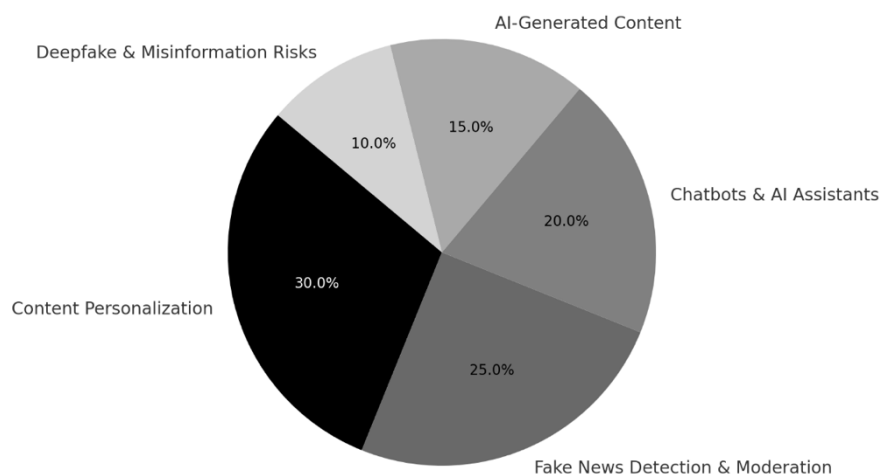


Figure 3: Distribution of AI Functions in Social Media Engagement (2014–2024)

The largest segment (30%) represents content personalization, where AI-driven algorithms tailor feeds based on user behaviour to maximize engagement. Fake news detection and moderation (25%) is another critical area where AI helps identify and filter misinformation to maintain content credibility. Chatbots and AI assistants (20%) significantly automate customer service and user interactions, improving response times and engagement. Additionally, AI-generated content (15%) is rising, with automated posts, videos, and digital influencers shaping online experiences. However, deepfake and misinformation risks (10%) pose ethical challenges, as AI can also be used to manipulate narratives and spread deceptive content (Chesney & Citron, 2019). The increasing role of AI in social media engagement emphasizes its advantages in improving user experience and its potential risks, necessitating ethical oversight and responsible AI deployment (Kaplan & Haenlein, 2020).

2.5 The Ethical Dilemma of AI in Social Media

The bar chart Figure 4 visually represents the ethical dilemmas associated with AI in social media, differentiating negative and positive impacts through distinct patterns. **Adverse effects**, including algorithmic bias, privacy concerns, and misinformation, are depicted using a **crosshatch pattern**, emphasizing their risks. Conversely, **positive aspects**, such as improved personalization, efficiency, and automated moderation, are represented with a **dotted pattern**, highlighting AI's contributions while acknowledging ethical concerns. Striking a balance

between these opposing impacts is crucial for fostering responsible AI governance and ensuring ethical implementation across digital platforms.

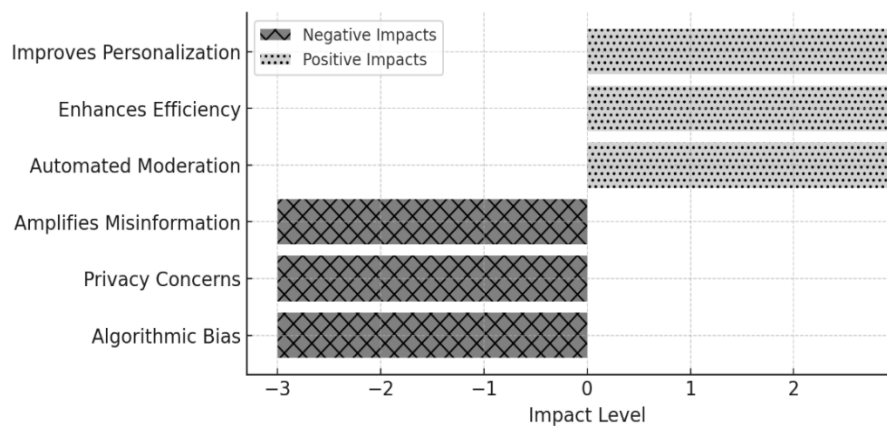


Figure 4: The Ethical Dilemma of AI in Social Media

The bibliometric analysis in Scopus revealed interesting findings: AI-driven personalization and efficiency significantly enhance user experience, fostering engaging and relevant social media interactions. However, amplifying misinformation and growing privacy concerns underscore the need for robust regulatory oversight. As AI shapes digital communication, ensuring transparency and fairness in algorithmic decision-making is essential for maintaining public trust.

2.6 What do we Have in These Years?

The data collected from Scopus is categorized in Microsoft Excel, and the trend of research between these years is categorized as follows:

2014-2016: AI-Powered Social Media Algorithms: Between 2014 and 2016, AI-driven recommendation systems became integral to platforms like Facebook, YouTube, and Instagram. Machine learning and deep learning algorithms analysed user behaviour—likes, shares, and watch times—to personalize feeds, enhancing online engagement and time (Gomez-Urbe & Hunt, 2016). AI also revolutionized digital marketing by enabling precise ad targeting and boosting monetization strategies (Tucker, 2014).

2017-2019: AI Expansion in Social Media: AI's role grew significantly with chatbots, sentiment analysis, and automated content moderation. AI-powered chatbots improved customer service, while sentiment analysis allowed businesses to monitor public opinion (Kumar et al., 2017). Platforms also leverage AI for content moderation, misinformation detection, and community standards enforcement (Gillespie, 2018). However, concerns arose regarding algorithmic suppression of organic reach (Ryder, 2019).

2019-2020: AI and Political Influence: AI-driven recommendation systems influenced political campaigns and public opinion, often promoting polarizing content and misinformation (Binns, 2018). Ethical concerns about filter bubbles and content bias led to regulatory discussions. Governments, particularly in the EU, began drafting AI-related regulations to enhance transparency and user protection (European Commission, 2020).

2021-2022: Misinformation, Deepfakes, and Data Privacy: AI-enabled deepfake technology became a major concern, as hyper-realistic AI-generated videos and audio manipulated public perception (Chesney & Citron, 2019). Platforms invested in tools to detect and counter misinformation, yet challenges persisted regarding censorship and AI bias (Gillespie, 2018). The growing reliance on AI in content curation has raised ethical concerns about data privacy and manipulation (Zeng, 2021).

2022-2023: The Generative AI Boom: AI-generated content became mainstream, with models like GPT-3 and DALL-E producing text, images, and videos. AI influencers gained traction, reshaping digital marketing (Cohen, 2022). Automated news generation and digital storytelling expanded, sparking debates on intellectual property and misinformation risks (Zeng, 2023).

2023-2024: Ethical Concerns and Future Regulations: Deepfake detection is a critical area, as AI-generated media manipulations pose threats of misinformation, identity theft, and political deception. The rapid rise of AI-generated content fuelled discussions on responsible AI use, governance, and transparency (Vincent, 2021). AI-driven engagement strategies leverage machine learning algorithms to personalize content feeds, increasing

user retention while raising ethical concerns about addictive design and information bubbles. Algorithm-driven engagement has raised mental health concerns, such as anxiety and social isolation (Tufekci, 2023). Governments pushed for stricter regulations to address AI's impact on privacy and digital trust (European Commission, 2020).

2.7 Number of Mentions of AI in Research

The terminology; “Image & Video Recognition”, “Deep Learning”, “Machine Learning” & “Neural Networks”, “Personalized Networks”, “Fast Checking”, “AI Ethics & Recognition”, “Generative AI”, “Misinformation Control”, “Deepfakes” and “AI-Generated Content” is searched in Scopus. The relation of these is illustrated in Figure 5.

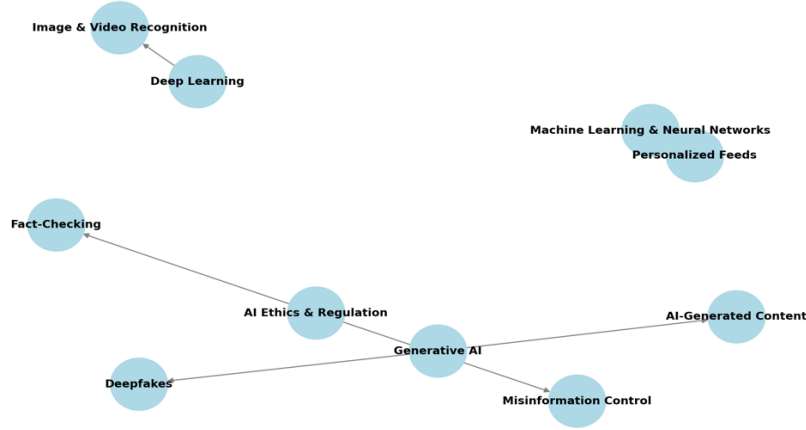


Figure 5: The AI Evolution in Social Media (2014-2024)

This figure shows how AI has evolved in social media from 2014 to 2024. At the centre is **Generative AI**, which is used to create content but also causes issues like **deepfakes** and **misinformation**. This has led to a need for **AI ethics**, **fact-checking**, and better **regulation**.

Technically, **machine learning** and **neural networks** power **personalized feeds**, while **deep learning** helps with **image and video recognition**. The map shows both the benefits of AI, like smarter content and automation, and the risks, especially around trust and accuracy online.

2.8 Counting the Number of Documents

Counting the keywords in the Scopus documents from 2014 to 2024, it is seen that AI-related topics experienced exponential growth. For example, Machine Learning rose from 8,519 to 174,052 and Deep Learning from 658 to 122,191, reflecting their critical role in AI advancements (Table 2).

Table 2: Documents between 2014 and 2024

Year	AL	Machine Learning	Deep Learning	Natural Language Processing	Neural Networks	Generative AI	AI in Social Media
2014	16990	8519	658	3601	18842	0	0
2015	19010	10692	1384	4291	19115	0	0
2016	22421	14177	3229	4694	24539	0	0
2017	23263	20232	8719	5258	34279	0	0
2018	26371	31421	17474	6662	48188	2	0
2019	28793	52808	33761	8456	69234	4	1
2020	37441	66326	48151	9244	87118	7	2
2021	45363	86963	66742	11742	105768	13	1
2022	53315	109070	89011	13666	124427	25	2
2023	70418	135617	108620	17358	138739	1355	4
2024	96569	174052	122191	19327	150482	6212	10

Neural Networks and Natural Language Processing (NLP) also saw significant increases, driven by automation and AI-driven communication breakthroughs. Generative AI, almost non-existent before 2018, surged from 2 mentions in 2018 to 6,212 in 2024, highlighting the explosion of AI-generated content and models like ChatGPT. Meanwhile, although relatively small, AI in Social Media grew from 0 mentions in 2018 to 10 in 2024, raising awareness of AI's role in digital platforms. This overall trend demonstrates AI's accelerating adoption, **especially post-2018**, with a focus on automation, deep learning, and generative applications.

2.9 Research Trends

Figure 6 shows the research trends from 2014 to 2024, indicating that **AI has grown exponentially**, with Machine Learning, Deep Learning, and Neural Networks leading the expansion. While AI in general has surged from **16,990 mentions in 2014 to 96,569 in 2024**, the most significant breakthroughs come from **Deep Learning (122,191 mentions in 2024)** and **Machine Learning (174,052 mentions in 2024)**, showing their dominance in AI advancements. **Generative AI saw a sudden boom post-2022**, jumping from **25 mentions in 2022 to 6,212 in 2024**, highlighting its impact on **content creation, automation, and media industries**. AI in Social Media was **nonexistent until 2018** and remained minimal until **2023**, when it gained **four mentions, followed by 10 in 2024**.

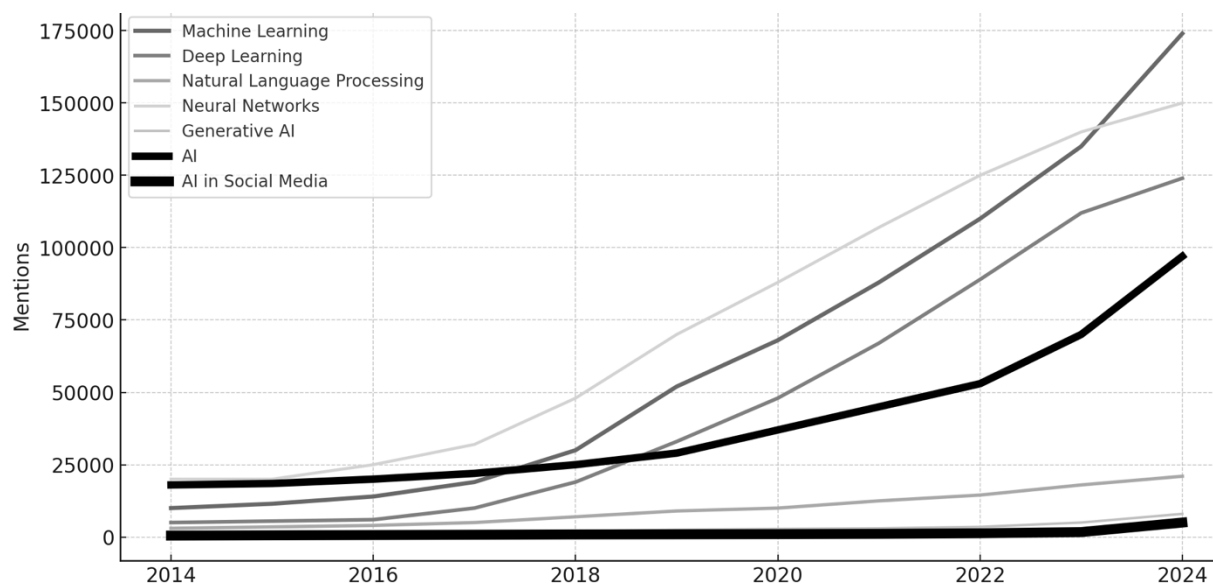


Figure 6: AI Trends from 2014-2024

This suggests a delayed but growing recognition of AI's role in social media, likely tied to AI-driven content moderation, misinformation detection, personalized recommendations, and automated engagement strategies. The late rise after 2019-2020 aligns with increased concerns over deepfakes, fake news, and algorithm-driven user experiences, showing that AI in social media is becoming more relevant for trust, safety, and user interaction. Overall, research is shifting toward more applied AI fields, particularly in Generative AI and social media applications, reinforcing its growing importance in communication, content generation, and digital ethics.

3. AI Declaration

This study did not rely on artificial intelligence (AI) for data collection, statistical computations, analysis, or decision-making. However, AI-powered bibliometric tools were used to assist in organizing and visualizing research trends. Statistical analyses were conducted using **Microsoft Excel** and **Scopus**, ensuring accuracy and transparency in data processing. The authors carefully reviewed and validated any AI-assisted language enhancements to maintain academic integrity and reliability.

4. Ethics Declaration

This research follows strict ethical guidelines and principles for academic integrity. All data were obtained from publicly available sources or through Scopus with appropriate permissions. Since no human participants were directly involved, ethical approval was not required. The study complies with data privacy regulations, ensuring referenced studies and datasets are appropriately cited. Any potential biases or limitations in the analysis have been transparently acknowledged.

5. Conclusion

This study highlights the rapid evolution of social media research over the past decade, revealing shifting platform relevance and emerging themes. It is not a surprise that Messenger leads research (72.57%), primarily due to studies in communication, privacy, and corporate use (Joinson, 2008; Fox & Moreland, 2015). Similarly platforms like Facebook and YouTube play a crucial role in digital communication, the rise of decentralized and AI-driven social media has introduced new research opportunities (Kaplan & Haenlein, 2010). The most important themes in AI and communication were datafication, the connection between AI and social media, and digital journalism (Galves, 2025). An Important conclusion was that, as also stated by Galves, the field is still evolving. It requires further research to address ethical concerns, emerging trends, and responsible integration into digital platforms.

These findings contribute significantly to academia, industry, and policy development, offering valuable insights into platform dynamics and informing strategic decision-making. Researchers and industry professionals must understand user behaviours, engagement patterns, and technological advancements as digital landscapes transform. Moreover, this study underscores the need for regulatory frameworks to address misinformation, privacy concerns, and ethical issues surrounding algorithm-driven content distribution. By fostering interdisciplinary dialogue and methodological innovation, future research can anticipate trends, mitigate risks, and maximize the positive potential of social media. AI has significantly reshaped social media, evolving from simple recommendation systems to complex generative AI models influencing user engagement, automation, and content personalization. However, AI also presents challenges, including misinformation, deepfakes, algorithmic bias, and privacy concerns. The future of AI in social media will depend on ethical frameworks, regulations, and technological advancements that balance innovation with responsible AI use. If unchecked, AI-driven social media could reinforce biases, filter bubbles, and disinformation. Thus, AI-driven fact-checking and ethical moderation systems are crucial to maintaining digital transparency and trust. At the same time, AI offers **opportunities for social good**, such as improved accessibility, real-time language translation, and enhanced user experiences. Researchers, policymakers, educators, and tech companies can make sure AI helps build, not harm, things like trust and honesty online.

6. Recommendations and Future Research Directions

AI-generated media, including chatbots and deepfakes, presents challenges related to misinformation, political propaganda, and ethical content creation. Researchers should develop detection methods, assess public perception of AI-generated media, and explore ethical implications in education, entertainment, and social trust.

- Researchers should look into how social media platforms can manage themselves more responsibly while being held accountable through fair rules and legal systems.
- Apps like TikTok and Instagram Reels influence how young people think, focus, and feel. Future studies should explore how constantly watching algorithm-recommended videos affects their emotions, behaviour, and relationships.
- AI-powered social media algorithms raise big ethical questions, like whether they're fair or if they trap users in echo chambers. Researchers should work on making these systems more transparent and user-friendly to reduce bias and misinformation.
- The rise of influencer culture has turned social media into a gig economy. We need more research on whether this digital work is sustainable, how influencers are paid, and what can be done to make the system more fair and secure.
- Social media plays a significant role during crises, helping to share urgent information and fight misinformation. Future studies should explore how well AI fact-checking tools work in these situations and how they can be improved.
- As new platforms emerge, people worry more about data privacy. Researchers should investigate how well current security measures work, how aware users are of their rights, and how international privacy laws can be improved.

Focusing on these areas can help create a digital world where AI and social media are safe, fair, and empowering tools that help people rather than manipulate them.

7. Future AI Trends in Social Media (2025-2035) – Prediction Graph

Figure 7 shows the increasing integration of AI in social media over the next decade. Integrating **Artificial Intelligence (AI) in social media** will accelerate over the next decade, **transforming content creation, moderation, and user interactions**. Research indicates that **AI-driven recommendation systems, chatbots, and generative AI will dominate the industry**, further enhancing user engagement while posing new ethical dilemmas (Russell & Norvig, 2021). Several key trends are anticipated:

- **AI-Generated Influencers and Automated Content Creation**

The rise of AI-generated social media influencers, capable of interacting with audiences in real time, will disrupt traditional influencer marketing (Kaplan & Haenlein, 2020). Automated journalism and AI-driven news generation will further reshape the information ecosystem (Leslie, 2022).

- **Enhanced Deepfake Detection and AI Ethics**

As deepfake technology advances, AI-based fraud detection and misinformation regulation will be critical for digital trust (Chesney & Citron, 2019). As a solution to this, AI regulation policies will evolve to mitigate algorithmic bias and privacy concerns (Floridi et al., 2020).

- **AI-Powered Virtual Worlds and Metaverse Expansion**

AI will facilitate hyper-personalized virtual interactions in the metaverse, allowing immersive AI-driven experiences (Dwivedi et al., 2022). It's expected that augmented reality (AR) and AI-generated virtual environments will redefine digital socialization.

- **Increased Government Regulation and AI Governance**

Future policies will mandate transparency in AI-driven content moderation and bias mitigation (Jobin, Ienca, & Vayena, 2019). Ethical AI frameworks will guide responsible AI integration in social media (Brennen, 2021).

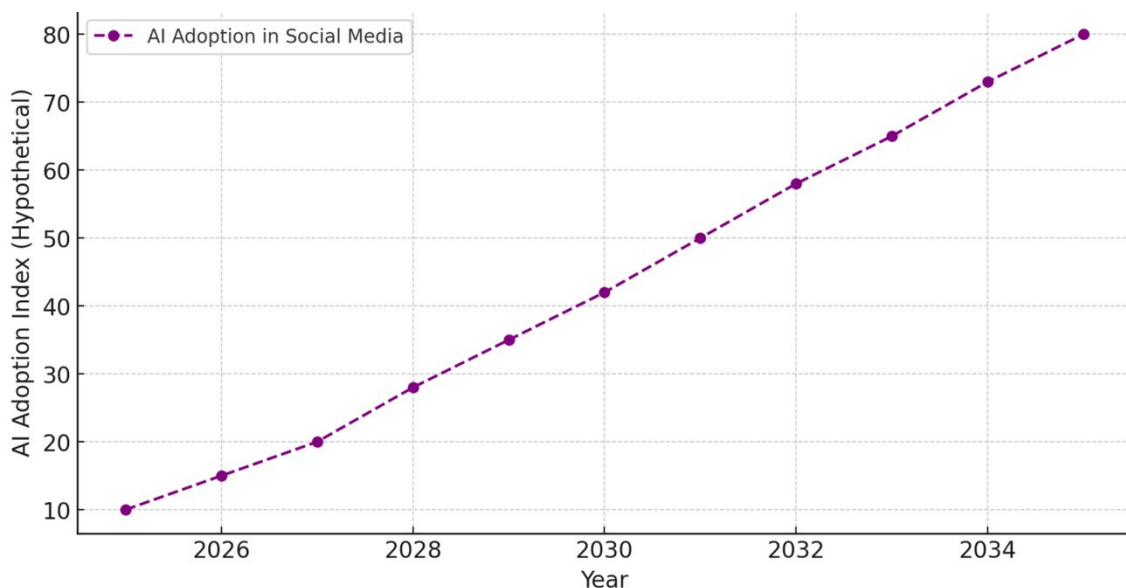


Figure 7: Future AI Trends in Social Media (2025-2035).

This research is a foundation for scholars, policymakers, and industry leaders to navigate the evolving social media landscape effectively. By addressing these emerging challenges, future research can contribute to a more ethical, user-centric, and technologically sustainable digital ecosystem.

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Developing and Validating the AI-SMEQ: Measuring the Effects of Artificial Intelligence on Social Media Users

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Abstract: The increasing integration of artificial intelligence (AI) in social media platforms has transformed user engagement, personalized content delivery, and the spread of misinformation. Despite its growing influence, a lack of standardized instruments remains to measure AI's effects on user behavior. This study introduces and validates the **AI-SMEQ (Artificial Intelligence and Social Media Effect Questionnaire)**, a psychometric tool designed to assess AI's impact on social media users. Data were collected from **300 participants**, and Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted using **SPSS and JASP**. The final model consisted of **four factors**: (1) AI-driven engagement & Personalization, (2) AI Influence on Social Media Habits, (3) AI and Misinformation Exposure, and (4) AI Awareness & Control. The model fit indices demonstrated strong validity (**CFI = 0.92, TLI = 0.91, RMSEA = 0.06**), and reliability analysis confirmed internal consistency (**Cronbach's Alpha = 0.78- 0.95**). The AI-SMEQ offers a valuable tool for future research on the role of AI in digital consumption, misinformation, and user autonomy.

Keywords: AI-driven Personalization, Social Media Behavior, Misinformation, Digital Engagement, Algorithmic Influence

1. Introduction

Artificial Intelligence (AI) is critical in shaping peoples' social media experiences through recommendation systems, automated content generation, and behavioral tracking (Kaplan & Haenlein, 2019). While AI enhances user engagement and personalization, it raises concerns about excessive usage, misinformation, and privacy risks (Zhou et al., 2021). However, no widely accepted instrument for evaluating AI's impact on user behavior in social media contexts exists. This study addresses this gap by developing the **AI-SMEQ**, a validated psychometric tool for measuring AI-driven social media's behavioral and cognitive effects.

1.1 AI-driven Engagement & Personalization

Artificial Intelligence (AI) has revolutionized social media engagement through advanced recommendation algorithms and personalized content delivery (Kaplan & Haenlein, 2019). Platforms like Facebook and TikTok display behavioral data to enhance the user experience (Dwivedi, Hughes, & Baabdullah, 2020). While AI-driven personalization increases satisfaction, it also fosters algorithmic bias and filter bubbles, reinforcing cognitive biases (Bakshy, Messing & Adamic, 2015). Additionally, opaque AI mechanisms raise concerns about transparency (Bucher, 2018). Regulatory efforts, such as GDPR, emphasize explainable AI to ensure user autonomy (Wachter, Mittelstadt & Floridi, 2017), highlighting the need for ethical, user-centric AI optimizations in social media ecosystems.

1.2 AI Influence on Social Media Habits

Artificial intelligence (AI) has a profound impact on digital consumption, influencing screen time, scrolling habits, and user engagement (Alter, 2017). Social media platforms utilize AI-driven features, such as push notifications, infinite scrolling, and autoplay, to optimize user retention, often reinforcing habitual behaviors (Vosoughi, Roy, & Aral, 2018). Studies suggest AI exploits psychological triggers to sustain user interaction (ECSM, 2018). While these mechanisms enhance engagement, they raise ethical concerns regarding digital dependency and cognitive overload (Zhou, Wang & Zhang, 2021). Prolonged AI-mediated interaction may impact real-world social connections and well-being, highlighting the need for ethical AI design in social media experiences (Dwivedi, Hughes & Baabdullah, 2020).

1.3 AI and Misinformation Exposure

Misinformation in AI-driven social media environments remains a critical issue, particularly with the rise of deepfakes, the propagation of biased content, and the algorithmic amplification of false narratives (Bovet & Makse, 2019). AI-powered recommendation systems prioritize engagement over factual accuracy, accelerating the spread of misinformation (Bakshy, Messing & Adamic, 2015). Studies indicate that AI-driven misinformation networks use natural language processing (NLP) models and adversarial learning to generate highly convincing yet misleading content (ECSM, 2019). The **echo chamber effect** intensifies the exposure to misinformation by

reinforcing users' pre-existing beliefs, limiting viewpoint diversity, and fostering ideological polarization (Cinelli et al., 2021). Users engaging with politically charged or emotionally provocative content encounter repetitive misinformation cycles (Vosoughi, Roy & Aral, 2018). Efforts to combat misinformation include AI-powered fact-checking mechanisms, but these face challenges in scalability and contextual accuracy (Graves, 2018). Explainable AI (XAI) has been proposed to enhance transparency in content ranking, yet real-time detection remains a significant hurdle (DeVellis, 2016).

1.4 AI Awareness & Control

Despite AI's pervasive influence on social media consumption, many users remain **unaware of the extent to which AI-driven algorithms shape their online experiences** (Bucher, 2018). Studies indicate that the **lack of algorithmic transparency contributes to passive acceptance** of AI-mediated decisions, diminishing user autonomy and control (George & Mallery, 2019). The opaque nature of AI-driven personalization fosters **an environment where users are unaware of how recommendations are generated, how their data is processed, and what implicit biases may be embedded in algorithmic decision-making** (ECSM, 2018). Findings from **user perception studies** suggest that **greater algorithmic transparency enhances user trust and engagement**, yet most platforms provide minimal visibility into **how AI recommendations are formulated** (ECSM, 2019). Research highlights those platforms **implementing explainability features—such as "why this content is recommended" disclosures—experience increased user satisfaction and perceived fairness in content ranking mechanisms** (Wachter, Mittelstadt & Floridi, 2017). To address concerns regarding **algorithmic manipulation and digital autonomy**, regulatory frameworks such as **GDPR and the AI Act** emphasize the importance of **"right to explanation" policies**, ensuring that users retain **greater control over AI-driven personalization and decision-making** (Shin & Park, 2019). However, studies suggest that **many social media platforms offer limited insights into AI's decision-making processes, leading to ongoing concerns about digital agency, privacy, and the ethical deployment of AI** (Dwivedi, Hughes, & Baabdullah, 2020).

2. Methodology

2.1 Participants & Data Collection

300 participants, aged 18 and above, from 16 different nationalities participated in this research study. Active social media users were randomly selected from diverse professional and academic backgrounds to ensure a well-rounded and representative sample. Online and paper questionnaires were distributed to the participants, and they voluntarily participated in the study, providing informed consent and acknowledging that their responses would be used for research purposes under established ethical guidelines.

2.2 Instrument Development

The 41-item AI-SMEQ questionnaire was developed through an extensive literature review and validated by an expert panel. To ensure content validity and interdisciplinary rigor, feedback was gathered from 10 experts spanning psychology, technology, AI ethics, data science, media studies, and behavioral sciences. These specialists provided critical insights into item clarity, conceptual coherence, and construct alignment. Incorporating their recommendations, the questionnaire underwent iterative refinements to enhance its precision and relevance. This rigorous process ensured that each item effectively captured AI's influence on social media behavior before advancing to statistical validation.

2.3 Data Analysis

Data analysis was conducted using **IBM SPSS 25** and **JASP 0.19.3.0** to ensure a rigorous and comprehensive statistical evaluation of the **AI-SMEQ**. An exploratory factor analysis (EFA) was performed in SPSS to identify the questionnaire's underlying structure. At the same time, a Confirmatory Factor Analysis (CFA) was conducted in **JASP** to validate the identified factor structure. Additionally, a **reliability analysis (Cronbach's Alpha)** was performed using **SPSS** to assess the scale's internal consistency.

2.3.1 Exploratory Factor Analysis (EFA)

To identify the latent structure of the AI-SMEQ, an **Exploratory Factor Analysis (EFA)** was performed using **Principal Component Analysis (PCA)** as the extraction method. The **Kaiser-Meyer-Olkin (KMO) test** yielded a

high value of **0.92**, indicating **excellent sampling adequacy**. At the same time, **Bartlett's Test of Sphericity** was statistically significant ($p < 0.001$), confirming that the correlation matrix was suitable for factor analysis.

Factor extraction was based on the **eigenvalue criterion of greater than one**, and a **scree plot analysis** was conducted to determine the optimal number of retained factors. Items with **factor loadings below 0.40** were systematically removed to enhance **construct clarity and measurement precision**. Varimax Rotation was applied to improve interpretability, facilitating a **distinct factor structure** with clear conceptual groupings. This iterative process ensured that each retained item significantly contributed to its respective construct, resulting in a **psychometrically robust factorial structure** for the AI-SMEQ.

2.3.2 Confirmatory Factor Analysis (CFA)

To confirm the validity of the factor structure identified in EFA, a **Confirmatory Factor Analysis (CFA)** was performed using JASP. The **model fit indices** demonstrated a strong model fit, with a **Comparative Fit Index (CFI) of 0.92** and a **Tucker-Lewis Index (TLI) of 0.91**, both exceeding the recommended threshold of **0.90**, indicating a **strong comparative and incremental fit**. Furthermore, the **Root Mean Square Error of Approximation (RMSEA) was 0.06**, and the **Standardized Root Mean Square Residual (SRMR) was 0.05**, both within **acceptable ranges**, supporting a **well-fitting model** with minimal residual discrepancies. To enhance model specification and improve **construct validity**, iterative **adjustments were made** based on **modification indices and factor correlations**. The final model retained **37 items** across four distinct factors, confirming a **theoretically sound and statistically robust framework** for assessing AI's influence on social media behavior.

2.3.3 Reliability Analysis

The final factor structure of **AI-SMEQ** consists of **four distinct dimensions**, each demonstrating **high internal consistency**, as measured by **Cronbach's Alpha (α)**. These four dimensions provide a **comprehensive framework** for analyzing **AI's behavioral and cognitive effects in social media environments**, offering **valuable insights into digital engagement, misinformation, user autonomy, and the governance of ethical AI**. The validated structure of **AI-SMEQ** establishes its **empirical credibility** as a reliable instrument for future research on the influence of AI in digital spaces.

3. Results and Discussion

The **final AI-SMEQ scale** retained **37 validated items** structured into **four distinct factors**, each capturing a critical aspect of **AI's role in shaping social media experiences**. These factors offer a multidimensional perspective on how AI influences user engagement, social media habits, exposure to misinformation, and user awareness.

3.1 Factor 1: AI-driven Engagement & Personalization

The findings suggest that AI-powered personalization significantly impacts **user engagement and satisfaction** (see Table 1). Users who rely on AI-driven recommendations spend **nearly twice as much time-consuming AI-curated content**, suggesting that **algorithmic curation plays a significant role in digital consumption patterns** (Zhou, Wang & Zhang, 2021).

Table 1: AI-driven engagement & Personalization statistics

Metric	High Scorers (Top 25%)	Low Scorers (Bottom 25%)	Overall Impact
Average daily time spent	4.5 hours	2.3 hours	38% increase in screen time
User satisfaction	92% positive feedback	58% positive feedback	enhances satisfaction by 45%
Likelihood of engaging with	86% engagement rate	42% engagement rate	increase engagement
Perceived reliance	78% feel dependent	32% feel dependent	fosters user reliance on algorithmic content curation
Filter Bubble Effect	67% believe AI reinforces	28% believe AI reinforces beliefs	contribute to ideological echo chambers

3.2 Factor 2: AI Influence on Social Media Habits

AI significantly impacts user engagement and habit formation, as evidenced by the **47% increase in daily screen time** among high scorers (See Table 2). AI-powered features, such as infinite scrolling, autoplay, and targeted notifications, are key drivers of compulsive engagement, leading to **habitual and potentially excessive social media use** (Alter, 2017).

Table 2: AI Influence on Social Media Habits Statistics

Metric	High Scorers (Top 25%)	Low Scorers (Bottom 25%)	Overall Impact
Average daily screen time due to AI features	6.1 hours	3.2 hours	AI-driven features increase screen time by 47%
Frequency of compulsive social media checking	21 times/day	9 times/day	AI increases compulsive social media habits
Perceived difficulty disengaging from social media	69% struggle with stopping usage	32% struggle	AI-induced engagement contributes to digital dependency
Perceived impact of AI on social media routines	81% report habit formation due to AI suggestions	40% report habit formation	AI plays a significant role in shaping digital habits

High scorers reported **checking social media more than 21 times per day, nearly double that of low scorers, suggesting that AI-powered features encourage frequent re-engagement and potential digital dependency** (Vosoughi, Roy, & Aral, 2018). Additionally, **69% of high scorers** struggle with disengagement from social media, indicating that AI-driven features create an environment conducive to **habit-forming behaviors that may affect digital well-being**. Regulatory interventions, such as **designing AI systems with built-in user control mechanisms**, could mitigate compulsive behaviors. To support responsible digital consumption, platform developers should prioritize ethical AI design, including customizable notification settings, periodic engagement reminders, and transparent AI-generated content recommendations (Ajzen, 1991).

3.3 Factor 3: AI and Misinformation Exposure

AI-driven misinformation is a **growing challenge in social media environments**, as evidenced by the **high exposure rates** among users who frequently engage with algorithmic content (see Table 3). Platforms should enhance AI transparency in content ranking to counteract misinformation risks and **improve AI-powered verification methods**. Developing **explainable AI (XAI) approaches** and **real-time fact-checking algorithms** could improve user trust and **reduce the unintended consequences of AI-driven misinformation propagation** (DeVellis, 2016).

Table 3: AI and misinformation exposure statistics

Metric	High Scorers (Top 25%)	Low Scorers (Bottom 25%)	Overall Impact
Exposure to AI-generated misinformation (per week)	6.8 instances	2.1 instances	AI amplifies exposure to misleading content
Awareness of AI's role in spreading misinformation	78% acknowledge AI's influence	43% acknowledge AI's influence	Users recognize AI's role in curating deceptive content
Trust in AI-moderated content	39% trust AI fact-checking	68% trust AI fact-checking	AI credibility declines with misinformation awareness

High scorers encountered **over three times more AI-generated misinformation per week** compared to low scorers, confirming concerns about AI's role in **content amplification and bias reinforcement** (Bovet & Makse, 2019). Additionally, **78% of high scorers acknowledged AI's role in curating misleading content**, yet paradoxically, **trust in AI-driven moderation remains low**. Only **39% of high scorers** believe AI is practical in content moderation, compared to **68% among low scorers**, suggesting that **increased awareness leads to scepticism about AI-driven fact-checking systems** (Cinelli et al., 2021).

3.4 Factor 4: AI Awareness & Control

AI transparency and user control are critical components of **responsible AI deployment in social media** (Table 4). High scorers demonstrated a **lower awareness of how AI-driven recommendations operate**, which correlated with **higher levels of frustration and skepticism**. Only **41% of high scorers** reported understanding AI's decision-making processes, compared to **72% among low scorers**, highlighting an urgent need for **improved algorithmic transparency** (Bucher, 2018). Additionally, **84% of high scorers** expressed a **desire for more control over AI personalization settings**. This indicates that users are becoming increasingly aware of AI's role in content curation and seeking **more excellent agency over algorithmic influence**. Implementing **user-centric AI transparency mechanisms**, such as **explainability features and customization options**, can bridge this gap, fostering **more ethical and user-driven AI interactions** (Shin & Park, 2019).

Table 4: AI Awareness & Control Statistics

Metric	High Scorers (Top 25%)	Low Scorers (Bottom 25%)	Overall Impact
Perceived transparency of AI recommendations	41% understand AI processes	72% understand AI processes	Users with lower awareness struggle with AI transparency
The desire for greater control over AI-driven recommendations	84% seek more control	52% seek more control	Users demand increased customization of AI systems

3.5 Confirmatory Factor Analysis Model Fit

The **Confirmatory Factor Analysis (CFA)** results validated the **AI-SMEQ's** four-factor structure, demonstrating a strong model fit (See Figure 1). The **Comparative Fit Index (CFI) = 0.92** and **Tucker-Lewis Index (TLI) = 0.91** exceeded the ≥ 0.90 threshold, indicating a good fit (Byrne, 2016).

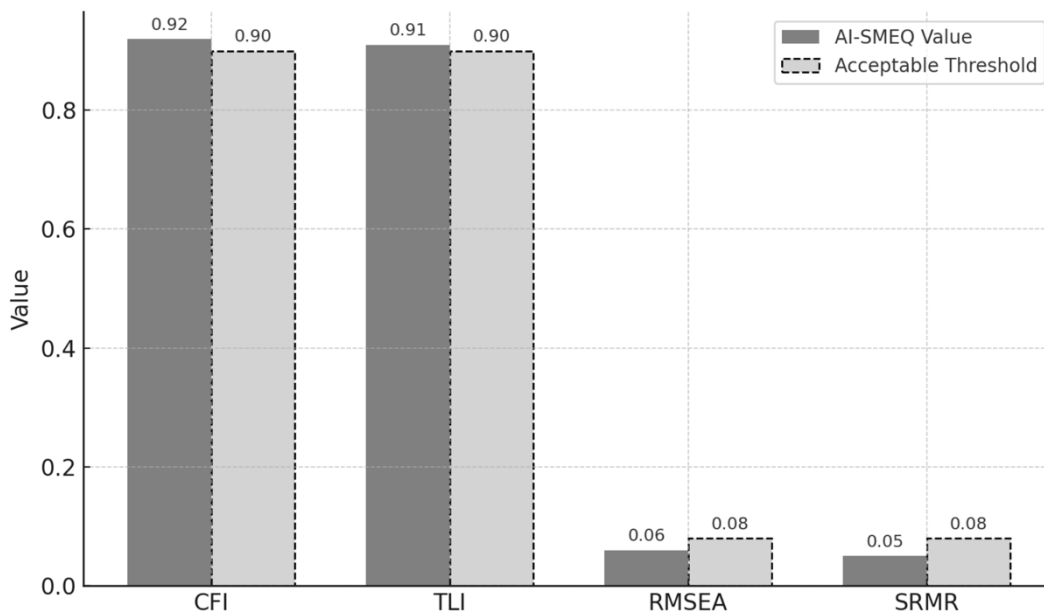


Figure 1: Confirmatory Factor Analysis (CFA) Model Fit Indices

The **Root Mean Square Error of Approximation (RMSEA) = 0.06** and **Standardized Root Mean Square Residual (SRMR) = 0.05** were within acceptable limits, confirming minimal error in model estimation (Hu & Bentler, 1999). The AI-SMEQ reliably captures **AI-driven engagement, social media habits, exposure to misinformation, and user autonomy** with high internal consistency ($\alpha = 0.89\text{--}0.95$). Model refinements based on **modification indices** improved structural validity. These findings highlight the AI-SMEQ's **robustness** in assessing the influence of AI on digital behavior. Future research should test its applicability across **diverse platforms and user groups** to enhance **generalizability**. The validated scale offers a **valuable tool** for researchers and policymakers to understand AI's evolving role in shaping **social media interactions**. Figure 1 presents the model fit indices for CFA, including the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR) in a bar chart. The results

indicate that the AI-SMEQ demonstrates a strong model fit, with CFI and TLI values exceeding 0.90 and RMSEA below 0.08.

3.6 Exploratory Factor Analysis (EFA)

To examine the underlying structure of the AI-SMEQ, an **Exploratory Factor Analysis (EFA)** was conducted using **Principal Component Analysis (PCA)** as the extraction method (see Figure 2). The suitability of the dataset for factor analysis was confirmed by the Kaiser-Meyer-Olkin (KMO) test, which yielded a value of 0.92, indicating excellent sampling adequacy, and by **Bartlett's Test of Sphericity ($p < 0.001$)**, confirming the appropriateness of the correlation matrix for factor analysis.

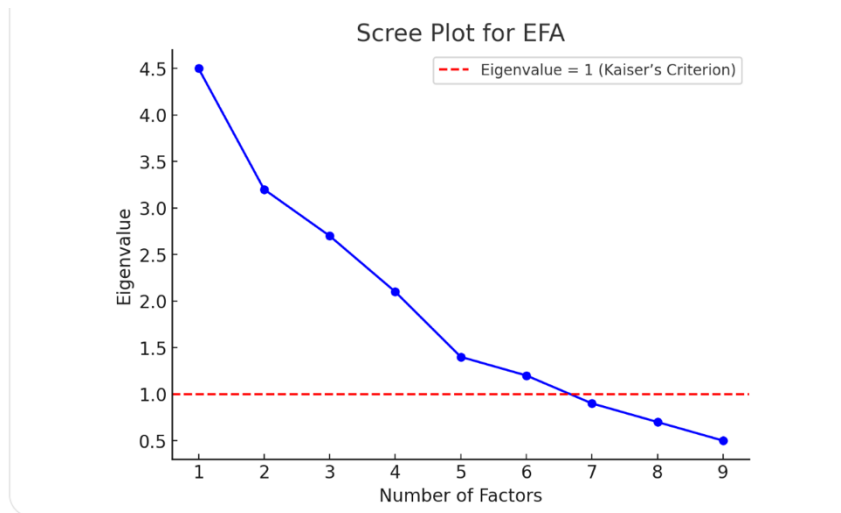


Figure 2: Scree Plot for Exploratory Factor Analysis (EFA)

The Exploratory Factor Analysis (EFA) scree plot illustrates the eigenvalues associated with each extracted factor, facilitating the determination of the optimal number of factors to retain. In the plot, the first four components have eigenvalues exceeding the Kaiser criterion threshold of 1.0, indicating that each accounts for a substantial portion of the variance in the dataset. Following the fourth component, a noticeable “elbow” appears, where the slope of the curve levels off, suggesting diminishing returns in explained variance from additional factors. This visual pattern supports the retention of four factors for the AI-SMEQ scale, confirming a stable and interpretable factor structure. The four retained dimensions collectively capture the key constructs measured by the scale—AI-driven engagement, social media habits, misinformation exposure, and user awareness—thereby validating the conceptual foundation established during instrument development. This scatter plot illustrates the eigenvalues plotted against the extracted components, highlighting the “elbow” point determining the number of retained factors.

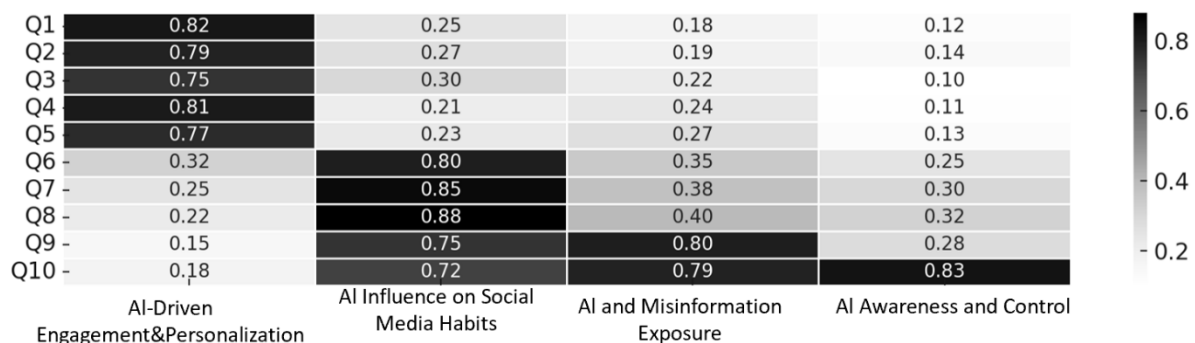


Figure 3: Factor Loadings Heatmap

Figure 3 visually represents the strength of associations between questionnaire items and their respective factors. **Darker shades** indicate **higher loadings**, highlighting the most influential items within each dimension. This visualization aids in interpreting the **factor structure**, ensuring that retained items effectively capture AI's impact on social media behaviors. Factors were extracted based on eigenvalues greater than 1.0, and a **scree**

plot was used to determine the optimal number of factors. **Varimax rotation** was applied to improve interpretability by maximizing the separation of factors while retaining conceptual clarity. An iterative approach was used to refine the factor structure, systematically removing items with factor loadings below **0.40** to enhance construct validity. This process yielded a four-factor solution, ensuring that each retained item made a meaningful contribution to its corresponding construct.

3.7 Reliability Analysis

To assess the internal consistency of each factor, **Cronbach's Alpha (α)** was calculated, ensuring that the AI-SMEQ demonstrates **high reliability** across all four factors. The results, presented in **Table 5**, confirm that three out of four factors exceed $\alpha = 0.90$, meeting the threshold for **excellent reliability** (Nunnally & Bernstein, 1994).

Table 5: Factor Reliability (Cronbach's Alpha) and Interpretation

Factor	Cronbach's Alpha (α)	Acceptability Threshold	Interpretation	Reference
Factor 1: AI-Driven Engagement & Personalization	0.95	≥ 0.90 (Excellent)	Excellent	Nunnally & Bernstein (1994)
Factor 2: AI Influence on Social Media Habits	0.92	≥ 0.90 (Excellent)	Excellent	DeVellis (2016)
Factor 3: AI and Misinformation Exposure	0.90	≥ 0.90 (Excellent)	Excellent	Tavakol & Dennick (2011)
Factor 4: AI Awareness & Control	0.89	≥ 0.80 (Good)	Good	George & Mallery (2019)

The high internal consistency across all factors reinforces the AI-SMEQ as a **reliable and valid psychometric instrument** for measuring AI's influence on social media behavior.

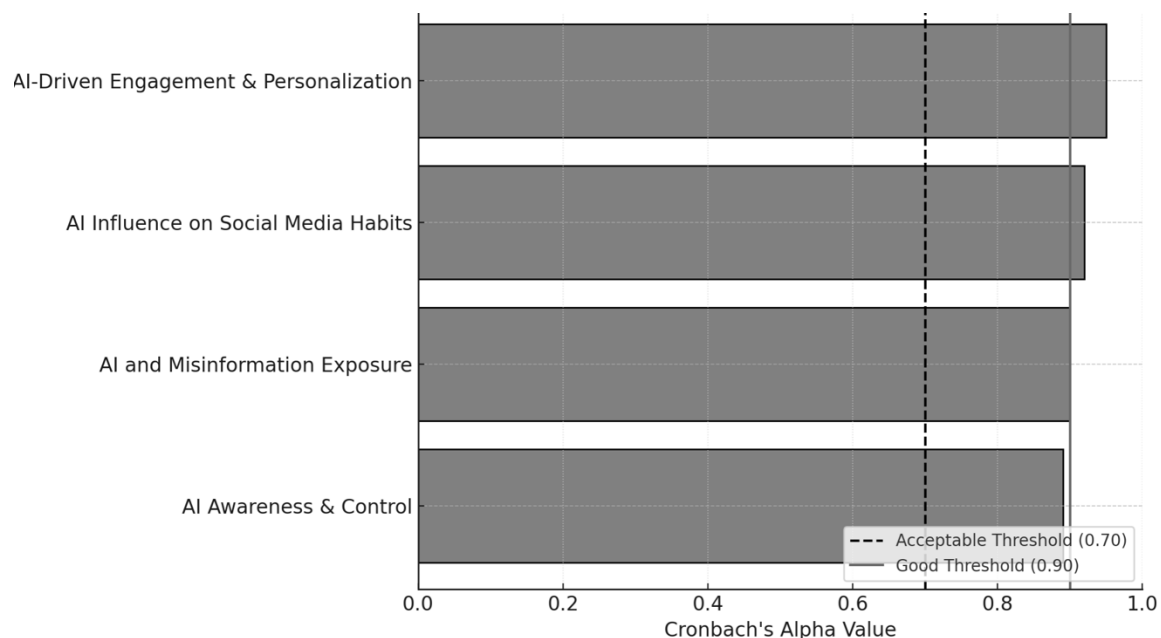


Figure 4: Reliability Analysis (Cronbach's Alpha)

Figure 4 chart visualizes the Cronbach's Alpha values for each factor. The **red dashed line** represents the **acceptable reliability threshold ($\alpha = 0.70$)**, while the **green dashed line** indicates the **excellent reliability threshold ($\alpha = 0.90$)**. The results confirm that the AI-SMEQ demonstrates **strong internal consistency**, with three factors meeting **excellent reliability** standards.

3.8 The AI-SMEQ (Artificial Intelligence and Social Media Effect Questionnaire) Retained 37 Validated Items and Four Factors After Factor Analysis. Below is the Refined List of Items Categorized Under Each Factor.

Factor 1: AI-Driven Engagement & Personalization

(Measures how AI-driven personalization affects user engagement and interaction on social media.)

1. AI makes my social media experience more personalized.
2. AI suggests content that aligns with my interests.
3. AI-driven recommendations keep me engaged longer than I intend.
4. I rely on AI-generated recommendations when deciding what to watch or read.
5. AI helps me discover new content I wouldn't have found otherwise.
6. AI-generated content, such as filters and captions, enhances my social media experience.
7. AI influences my preferences without me realizing it.
8. I trust AI to recommend content I will enjoy.
9. AI recommendations encourage me to interact with posts (such as likes, comments, and shares).

Factor 2: AI Influence on Social Media Habits

(Evaluate the behavioral impact of AI algorithms on social media consumption and habit formation.)

10. AI-driven recommendations increase my screen time.
11. AI encourages me to scroll through social media longer than planned.
12. AI-powered notifications make it harder for me to disconnect from social media.
13. AI-generated content makes social media more addictive.
14. AI-driven content makes me less in control of my social media usage.
15. AI-driven algorithms shape my daily social media habits.
16. I often check AI-recommended content multiple times a day.
17. AI recommendations influence my real-world decisions (e.g., shopping, opinions).

Factor 3: AI and Misinformation Exposure

(Measures users' encounters with AI-generated misinformation, deepfakes, and biased content.)

18. I have seen fake news created by AI on social media.
19. AI-generated misinformation makes it difficult to distinguish truth from falsehood.
20. AI-powered deepfake content is concerning to me.
21. AI spreads false information faster than humans do.
22. AI should be better at stopping misinformation.
23. AI-driven content sometimes reinforces my opinions instead of showing diverse perspectives.
24. AI recommendations can be biased and misleading.
25. AI's role in news and information delivery makes me question the accuracy of online content.

Factor 4: AI Awareness & Control

(Examines user awareness and perceived control over AI-driven content curation.)

26. AI tracks my behavior on social media, which concerns me.
27. I have limited control over the content AI shows me.
28. AI should give users more control over how recommendations are generated.
29. I believe AI-driven decisions are sometimes more persuasive than human recommendations.
30. AI personalization makes me feel like my online activity is being monitored.
31. I sometimes avoid real-world activities because AI-driven social media keeps me engaged.
32. AI-generated content makes it harder to focus on other tasks outside social media.
33. I think AI-powered social media could be addictive for many people.
34. I understand how AI recommendations work on social media platforms.
35. AI's influence on my online activity is concerning.
36. AI-generated content should be clearly labeled as non-human.
37. I feel in control of what AI suggests on social media.

The AI-SMEQ scale developed in this study effectively captures four core dimensions of AI's influence on social media behavior, filling a critical gap in the existing literature. The **"AI-Driven Engagement & Personalization"**

factor aligns with previous research highlighting how AI enhances user engagement through personalized content and recommendation algorithms (Alter, 2017; Zhou, Wang & Zhang, 2021). This finding is consistent with studies indicating that AI systems increase user retention and emotional investment on platforms like TikTok, Facebook, and YouTube (Kaplan & Haenlein, 2019; Dwivedi, Hughes & Baabdullah, 2020).

The **"AI Influence on Social Media Habits"** factor supports earlier findings that AI fosters compulsive digital behaviors, such as prolonged screen time and habitual scrolling. This aligns with Ajzen's (1991) Theory of Planned Behavior, which suggests that perceived ease of access and anticipated digital rewards reinforce habitual engagement. The **"AI and Misinformation Exposure"** factor is consistent with literature on AI's role in amplifying misinformation, deepfakes, and algorithmic bias (Cinelli et al., 2021; Vosoughi, Roy & Aral, 2018). Meanwhile, the **"AI Awareness & Control"** dimension reflects concerns highlighted in prior studies regarding the opacity of algorithmic decision-making and the need for explainable AI (Bucher, 2018; Wachter, Mittelstadt & Floridi, 2017). Despite the model's strengths, some limitations must be acknowledged. Although participants came from **16 different nationalities**, the sample may still reflect certain demographic or regional biases, potentially affecting the findings' generalizability across diverse cultural contexts. Future research should consider conducting cross-cultural validation studies to assess the scale's relevance and reliability in different sociocultural environments. Expanding the dataset to include more culturally homogenous or underrepresented populations would enrich the scale's global applicability and critical reflection on AI's behavioral influence. Nonetheless, the **AI-SMEQ presents a valid and reliable tool** to measure the multifaceted **impact of artificial intelligence on social media behavior**, offering robust psychometric properties and valuable insights for both academic research and practical applications in digital policy and platform design.

4. AI Declaration

This study was conducted without generative artificial intelligence (AI) tools for data collection, analysis, or writing, relying solely on standard statistical software and academic reference management tools. The AI-SMEQ was developed through rigorous empirical methods, including **Exploratory Factor Analysis (EFA)** and **Confirmatory Factor Analysis (CFA)**, conducted using **SPSS** and **JASP**. While AI-assisted tools, such as **grammatical checking software**, were used to refine the manuscript's readability, the authors conducted and verified all conceptual, analytical, and interpretative processes. Any automated assistance in formatting, citation management, or language refinement did not influence the study's **theoretical, methodological, or statistical** conclusions.

5. Ethical Declaration

This study was conducted according to **ethical research guidelines** to ensure **the rights, privacy, and well-being of all participants**. Participants were fully informed about the **study's purpose, data usage, confidentiality measures, and their right to withdraw at any stage**. All responses were **anonymized** and handled with strict confidentiality in compliance with the **General Data Protection Regulation (GDPR)** and ethical standards for research involving human subjects. The study **did not employ manipulative AI techniques, deceptive practices, or interventions that could harm** participants. The research was conducted by the ethical principles outlined in the Declaration of Helsinki and the American Psychological Association's (APA) **Ethical Principles for Human Research**. No conflicts of interest, financial incentives, or external influences biased the data collection, analysis, or reporting of results in this study.

6. In Conclusion

The **AI-SMEQ** is a rigorously validated psychometric instrument designed to **assess the impact of artificial intelligence on social media behaviors**. This scale provides a comprehensive framework for understanding AI's role in shaping digital interactions by systematically evaluating engagement, habit formation, misinformation exposure, and user autonomy. The findings contribute **significant theoretical and practical insights**, offering a balanced perspective on the **opportunities and challenges** posed by AI-driven recommendation systems. The AI-SMEQ captures the **multifaceted nature** of AI-powered social media experiences, **highlighting their benefits and risks**. On the one hand, AI enhances **content personalization, engagement, and user satisfaction**, creating **tailored digital experiences**. On the other hand, it raises critical concerns about overuse, misinformation amplification, and diminished **user autonomy**. These findings highlight AI's dual role as an enabler of seamless digital interactions and a potential contributor to **algorithmic dependency and information distortion**. Beyond its academic contributions, the **AI-SMEQ has significant real-world applications**. For platform developers, it

serves as a diagnostic tool to assess and optimize AI-driven recommendation systems, ensuring a balance between engagement and the ethical deployment of AI. **For policymakers and regulators**, the AI-SMEQ findings offer a **data-driven foundation** for developing strategies to **mitigate misinformation risks, reduce algorithmic bias, and promote AI transparency**. This framework enables a deeper understanding of AI's psychological and behavioral effects for digital well-being advocates, informing strategies to **enhance user agency and control over digital experiences**.

To further expand on these insights, future research should apply the **AI-SMEQ across diverse populations, social media platforms, and cultural contexts** to assess variations in AI-driven social media behaviors. Conduct **longitudinal studies** to examine the **evolution of AI-driven personalization and misinformation over time**, measuring their **long-term impact on decision-making, digital autonomy, and psychological well-being**. Investigate the **role of regulatory frameworks** in enhancing **algorithmic transparency and accountability**, exploring strategies to improve **user awareness of AI-driven recommendations**. Examine **cross-cultural differences** in AI-mediated social media consumption and **develop interventions to mitigate algorithmic bias and enhance information diversity**.

As AI reshapes **the digital landscape**, understanding its **cognitive, behavioral, and ethical implications** remains paramount. The AI-SMEQ provides an **empirical foundation** for studying AI's influence on social media, offering **actionable insights** for researchers, policymakers, and industry leaders. By leveraging these findings, future developments in **AI-powered social media** can prioritize **user-centric, transparent, and ethically responsible AI applications**, ensuring a **balanced and sustainable digital ecosystem**.

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Cross-Platform Content Strategies on Social Media: A Case of Body Positivity Advocate Tess Holliday

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Abstract: Social media platforms, particularly Instagram and TikTok, provide new opportunities for body positivity advocates to challenge traditional beauty norms. This study examines how Tess Holliday employs cross-platform content strategies to maintain brand consistency and enhance audience engagement. Using a case study approach, this research analyzes 109 Instagram posts and 254 TikTok videos from 2024, categorizing content into 12 key themes. Findings reveal that Holliday tailors her content to platform-specific characteristics: Instagram reinforces her strong and confident brand identity, while TikTok highlights a more authentic and vulnerable side, leveraging viral trends for wider reach. Additionally, synchronizing core content across platforms helps maintain brand coherence. Existing research often focuses on single-platform strategies, overlooking how influencers navigate multi-platform environments. This study fills that gap but remains limited by its single-case scope and short-term data. Future research should expand case selection and adopt longitudinal methods to track evolving strategies. This study contributes to digital branding theory and offers practical insights for marketers and content creators on optimizing cross-platform engagement while ensuring brand consistency.

Keyword: Cross-platform; Body Positive; Self-branding; Content Strategy

1. Introduction

In a culture where thinness has long been the dominant beauty standard, social media has fueled the rise of the body positivity movement. Advocates use social media to challenge traditional body image norms and promote greater acceptance of diverse body types. Although platforms like Instagram and TikTok offer broad audience reach, the growing competition among platforms and frequent algorithmic changes compel creators to continuously refine their communication strategies. As a result, many advocates, including Tess Holliday, one of the most prominent figures in the body positivity movement, have adopted cross-platform strategies to strengthen their brand. By distributing content across Instagram and TikTok, Holliday has built a large following, demonstrating her ability to engage diverse audiences through a tailored content approach. By strategically adapting to these shifts, she not only mitigates the risks of platform dependence but also reinforces brand stability in an increasingly volatile digital landscape (Dhingra et al. 2024).

Social media, particularly Instagram and TikTok, have become central platforms for the expansion of the body positivity movement. These platforms enable advocates to challenge traditional beauty standards and promote more inclusive social perceptions in multiple ways. They empower users to showcase diverse body representations and foster self-love and acceptance through visual content, personal narratives, and community engagement.

Research indicates that body positivity content on social media promotes the acceptance of diverse body types. Additionally, it helps mitigate the negative effects of body dissatisfaction, particularly among marginalized groups, such as individuals with chronic conditions (Cunha et al. 2024).

Body positivity advocates establish personal brands through personal narratives and user interactions to promote the social acceptance of diverse body types (Albert et al. 2024). By sharing their experiences with body shaming and their journey toward self-acceptance, they foster deeper emotional connections with their audiences (Brewster and Sklar 2022.).

For instance, Leah Vernon and Stephanie Yeboah use their platforms to explore the intersections of race and body politics, advocating for a more inclusive perspective on aesthetics (Johansson, 2021). This authenticity and uniqueness not only enhance brand recognition but also cultivate long-term audience loyalty (Miguel 2024; Dhingra et al. 2024).

Instagram and TikTok provide a dynamic environment for advocates to share body-positive messages, allowing them to interact with their audience in real time. This engagement fosters a sense of community and support among followers, encouraging them to embrace diverse body types and challenge social norms (Longhurst et al. 2024). This "decentralized" dialogue mechanism fosters a strong sense of community belonging (Paraskeva 2024) and facilitates the retransmission of advocates' core values among audiences.

At the same time, cross-platform strategies enhance visibility and audience engagement. For body positivity advocates, distributing content across multiple platforms broadens their audience reach and reduces reliance on a single platform, thereby strengthening their overall brand image. For example, Instagram relies on social connections and hashtag strategies, enabling advocates to quickly connect with like-minded communities (Tafesse & Wood, 2023). In contrast, TikTok prioritizes interest-based recommendation algorithms that favor short, emotionally resonant content and enhance audience engagement through real-time interactions (Lan 2023). Advocates who tailor their content strategies to align with the algorithmic characteristics and user ecosystems of different platforms can improve their communication effectiveness. This strategic adaptation increases their chances of maximizing audience engagement and reach.

Despite extensive research on body positivity content on social media, certain gaps remain. For instance, Strach (2023), Albert et al. (2024), and Cohen et al. (2021) have confirmed the high engagement rates of body positivity advocates on Instagram and TikTok. Brathwaite et al. (2023) also highlighted differences in how users across multiple platforms, such as Instagram, evaluate body positivity content.

However, two significant limitations persist in the existing literature. First, most studies focus on single-platform analyses, limiting insights into how body positivity advocates navigate multiple platforms. Second, cross-platform research does not sufficiently address the strategic operations of content creators.

To address these shortcomings, this study examines Tess Holliday as a case study. It explores how she has strategically adapted her content on Instagram and TikTok to align with different algorithmic logic and user interaction patterns. At the same time, she maintains the core brand concepts of "body positivity" and "social inclusion."

2. Methodology

This study employs a case study approach, analyzing Tess Holliday's 2024 content strategy and audience engagement on Instagram and TikTok. Using an inductive method (Creswell and Creswell, 2017), it first categorizes content types and platform-specific differences before summarizing her cross-platform strategy. The research follows four key steps: case selection, data collection, content classification, and data analysis.

2.1 Case Selection and Research Subject

2.1.1 *Typical Cross-Platform Influence*

As an internationally recognized plus-size model, Tess Holliday has a substantial following on both Instagram (approximately 2.6 million followers) and TikTok (703,000 followers) as of 2024. She remains highly active on both platforms and frequently adjusts her content strategy to align with each platform's unique characteristics, making her a representative case of cross-platform brand management.

2.1.2 *Clear Brand Positioning for In-Depth Analysis*

Holliday's core philosophy centers on "body positivity" and "social inclusion," which have remained consistent over time. Her case provides a valuable opportunity for examining the intersection of micro-celebrity personal branding and social issue advocacy.

2.1.3 *Data Accessibility and Research Replicability*

Tess Holliday's Instagram and TikTok accounts are publicly accessible, allowing researchers to legally collect and analyze her posts. This study adheres strictly to platform privacy policies and does not involve private or sensitive data.

Given these factors, selecting Tess Holliday as a single-case study is both highly representative and methodologically feasible, providing a robust and reliable data foundation for this research.

2.2 Data Collection and Organization

This study examines Tess Holliday's public posts on Instagram and TikTok throughout 2024, totaling:

- Instagram: 109 posts, including images, videos, text descriptions, hashtags, and interactive metrics (likes and comments).

- TikTok: 254 videos, incorporating video content, subtitled text, and interactive data (likes, comments, shares, and favorites).

During data collection, researchers manually recorded each post's publication date, content format, main theme, and engagement metrics to ensure the accuracy and completeness of subsequent coding and analysis.

2.3 Content Classification and Coding

To identify Tess Holliday's core content strategies across different platforms, this study employed an inductive approach to systematically extract and code the collected posts. The coding process was divided into three main stages:

2.3.1 Keyword Extraction and Visual Content: Posts are Initially Classified Based on the Primary Image or Scene, Covering Categories Such as Fashion, Travel, Events, and Brand Collaborations.

Text Content: Keywords related to "body positivity," "female empowerment," "self-confidence," and "political views" are extracted from captions and titles. Additionally, the overall sentiment and value orientation of each post are recorded.

2.3.2 Determining Category Labels

Based on the preliminary keyword analysis, this study identified 12 primary content labels (Table 1), categorizing Tess Holliday's posts across Instagram and TikTok:

Table 1: Categories and Descriptions of Tess Holliday's Content Themes.

Category	Description
Body Positivity	Posts promoting body positivity and self-acceptance.
Fashion	Outfits, styling, and fashion trends.
Empowerment	Content advocating for women's empowerment and self-worth.
Category	Description
Audience Interaction	Responses to follower comments and discussions.
Lifestyle	Daily life activities and personal updates.
Trends	Content related to platform-specific viral trends.
Politics	Political opinions, activism, and advocacy.
Travel	Travel experiences and location-based content.
Branding	Business collaborations, sponsorships, and personal brand promotion.
Confidence	Self-expression, motivation, and confidence-building posts.
Events	Participation in public events, interviews, and collaborations.
Non-Sexualized Body Expression	Content featuring bold, revealing fashion choices that challenge societal norms on exposure, emphasizing confidence and self-expression rather than sexualization.

2.3.3 Coding Process

Each of the 109 Instagram posts and 254 TikTok videos was tagged individually. Each post could receive one or two tags to reflect its diverse themes.

The dataset was re-examined to ensure consistent categorization, with particular attention to potentially ambiguous classifications (e.g., distinguishing between "Body Positivity" and "Confidence," or "Fashion" and "Non-Sexualized Body Expression").

For posts featuring multiple overlapping themes, a comprehensive assessment of both visual and textual content was conducted. When necessary, either priority ranking or parallel double-tagging was applied.

To minimize subjective bias, the coding process was refined through multiple rounds of review.

2.4 Data Analysis Methods

After coding, this study analyzes the data from two key dimensions:

Content Strategy Distribution: The frequency of each content category is calculated for both Instagram and TikTok to compare content distribution across platforms. This analysis examines variations in content types and their alignment with Tess Holliday's core messages of "body positivity" and "social inclusion."

Engagement Metrics and Visibility: On Instagram, engagement is primarily measured by comments, with likes as a supplementary metric. On TikTok, engagement is assessed through likes, comments, shares, and favorites. The analysis explores how audience interaction varies across content categories and examines the influence of platform algorithms and user preferences on content visibility.

3. Result and Discussion

While maintaining her core brand concept of body positivity, Tess Holliday strategically adapts her content to align with the algorithmic mechanics, audience preferences, and engagement dynamics of Instagram and TikTok. This section analyzes her approach from three key aspects: content adaptation strategies, algorithm-driven communication patterns, and cross-platform synchronization with brand consistency.

3.1 Content Adaptation Strategies

An analysis of the hashtags used in Tess Holliday's Instagram and TikTok posts in 2024 (Table 2) reveals that her content is centered around 12 primary categories. While her core philosophy remains consistent across platforms, the specific content she posts varies based on each platform's unique characteristics.

Table 2: Comparison of Content Category Distribution Across Tess Holliday's Instagram and TikTok Posts.

Category	Instagram (posts)	TikTok (posts)
Body Positivity	29	30
Fashion	38	47
Empowerment	9	13
Audience Interaction	0	33
Lifestyle	16	83
Trends	0	32
Politics	5	9
Travel	9	3
Branding	10	6
Confidence	23	25
Events	14	15
Non-Sexualized Body Expression	12	11

3.1.1 Instagram's Content Strategy

On Instagram, Holliday's 109 posts primarily focus on fashion (38), body positivity (29), and confidence (23), categories that closely align with her brand identity as a plus-size model and body positivity advocate.

Although her content is diverse, body positivity remains a recurring theme. Even when posts do not explicitly use the "body positivity" label (e.g., those categorized under "Non-Sexualized Body Expression" or "Fashion"), she continues to reinforce self-confidence and body acceptance through personal style and visual storytelling. For instance:

Under the "Non-Sexualized Body Expression" category, she conveys the idea that "all body types deserve to be appreciated" by showcasing confident poses and body representation.

Under the "Fashion" category, she challenges traditional beauty standards by wearing diverse outfits, further reinforcing her brand identity.

This internalized brand expression helps her maintain high user engagement on Instagram while continuously strengthening her position as a body positivity advocate. For example, on August 3, 2024, Holliday published a post incorporating fashion and travel elements. Although the post does not explicitly reference body positivity, she reinforces her brand values through a carefully curated visual presentation.

Additionally, by sharing personal experiences and insights on body image, Holliday cultivates an authentic and relatable presence, positioning herself as a trusted opinion leader among her followers (Ebben and Bull 2023). On Instagram, she frequently discusses confidence, emphasizing that "confidence is an innate ability," while offering practical, actionable advice to her audience.

3.1.2 Tiktok's Content Strategy

Holliday's 254 TikTok videos exhibit a notably different content distribution compared to her Instagram posts. Her TikTok content is primarily categorized into lifestyle (83), fashion (47), audience interaction (33), and trends (32). Interestingly, "Audience Interaction" and "Trends" make up 21% of her TikTok content but are entirely absent from Instagram.

This contrast suggests that Holliday adopts a more interactive and trend-driven content strategy on TikTok, aligning with the platform's algorithm, which prioritizes engagement and viral content. The dominance of lifestyle content (83 posts) indicates that she primarily builds emotional connections with her audience by sharing everyday moments. Meanwhile, her frequent participation in TikTok trends (32 posts) and direct interactions with viewers (33 posts) further enhance content visibility and audience engagement.

Unlike Instagram, where content is more curated, Holliday's TikTok strategy extends beyond content creation, emphasizing real-time engagement to strengthen her personal brand image. For instance, she frequently discusses body positivity, gender equality, and mental health in a humorous, short-form format, responding directly to audience comments. This approach lowers the barrier to discussing serious issues, making them more accessible, shareable, and widely disseminated. Additionally, she strategically engages with both positive and negative feedback, a practice that proves especially effective in TikTok's highly interactive environment. Her candid responses reduce the distance between her and her audience, fostering a sense of belonging and trust among followers, thereby enhancing brand authenticity (Ebben and Bull 2023). This transparent and open engagement model not only reinforces her position as a body positivity advocate but also solidifies her presence as a public figure within the TikTok community.

3.2 Algorithmic Propagation Strategy

As shown in Table 3, the algorithmic traffic allocation of social media platforms directly influences content dissemination and visibility. Instagram's algorithm primarily operates on follower relationship chains, where the algorithm prioritizes visual aesthetics, brand curation, and long-term brand building (Kusumasondaja 2020)). As a result, Instagram users primarily see content from creators they follow. This makes brand engagement more reliant on consistent long-term interactions rather than short-term viral spikes.

Data from this study indicates that Holliday's average number of comments on Instagram remains relatively stable across different hashtags, ranging from 221 to 491 per post. This consistency suggests that her content sustains high audience engagement over time, rather than relying on isolated bursts of virality.

Table 3: Comparison of Engagement Metrics Across Content Categories on Instagram and TikTok.

Category	Instagram (Avg. comments)	TikTok (Avg. comments)	TikTok (Avg. likes)
Body Positivity	325	484	12578
Fashion	369	91	3193
Empowerment	385	204	3690
Audience Interaction	0	322	8668
Lifestyle	291	124	1638
Trends	0	58	1552
Politics	237	291	3791
Travel	365	190	5696

Category	Instagram (Avg. comments)	TikTok (Avg. comments)	TikTok (Avg. likes)
Branding	249	96	529
Confidence	280	130	2020
Category	Instagram (Avg. comments)	TikTok (Avg. comments)	TikTok (Avg. likes)
Events	221	45	2335
Non-Sexualized Body Expression	499	72	791

In contrast, TikTok's algorithm follows an interest-based recommendation model, where content dissemination is driven by engagement metrics (likes, comments, shares) rather than follower relationships (Ionescu and Licu 2023). This system amplifies emotionally engaging and interactive content, such as responses to comments, body positivity discussions, and politically themed posts. In contrast, commercial collaborations and promotional content receive significantly lower exposure due to limited interaction. Consequently, Holliday's TikTok content experiences greater volatility in reach and engagement, reflecting the platform's preference for highly reactive and shareable content.

Engagement rates on TikTok vary significantly across different content categories. For example, posts categorized under "Audience Interaction" received an average of 322 comments, whereas "Fashion" content garnered only 91 comments. This disparity suggests that TikTok's algorithm prioritizes content that sparks discussion and controversy (Klug et al. 2021). Similarly, posts tagged under "Body Positivity" accumulated 12,578 likes, whereas "Branding" received only 529. This suggests that TikTok prioritizes content with strong emotional resonance and high user engagement. In contrast, advertising and sponsored content tend to have lower visibility due to limited interaction.

TikTok's algorithmic preference for controversial content amplifies Holliday's responses to body shaming rhetoric, making them more likely to go viral. By directly confronting critics and engaging in discourse, she generates buzz and provokes emotional responses from users. This increased engagement, reflected in likes, comments, and shares, ultimately expands her brand influence. However, due to TikTok's lower fan loyalty and fast-moving content cycle, frequent posting of controversial topics may result in follower attrition over time.

3.3 Cross-Platform Content Integration and Brand Consistency

Tess Holliday's cross-platform communication strategy in 2024 balances platform adaptation with brand consistency. On Instagram, she cultivates a stylish, confident, and influential brand image. In contrast, her TikTok content is more personal and lighthearted, featuring daily moments, humor, and direct audience interactions. This approach makes her brand identity more dynamic and multidimensional. However, this differentiated strategy also presents challenges. While she strives to maintain a consistent brand image across platforms, she must also take full advantage of TikTok's high virality to expand her reach and enhance brand recognition.

The implementation of this strategy yields three key optimization effects.

First, it strengthens brand consistency. TikTok and Instagram operate within distinct content ecosystems, and platform-specific content strategies may lead to a fragmented brand image. However, selectively synchronizing content across platforms ensures that Holliday's core brand values remain consistent.

Second, it optimizes audience reach and user engagement flow. Given the platforms' algorithmic and demographic differences, identical content can yield different levels of engagement on each platform. By strategically synchronizing content, Holliday expands her audience reach and enhances brand visibility.

Third, balancing TikTok's high virality with long-term brand building. TikTok's algorithm boosts brand awareness quickly but its short content lifespan hinders brand loyalty. To maintain long-term brand impact, Holliday reinforced her brand narrative on Instagram, ensuring that TikTok's fragmented, short-form content did not dilute her overall brand identity.

4. Conclusion

Using Tess Holliday as a case study, this study examines the cross-platform content strategies employed by body positivity advocates on Instagram and TikTok. It further analyzes how these strategies enhance personal branding and audience engagement. The findings indicate that Holliday optimizes her brand communication

through strategic content segmentation. On Instagram, she cultivates an image as a confident advocate to reinforce her brand, while on TikTok, she presents a more authentic and vulnerable side, leveraging the platform's viral mechanisms to amplify her influence. Additionally, by simultaneously publishing core content across platforms, she ensures brand consistency and minimizes fragmentation. The theoretical contribution of this study lies in advancing the understanding of cross-platform communication strategies among body positivity advocates. It also uncovers the interaction between content strategy and platform algorithmic ecosystems while enriching the theoretical framework of digital media communication and brand management. From a practical perspective, this study provides strategic insights for digital marketers and content creators, illustrating how influencers and brands can tailor their content strategies based on platform characteristics and audience preferences to balance short-term growth with long-term brand development. However, as a single case study focused on Tess Holliday, the findings have limited generalizability. Furthermore, since data collection is restricted to 2024, the absence of longitudinal analysis makes it difficult to capture long-term dynamic trends. Future research could broaden the scope of case studies and incorporate longitudinal approaches to improve generalizability.

Ethics Declaration

This study used publicly available data from Instagram and TikTok and adhered to their terms of service. No personally identifiable information (PII) was collected or analysed, and ethical approval was not required.

AI Declaration

During the preparation of this manuscript, the authors utilized AI-powered tools for language refinement and grammar checking. However, all research design, data analysis, interpretation of results, and substantive content were independently conducted by the authors without AI assistance. The use of AI tools was limited to enhancing the clarity and readability of the text.

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Evaluating the Different Approaches to Social Media Regulation and Liability

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Abstract: With more than 5,17 billion users, social media is one of the most powerful forces in the world today. Consumers and businesses rely on it for connecting, researching, and communicating. Over the years, social media platforms have evolved into complex landscapes plagued by data privacy breaches, content moderation controversies, and mounting concerns about mental health outcomes. But how do governments and social media companies protect the public safety against risks and threats that social media present, such as misinformation, deep fakes, hate speech, and extremist communication? The discussion explores the different approaches to regulation and liability of social media platforms. Some governments have shifted away from social media platform self-regulation of content moderation to legal regulation. For example, the European Union Digital Services Act and the United Kingdom Online Safety Act provide for the accountability of a social media company for illegal and harmful content on its platform, but the approaches differ. Government control treads a fine line between free speech and censorship, over-regulation that may stifle innovation, and the responsibilities that come with running a platform, public safety and the future of the internet. In the United States (US) free speech is protected under the First Amendment of the Constitution which allows citizens to express themselves without government interference. Since social media companies are private companies, they can decide which speech they wish to host and amplify. Section 230 of the Communications Decency Act provides immunity against liability for user-generated content. In recent years there have been legal disputes regarding the immunity protection and content moderation decisions. Allowing a social media platform to self-regulate may be good for innovation, but social media is now a powerful communication space with billions of voices and some of these voices are illegal or harmful. It may be that some form of government oversight should be in place to protect the public safety. The discussion highlights that governments around the world are increasingly alarmed by the potential for social media platforms to be exploited, and this has resulted in an ongoing struggle between the need for free expression and the imperative to maintain public safety.

Keywords: Social Media Regulation; Social Media Liability for Harmful and Illegal Content; Public Safety and Social Media Regulation; Free Speech on Social Media.

1. Introduction

Recent years have seen many developments in the social media realm, some of these developments have been controversial and are open to debate. Social media regulation, liability and issues relating to regulation and liability have been at the forefront of the developments. It has significant implications for free speech, user privacy, cybersecurity and platform responsibility to name but a few. The aim of social media regulation is to protect the rights of social media users and to establish a safe and secure online environment. The discussion will highlight that governments have different approaches to social media regulation and liability. The approaches will be explored in order to determine which may be the most effective in ensuring a digital environment that balances the benefits with the costs.

The following issues will be addressed:

- The threat social media presents to public safety;
- The different approaches to social media regulation and liability and why it has evolved in this manner;
- The practical effectiveness of the different approaches in establishing a safe and secure social media space; and
- The ongoing struggle between the need for free expression and the imperative to maintain public safety.

2. Understanding the Threat That Social Media Presents to Public Safety

Social media platforms revolutionised how information is shared and consumed, influencing global dialogue and cultural trends, bridging geographical divides and fostering global connectivity (Watney, 2024). It is a powerful disruptor and has considerable influence in society. Businesses have also found a dynamic space in these platforms, utilising them for customer interaction, brand promotion, and market research. These platforms continue to evolve, incorporating new features such as live streaming, augmented reality, and e-commerce capabilities (Walsh, 2022; Hines, 2024; Oladipo, 2024).

In the early days of the internet, it was hailed as the great equaliser, giving everyone a voice. Social media platforms emerged as the town square of the 21st century, where ideas could be exchanged freely, unfiltered by traditional gatekeepers like governments or mainstream media (Markovic, 2024). But the role of social media evolved into a double-edged sword. On the one hand, platforms like X stand as champions for free speech, allowing voices to be heard that might otherwise be silenced. On the other hand, they are powerful instruments in the hands of those who control them, with the potential to shape public discourse narratives, influence public opinion, and even incite conflict (Markovic, 2024).

In summary: The benefits of social media come at a cost. Social media fosters a dark side which threatens the safety and security of users. But the question is how should the public safety on social media be governed? The discussion hereafter explores the different approaches to social media regulation and liability and why it has evolved in this manner. It also looks at the practical enforcement of the different approaches in establishing a safe and secure social media space; and highlights that the approaches to regulation and liability continue to evoke debate and controversy.

3. Social Media Regulation and Liability

3.1 Self-regulation Versus Legislative Regulation

In the early days of social media the platforms did not monitor user-generated content. They were not considered publishers but intermediaries, and could not be held liable for user-generated content. However, as the growth and impact of social media evolved, concerning cybersecurity issues such as misinformation, deep fake, hate speech, harassment came under the scrutiny of governments. Governments have a legal duty to protect the safety and security of their citizens on social media. Social media companies' conduct in respect of the protection of users' privacy, personal information, safety, security and liability for privacy and data breaches, became an issue of contention. Today social media platforms provide "terms of service" and indicate which conduct would be tolerated. However, social media companies may not have the determination to enforce these terms and conditions unless a government imposes a legal duty to ensure compliance and non-compliance is linked to a sanction. It could be that only government intervention by means of legislation will incentivise social media platforms to ensure their platform is safe and secure.

When it comes to government intervention by means of legislation, social media can either be viewed as:

- an architecture impacted by design choices; or
- a market governed by incentives.

Lubin et al (2024b) postulates that the framework would be indicative of the purpose of legislative regulation. If social media is viewed as architecture, then regulation is aimed at improving design choices and if it is considered as a market, then it is aimed at correcting market failures. For example, Sperry (2024) views social media as a market governed by incentives. He opines that social media companies are multi-sided platforms that facilitate interaction between advertisers and users by curating user-generated content that drives attention to their platforms. To optimize the platform's value, social media companies' must keep users engaged. Sperry (2024) provides that the incentives may become skewed and lead to situations where social media usage results in negative extremities due to insufficient protection of privacy, too much hate speech, misinformation or harm to children. Although social media platforms provide privacy policies, content moderation standards and special protections for minors, the negative consequences from social media may necessitate legislation.

3.2 Self-regulation Such as the US Federal Law

The US approach is relevant as it is home to most leading social media platforms. The President-elect, Trump, has promised a regulatory environment that would set free tech companies burdened by government intervention. Trump's administration aims to foster innovation by reducing oversight and promoting a more liberal market.

3.2.1 Impact of the First Amendment on Social Media Platforms

The First Amendment of the US Constitution provides: "Congress shall make no law... abridging the freedom of speech." The First Amendment free speech guarantee is only applicable to the government. Social media platforms are private companies and are not bound by the First Amendment. In fact, they have their own First Amendment rights, their media rights. They have no First Amendment obligation to protect freedom of speech.

Social media companies self-regulate the content in accordance with their “terms of service”. There is no perfect content moderation; every content moderation decision creates winners and losers. Someone is going to want that content up, and someone else is going to want the content down. In 2024, the Supreme Court in *Moody v Netchoice* and *Netchoice v Paxton* (referred to as the SCOTUS decision) had to decide whether laws in Texas and Florida violated the First Amendment by prohibiting social media from moderating user content. In 2021, Florida and Texas enacted statutes regulating large social media companies and other internet platforms. The states’ laws differ in the entities they cover and the activities they limit. Both curtail the platforms’ capacity to engage in content moderation – to filter, prioritise and label the varied third party messages, videos and the other content their users wish to post. Both laws also include an individualised explanation provision, requiring a platform to provide reasons to a user if it removes or alters their posts. The Supreme Court found that social media companies are private organisations and can decide which speech they wish to host and amplify. The government cannot impose laws that regulate speech because it claims to seek a balance of viewpoints or a diversity of expression.

In the past social media companies have called for legislation that provides guidelines in respect of how they should deal with harmful content. Elon Musk who is a “free speech absolutist” opined in 2018: “I think there should be regulations on social media to the degree that it negatively affects the public good. We can’t have like willy-nilly proliferation of fake news, that’s crazy” (Dempsey, 2023). A year later in 2019, Meta CEO, Zuckerberg, observed “From what I’ve learned, I believe we need new regulation in four areas: harmful content, election integrity, privacy and data portability” (Dempsey 2023). But there is no clarity on the format of such regulation. If the Trump administration does consider legislation, should it encompass legislation that provides for user generated content in general with non-compliance linked to a penalty; or should it be sector-specific, for example, regulate the harmful consequences of social media usage on young people. In this regard, the proposed Kids Online Safety Act (KOSA) serves as a good example (Hagan, 2024). Many of the harms that young people experience online and on social media are the result of deliberate design and it is the architecture and design choices that KOSA targets. Since its introduction in 2022, KOSA has undergone multiple revisions. The bill aims to put in place stricter settings by allowing children and parents to disable addictive features, enable privacy settings and opt out of personalised algorithmic recommendations. In general, online platforms would have to default to the safest settings possible for accounts it believes belong to minors.

3.2.2 *Impact of Section 230 of the Communications Decency Act on Social Media Liability for User-generated Content.*

In 1996, Congress passed the Communications Decency Act. Section 230 of the Communications Decency Act shields Internet platforms from legal liability over most user content and gives social media companies protection over their decisions to moderate content in certain circumstances. Section 230 has been interpreted to protect platforms from civil liability for leaving content up and also to protect them if they choose to take content down. The aim of section 230 was to promote a then emerging digital economy. Dempsey (2023) postulates “Many would say it more than achieved that but has since had delirious unforeseen consequences”.

In 2023 the Supreme Court in *Gonzalez v. Google* (2023) and *Twitter v. Taamneh* (2023) had to determine whether social media could be held liable for third party user-generated content (Fisher, 2024). Both court cases did not challenge the legality of section 230. At the heart of the *Gonzales* case was a legal nuance: do the protections provided by section 230 extend to the recommendation technologies they deploy? In 2015, Nohemi Gonzalez was among 90 victims of the attack by Islamic State gunmen on the Bataclan theatre in Paris. Another 40 died in other coordinated attacks. Her family launched an action against Google saying that it is liable for promoting ISIS via the algorithms used on its YouTube video channel by allowing ISIS to post videos, communicate its messages and radicalise new recruits. In the *Taamneh* case, Nawras Alassaf died in an ISIS attack at the Reina nightclub in Istanbul on New Year’s Day in 2017. The attack left 39 dead. The point of contention was whether, in spite of section 230, Twitter, Facebook and YouTube could be held liable for its failure to take sufficient steps to prevent use of social media platforms by ISIS to promote its agenda, solicit donations and threaten and intimidate civilian populations. The Supreme Court held that social media platforms, such as, YouTube or Twitter were not liable for content posted by third party users on their platforms (Fisher, 2024).

Over the years, social media liability for user-generated content has evoked many dividing opinions and criticism. On the one hand, activist groups want social media companies to take a tougher stand against harmful content and argue that section 230 need to be modified to mitigate the harmful effects of social media. They argue section 230 makes it impossible to hold social media companies accountable for the harm their platforms cause.

On the other side, free speech advocates opine that social media platforms cannot claim section 230 immunity from liability for others' speech and then demand that they are speakers with full First Amendment rights over others' speech. This argument was raised in the SCOTUS court cases.

3.2.3 *Social Media Liability for Privacy and Security Violations*

A social media company is not immune from liability for privacy and data protection violations. Facebook has encountered numerous data privacy and user safety issues over the course of its 20 year existence (Ali, 2024). One of the most notable issues occurred in 2018 when it was revealed that a British consulting firm, Cambridge Analytica used 87 million personal information without permission in early 2014 to build profiles of individual voters in the US to target them with personalised political advertisements (Watney, 2024). The Federal Trade Commission (FTC) showed zero tolerance for such conduct by a social media company and imposed a \$5 billion penalty and provided restrictions which will hold Meta accountable for privacy violations.

3.2.4 *Banning of Social Media Platform*

TikTok (known as Doyin in China) is a short-form video-sharing app. Despite only launching in 2017, it is one of the fastest-growing apps in the world (Oladipo, 2024). The future of TikTok, which is owned by ByteDance, is uncertain in the US. In April 2024 a bill was signed into law requiring ByteDance to sell the app to a non-Chinese owner or be banned in 2025 (Kerr, 2024). A federal appeals court ruled in December 2024 to uphold the law that forces TikTok to sell its assets to a non-Chinese company or be barred from the country entirely. The decision is the latest twist in a years-long battle between the US government and TikTok (Kerr, 2024).

The US government under Biden opines that TikTok is a national security threat because China could use the app to access personal data from millions of Americans. Lawmakers also say that they fear China could manipulate what millions of people see on the app and spread propaganda. Trump, who unsuccessfully tried to ban TikTok during his first term in 2020, said before the November 2024 presidential election that he would not allow the TikTok ban. If the law is upheld, it will give the US government sweeping powers to ban other foreign-owned apps that could raise concerns about collection of Americans' data - and it could open the door to a future crackdown on many other foreign owned apps (Shepardson and Scarcella, 2024). Such banning would also contribute to further geopolitical tension.

3.2.5 *Concluding Remarks in Respect of Self-regulation*

The US government has allowed social media platforms to self-regulate. As discussed, there have been legal disputes regarding social media responsibility in respect of user-generated content and how they moderate content. These legal disputes have been decided in favour of the social media platforms. It should be noted that not all social media platforms self-regulate; some have a hands-off approach with a free speech absolutist approach.

The emphasis under the Trump administration will most probably continue to focus on the protection of free speech with social media companies continuing to self-regulate user-generated content. This does not mean that there are no calls for legislative intervention, especially regarding the harm that social media may cause to young people. In my opinion, government oversight relating to how social media platforms exercise their self-regulation of user-generated content provides not only legal certainty, but it also protects public safety.

3.3 **Legislative Regulation Such as the EU Digital Service Act (DSA) and UK Online Safety Act (OSA).**

With the adoption of the EU DSA and UK OSA, the EU and UK revised the self-regulatory model where social media platforms were free to define rules and procedures of online content moderation and moderation practices on their own terms. The EU DSA and the UK OSA share the common goal of regulating the digital world, yet they each have distinct characteristics. The DSA takes a comprehensive approach, addressing a wide range of online user concerns, whereas the OSA displays a more specialized focus on combating high-harm illegal content. Furthermore, the OSA emphasizes the importance of proactive monitoring as opposed to the DSA's reactive notice and takedown procedures.

3.3.1 *Brief Overview of the EU DSA*

The EU adopted DSA in 2022. The regulation imposes various duties related to content moderation on social media platforms and became fully effective in February 2024. **Every EU Member State must implement regulations** to adapt to the DSA.

There are several ways in which the DSA safeguards users' free speech interests against platforms. It imposes obligations on platforms to include clear information about content restrictions in their terms of service and pay due regard to free speech rights of users when applying and enforcing these restrictions (Art. 14). Platforms must also provide a statement of reasons to users whose content has been restricted or whose account has been suspended or terminated (Art. 17). Furthermore, platforms are required to set up an internal complaint-handling system, which enables users to complain about platforms' decisions to limit their content or accounts (Art. 20).

The French government has made it clear that compliance with its strict moderation laws in line with the DSA is non-negotiable. In 2024, Pavel Durov, Telegram's founder and CEO, was arrested in Paris, France for his platform being used for criminal activity, in other words for non-compliance with France's content moderation laws (Sidley, 2024). He, alongside Elon Musk, are symbols of resistance against government control over digital communications. Durov's arrest highlighted the tension between free speech and government control. It also sparked a global debate on the fine line between freedom of speech and the responsibilities that come with running a social media platform that allows for uncensored and encrypted communication. The charges against him—allegations of enabling criminal activities such as child exploitation, drug trafficking, terrorism, and fraud, as well as refusing to cooperate with authorities—are severe. However, they also raise critical questions about the extent to which a platform owner can or should be held accountable for the actions of its users. Durov opined that to charge a CEO with crimes committed by third parties on the platform he manages is a misguided approach. The French authorities may argue that unfettered speech which allows the commission of crime, cannot be allowed as it affects the safety and security of users within their sovereignty and ultimately negatively impacts on the future of the internet.

3.3.2 *Brief Overview of UK OSA*

The Online Safety Act 2023 (the Act) is a set of laws that protects children and adults online (Online Safety Act: explainer; 2024). It comes fully into effect in 2025. It puts a range of new duties on social media companies and search services, making them more responsible for their users' safety on their platforms. Protecting children is at the heart of the Online Safety Act. Although some content is not illegal, it could be harmful or age-inappropriate for children and platforms need to protect children from it. The Office of Communications (Ofcom) oversees the implementation of OSA and is responsible for developing guidance and codes of practice that will set out how online platforms should meet their duties.

Platforms must also remove any other illegal content where there is an individual victim (actual or intended), where it is flagged to them by users, or they become aware of it through any other means. The Act sets out a list of priority offences. These reflect the most serious and prevalent illegal content and activity, against which companies must take proactive measures. The illegal content duties are not just about removing existing illegal content; they are also about stopping it from appearing at all. Platforms need to think about how they design their sites to reduce the likelihood of them being used for criminal activity in the first place. The kinds of illegal content and activity that platforms need to protect users from are set out in the Act. OSA also created new offences.

In 2024 the UK experienced anti-immigrant protests which erupted in at least 15 cities across Britain, leading to the most significant civil disorder since 2011. The unrest began after a stabbing at a Taylor Swift-themed dance class in Southport, England, which resulted in the deaths of three young girls. Allegedly, false information spread online suggesting the attacker was an illegal Muslim immigrant. However, the suspect, Axel Rudakubana, is a 17-year-old born in Cardiff, Wales, with unknown religious affiliation, though his parents are from predominantly Christian Rwanda. Despite the facts, anti-immigrant rioters targeted mosques and hotels housing asylum seekers, with much violence directed at the police. The riots highlighted the role of platforms like X and Meta in both facilitating and exacerbating social unrest. While Meta took a more proactive approach to content moderation, removing inflammatory material and attempting to prevent the spread of misinformation, X's more relaxed policies allowed a more comprehensive range of content to circulate (Markovic, 2024). Such an approach included not just legitimate protest organisations but also harmful rhetoric that fuelled violence and division. The contrast between the two platforms is stark. Meta, with its more stringent content policies, was criticised

for stifling free speech and suppressing dissenting voices. Yet, in the context of the British riots, its approach may have helped prevent the situation from escalating further (Markovic, 2024). On the other hand, X was lauded for its commitment to free expression, but this freedom came at a price with some accusing it of enabling the violence. In future, the OSA will hopefully prevent such unfettered speech on a social media platform and prevent disinformation from spreading.

3.3.3 Concluding Remarks Regarding Government Regulation

Many countries are considering how to make the internet safer. Some countries have implemented legislation to tackle harmful and illegal content, especially in respect of vulnerable users such as young people. There is a fine balance between freedom of speech and public safety, but legislation may be the only way in which the public safety can be guaranteed. The 2024 UK riots is a clear illustration of what happens when there is no speech restriction and accountability.

4. The Struggle Between Free Speech and Public Safety

Sidney (2024) postulates the following questions:

- When does the state have a right to insist on reasonable moderation of digital content?
- When does the state have a right to demand access to information which may help them with the investigations of cybercrime and extremist communications?
- When is free speech less than free?
- To what extent should users trade their freedom for security?

The above-mentioned questions are not new but the solutions are still being debated. There is no consensus on the extent of government control of social media.

The internet was designed to be borderless. Initially countries paid little notice at the outset because the internet was small until, suddenly, it was everywhere as the preferred warehouse and transmission technology for all information (Sidley, 2024). The growth of social media has been phenomenal, for example at the end of 2004 Facebook (now Meta) had over 1 million users and 20 years later 3 billion users (Oladipo, 2024).

But over the years it became clear that the dark side of social media necessitate attention as social media misuse impacts negatively on the internet to the detriment of all who are dependent on it. Social media platforms should have some responsibility for the content posted on their sites to protect public safety and prevent the spread of harmful material, such as misinformation and hate speech. The question of content control on social media platforms is a complex one. However, this responsibility must be balanced with the need to protect free speech, as overregulation could lead to censorship and stifle open communication. Content moderation is an enormous task, given the billions of daily words and pictures they have to filter. Platforms use artificial intelligence to look for certain markers and humans to make the more difficult decisions, but it is a system prone to error, with much indecent material slipping through and good material being blocked. Striking the right balance between free expression and preventing harmful content is a significant challenge. It is crucial for platforms to have guidelines and policies to maintain a safe and respectful online environment. However, transparency, fairness, and accountability in content moderation are equally important. The debate should focus on finding the right mechanisms to ensure responsible content control without infringing on freedom of speech.

The internet may be global but countries are asserting their sovereignty and are demanding obedience in respect of compliance with their domestic laws. No platform is above a country's laws which was clearly illustrated with the arrest of the CEO of Telegram for non-compliance with the French user-generated content moderation laws. In 2024 Brazil – the country with the fifth largest digital population – blocked the social media platform, X after Elon Musk refusal to comply with local laws (Philips, 2024). A social media platform must follow the laws of the country in which it provides a service, even if it does not agree with the laws of the country otherwise it must withdraw its services. In 2024 the Turkish government blocked Instagram for nine days after the platform failed to comply with its domestic laws (Markovic, 2024). The move came after a senior Turkish official accused the platform of blocking condolence posts following the assassination of Ismail Haniyeh, leader of Palestinian militant group Hamas. The Turkish government considered such blocking by Instagram as censorship. Whether non-compliance should result in the arrest of the CEO of a social media platform for third party conduct or the banning of a platform are controversial issues. The increase in social media shutdowns is a worrisome trend. The legal position becomes even more murky if a country decides to ban a platform because it presents a threat to national security. Such a ban could further contribute to the geopolitical tension that exists.

5. Conclusion

Cybersecurity and online safety continue to be top priorities for governments.

When it comes to the future of the internet, and specifically to social media, I concur with Sidney (2024) who opines: “Earlier in my life, I would have rooted for unadulterated freedom of speech but, given the ease with which the internet has been exploited by a seemingly endless parade of miscreants, I’d rather give up some freedoms and allow some very careful oversight of information where necessary”. There are instances that speech needs policing in accordance with strict guidelines which balances free speech with public safety.

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Memetic Election Cycles in US Presidential Campaigns

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Abstract: This article explores the concept of *memetic election cycles*, examining how memes have become a central tool in U.S. political campaigns since at least the 2008 Obama campaign. Through a review of key literature on political communication, participatory culture, and digital marketing, the study analyzes the evolution of memes as viral political content, but also as a viable means to mobilize the masses behind increasingly polarized political parties and campaigns. It highlights how campaigns such as those of Obama, Trump, Biden, and Harris leveraged memes not only for voter engagement but also as branding tools that shaped public perception. Using examples from recent election cycles, including the 2016 and 2020 U.S. presidential elections, the article discusses the role of memes as grassroots digital marketing and viral political advertising. Additionally, the research explores the potential influence of memes on voting behavior and the risks of disinformation. The findings suggest that memes serve as a hybrid form of digital folklore and marketing, influencing both electoral discourse and voter behavior.

Keywords: Digital Folklore; Memes; Vernacular Expression; 2024 US Presidential Campaign

1. Introduction

The 2024 U.S. Presidential campaign has seen its share of historic developments: the assassination attempts on former President Donald Trump, President Biden's withdrawal of his candidacy and subsequent endorsement of Vice President Kamala Harris, only 107 days before the election, to mention a few. Aside from these more formal examples, both campaigns have attracted and also embraced what can perhaps be best phrased as memetic messaging. This contribution examines the evolution of memetic messaging as a purposeful form of digital marketing of a political campaign and indeed specific ideologies of practice. For example, the 2008 Obama campaign certainly embraced a kind of American populism. While some debate exists as to proper definitions of populism, this contribution adopts the perspective of Bonikowski's (2016) view of populism that it is not an ideology per se but rather a rhetorical framework consonant as a tool for the left or right. However, Obama's 2008 campaign developed "renewed or reinvented" strategies to communicate "with potential voters and mobilizing volunteers" and, consequently, shared a common trait with Trump's 2016 successful bid for the presidency (Mørk, 2020, p. 185).

One perspective that requires serious attention is the technological affordance of social media platforms leveraged during political campaigns. While this may currently seem as an obvious point, some figures may clarify the rapidity of social media's adoption within society, often merging socio-cultural and political narratives. In 2008, worldwide Facebook users amounted to approximately 100 million; by 2016, this figure jumped to nearly 1.2 billion. With regards to Facebook's penetration within the U.S. market, in 2008, only 44 million people had active accounts compared with 180 million by 2016. The choice to leverage Facebook in 2008 was clearly fortuitous for the Obama campaign but also prescient for what came later. It also bears noting that in 2008, Facebook was still relatively new in terms of common perspectives about its basic utility and well before serious concerns about Facebook's leadership were addressed at U.S. congressional hearings in 2018 (The Washington Post, 2018). Facebook's novelty and Obama's 2008 campaign as a popular movement meant that in order to mobilize voters to support him as a *party outsider*, Obama had to "combine use of the internet with mobilizing grassroots" (Mørk, 2020, p. 205). Compared to the 2024 campaigns, the use of a highly visual and parasocially interactive platform like TikTok appears to extend the trend initiated by the Obama campaign many years earlier. One of the perhaps most iconic images to emerge during the 2008 campaign was the Obama *Hope* poster, also with versions using the word *Change* or *Progress*. Widely shared and garnering a variety of reactions, the image also spawned remixed parodies such as the Obama as Joker in figure 2.



Figure 1: Obama 2008 Hope Poster

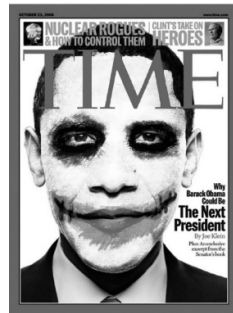


Figure 2: Jokerized Obama

Note: The original cover of Time magazine featuring Obama was published October 23, 2006. After Obama's electoral victory in 2008, his visage was remixed into the Joker from *The Dark Knight* in 2009 and was initially posted to Flickr, seen by thousands before being removed from the site (Wiggins, 2019, p. 61).

An early perspective on the meaning behind the jokerized Obama offers some timely insight. Phillips (2009, para. 1) explained that "no one...has provided an airtight (not to mention fully coherent) account of what the Obama/Joker image is trying to express, each group has used the image to prove something nefarious about their political opponents". On this point, we can offer an alternative viewpoint. Shifman (2014) has stated that memes should be seen as a kind of postmodern folklore that connect personal and political realities, characterizing what she calls "networked individualism". Furthermore, Wiggins (2019, p. 62) emphasizes the role of ideological practice in that the meme, be it Obama as Joker or another, when leveraged by a particular individual or group, gathers meaning based largely on dichotomous us-them dynamics. This is particularly obvious given how in 2016, Trump's image was also modified into the Joker, also from *The Dark Knight*. With Obama as Joker, he becomes something threatening, alongside racial notions of blackness with a whiteface. With Trump as Joker, he becomes an agent of chaos, offering a truly outsider perspective on Washington. Taken together, these perspectives underline the important developments within social media environments for purposeful memetic messaging to promote and market political candidates and ideologies. In what follows, we offer a review of previous research on memes used as tools of political communication (Shifman, 2014; Mina, 2019; Wiggins, 2019) writ large but also the historical evolution of memes in U.S. political campaigns (Kreiss & McGregor, 2018; Ross & Rivers, 2017). In addition, we provide critical examples as to how individuals and groups have used memes as part of digital grassroots campaigns (Tran, 2022) and also to view memes as a form of political branding and marketing (Hunting, 2019).

2. Memes as Political Communication Tools

Several perspectives address common understandings of what constitutes memes as political communication tools. "Memes encompass a variety of formats, including text, images, sounds, and behaviors" (Ahmed & Masood, 2024, p. 2), and they "diffuse at the micro level but shape the macrostructure of society" (Shifman, 2013, p. 372). Some claim memes function in this way merely as imitators of previous content (Ahmed & Masood, 2024; Milner, 2013) whereby participatory audiences create and share such content in an apparent attempt to engage in a larger socio-cultural discourse. Yet others make a sharper distinction between memes as imitators and memes as part of a larger argumentative discourse. Galipeau (2023, p. 438) writes "memes have the power to constitute political discourse and to be a mirror of the culture from which they stem (Wiggins,

2019)". As its core, *politics* "consists of responding to conflict with dialogue" (Blattberg, 2001, p. 193). As individuals share information about news and events often through the curation of memes, a kind of dialogue or discourse emerges that addresses certain worldviews or ideologies. Within this discourse, an individual's attention becomes highly sought after, and the speed by which memes can be produced and spread may address how individuals perceive certain issues. The fact that memes are able to contain succinct messaging about potentially serious issues underscores the point about possible influence on human attention. Essentially, memes are symbolic, humorous, and easy-to-share digital artifacts that spread rapidly through social media. During politically polarizing times, it becomes even more important to frame the intentional messaging of a campaign or candidate during election cycles. Accordingly, a "political meme is a sub-genre of the internet meme and addresses some aspect of political philosophy and ideology" (Wiggins, 2019, p. 65). Specific to political campaigns, political memes refer to those digital expressions that individuals post, share and interact with about some issue or event during the campaign. However, since at least 2016, campaigns themselves have engaged with their constituents by also sharing political memes and related messaging online. This appears to be even more the case in the 2024 U.S. presidential election. The 2016 election cycle received considerable attention for this reason (Hunting, 2020; Mina, 2019; Nee & De Maio, 2019; Schill & Hendricks, 2017; Seiffert-Brockmann, Wiggins, & Nothhaft, 2023; Wiggins, 2017), perhaps due simply to the unconventional nature of the Trump candidacy and subsequent ascendancy to the White House. Memes such as Pepe the Frog and trending hashtags like #LockHerUp or #Deplorables made the 2016 election cycle demonstrate what others have referred to as 'memetic warfare', or the use of intentional disinformation campaigns to assuage opinion and occupy minds with content largely devoid of evidence-based substance (Blanchette, Livingston, Glaser, & Kennedy, 2021).

One of the factors contributing to an apparent increase in political memes in the 2024 election cycle is the activities of so-called political influencers. These are "content creators that endorse a political position, social cause, or candidate through media that they produce and/or share on a given social media platform" (Riedl, Lukito, & Woolley, 2023, p. 2). Because of the techniques used generally by social media influencers to sell products or otherwise draw attention to certain trends or issues, *political* influencers enter a "grey area between market and democracy" (de Gregorio & Goanta, 2022, p. 225).

3. Comparative Examples and Global Perspectives

This contribution often cites the Obama campaign as one of, if not, the first to use a more grassroots, social media-driven campaign style. One strategy with that style is to embrace a more progressive populism that allowed 'normal' people to engage with the campaign and the various policy issues that drove it and ultimately Obama to the White House. Yet others, well before Obama, employed efforts to resonate with common people thus allowing them an opportunity to relate to the candidate as a person as well as a politician. One of the first occurred during the presidency, and not the campaign, of then President Franklin D. Roosevelt, namely the fireside chats. Often speaking with a tone of familiarity, his fireside *chats* offered listeners direct commentary from the president for the first time. The fact that this occurred during his presidency is a distinction worthy of acknowledgement. The televising of the first presidential debate between then Vice President Richard Nixon and then Senator John F. Kennedy represents how the visual medium of television—a broadcast into people's homes for family and individual viewing, became a serious medium not just for entertainment. In a similar vein, Ronald Reagan's status as a former actor positioned television as a natural space for communicating his message visually during his campaigns. Jesse Jackson's 'Rainbow Coalition' embraced vernacular messaging and direct talk to potential voters during both bids for the White House, foreshadowing Obama's own use of grassroots movement-like campaigning. Governor Bill Clinton's appearance on the *Arsenio Hall Show* during which he played his saxophone, sought to engage with a more youthful image. This performance signalled a shift toward engaging younger audiences and bridging the gap between politics and entertainment. While Obama's 2008 campaign clearly marked a near permanent change in the way political campaign manifest their messaging, these earlier examples illustrate how shifts in communication styles—toward more relatable and participatory approaches—were integral long before the rise of social media. Aside from these U.S.-based examples, several international campaigns provide further evidence, not only of a gradual trend toward a more relatable, vernacular tone, but also one that invites polarized and even conspiratorial expressions alongside a participatory, almost grassroots-like campaign-as-movement.

The use of media in India's socio-political campaigns, from traditional to modern and digital forms, continue to play transformative roles in political and social mobilization. Sharma, et al. (2020) refer to mediatization as a way to explain and understand how social media continues to occupy a significant space within political communication and civic engagement in India. Kumar and Alam (2023) as well as Sharma (2016) explored the

use of folk narratives to mobilize and situate public opinion during India's freedom struggles from the 1950s onward. Perhaps it is with this rich history that prompted current Indian Prime Minister Narendra Modi to use what Shifman (2014) has referred to as postmodern folklore, namely, memes in his campaign. It is important to consider that this point also includes language and expressions that are associated with memes such as blatant humour (which might depict a policy or group in a negative light to the others' delight) or irony (Mitzel, 2023). Intertextual references to films as well as to cricket merged with critiques and support of Modi's proposed policies in the forms of memes shared online by disparate users (Chatterjee, 2020). Pal et al. (2017) found that Modi's populist style of messaging on Twitter intentionally positioned him as addressing people directly, fostering a kind of in-group camaraderie. Additionally, his use of irony demonstrates how "political irony presents a form of personality politics" (Pal et al., 2017, p. 4198).

Similarly, during Jair Bolsonaro's successful bid for the Brazilian presidency in 2018, vernacular language became a dominant form of expression. For example, his team deployed WhatsApp groups to spread memes that largely trivialize and mock violence against perceived political opponents and marginalized groups such as "people of African descent, immigrants, women and the LGBTI community" (Fernández-Villanueva & Bayarri-Toscano, 2021, p. 449). In addition, the technological affordances of bots meant Bolsonaro's team and online supporters helped to increase the visibility of his public image, though some memes unintentionally lambasted him due to misspellings or other errors (Teixeira & Junior, 2020).

Finally, Brexit illustrates another example of vernacular turn in political discourse. Memes criticizing Boris Johnson's handling of the pandemic often overlapped with populist communicative strategies. Johnson's public image and rhetoric became subjects of satire, yet the memes' humour also occasionally reinforced his populist appeal by mirroring his own style of rhetoric (Kristensen & Mortensen, 2021). Well before the COVID pandemic, another British PM also leveraged a vernacular style in political messaging such as during the premiership of Harold Wilson. When in 1965 as Prime Minister, Wilson invested The Beatles as Members of Order of the British Empire, making a "deliberate appropriation of the imagery of youth". The award exemplified Wilson's attempt to promote a vision of a 'New Britain' characterized by forward-looking, youthful vigor" (Osgerby, n.d.). Taken together, these examples demonstrate a clear trend among politically progressive and otherwise populist leaders to embrace a vernacular rhetorical style with online expressions increasingly merging traditional with personal and relatable tones.

4. Evolution of Memes in U.S. Political Campaigns

As noted earlier, the 2008 Obama campaign was unique in its use of social media as a means to reach out to and garner support ahead of the election. Arguably, 2016 stands out as a seminal moment in terms of how individuals (but also campaigns) can adopt memes and related messaging to promote the candidate's brand. Indeed, a perception emerged after Trump's electoral victory that memes held not only a correlational, but also a causal link to explain the 2016 election result (Flores-Saviaga, Keegan, & Savage, 2018). Again, while this references merely a perception, the importance of memes and related content in terms of political influence and persuasion deserves greater attention and scrutiny. Moody-Ramirez and Church (2019) found that content, typically memes, generated and/or curated by average individuals embraced the perceived positive attributes of their preferred candidate and promoted the negative aspects of the opponent. This finding is important "because Facebook's large membership base allows users to share ideas with a large audience that, at one time, might have remained isolated" (2019, p. 9). Aside from concerns about bots, misinformation or disinformation, everyday people had the opportunity to share their perspectives, often by using humorous memes on Facebook. This elevated the platform's importance compared to traditional sources of information such as television, newspapers and radio. Tran (2022) found that users were weaponizing political internet memes to influence public opinion in the 2012, 2016 and also the 2020 U.S. presidential election. Tran's (2022) findings support previous arguments made by others (e. g., Foster, 2014; Tran, 2021; Zannettou et al., 2018).

Trump's 2016 campaign intentionally leveraged memes and related messaging in order to align itself with potential voters who were drawn to him as a perceived 'outsider' or even someone to fight the establishment, despite being a billionaire. Helping to reinforce this campaign brand for Trump, media reports amplified the efforts of anonymous 4chan users in producing and promoting larger-than-life versions of Trump (such as those referring to him as a 'God Emperor'), giving the impression that these efforts "actually elected a meme as president" in the form of Donald Trump" (Colley & Moore, 2022, p. 4). Trump's unsuccessful 2020 bid for the White House also made use of memes in the campaign, often leveraging insults such as 'Sleepy Joe' to reference then-candidate Joe Biden. The folkloric and vernacular practices used among supporters of Trump ahead of and following the 2020 election embraced a more vocal expression of conspiracy theories and conspiratorial thinking

than in 2016 (Marwick & Partin, 2024; Wiggins, 2023). Trump's own efforts to brand himself as an 'outsider' accelerated folkloric practices among online users to continue to share memes and related content. Joe Biden and Kamala Harris' 2020 campaign also used memes, though to a much lesser extent than Trump and certainly less intentional than during the 2024 campaign (Griffin, 2020). One meme in particular featured Joe Biden as 'Dark Brandon', a meme that emerged because of an NBC reporter mishearing chants of 'F--k Joe Biden' as 'Let's Go Brandon', which then became a chant among Trump supporters to express disagreement with the Biden/Harris campaign (Schwedel, 2021). The Biden/Harris campaign also made use of Fortnite for vernacular promotion, using the digital game experience to engage with younger voters (Cruz, Hera, Gómez, & Lacasa, 2023). Fast forward to 2024 and following the exit of Biden from the campaign and near simultaneous endorsement of Harris for president, her campaign has intentionally incorporated memes and related messaging as part of their campaign, ostensibly to attract younger voters (Saric, 2024). Shortly following her sudden bid for the presidency, a video surfaced online in which Kamala Harris tells a story about her mother; in it, she asks 'You think you just fell out of a coconut tree?' which shortly became what Shifman (2014) refers to as hypermemetic, attracting variations on the theme. Although the segment is from a speech delivered in May 2023, online vernacular practice often finds ways to recontextualize content in efforts to situate it with current moments and perspectives (Varis & Blommaert, 2015). Trump's campaign has also used memes including those created by artificial intelligence. Following his claim that Haitian immigrants were eating the dogs and cats stolen from the residents of Springfield, Ohio, his official Instagram account posted several AI-produced memes such as one of a cat holding a sign that reads 'Kamala Hates Me' and another with candidate Trump apparently speaking to an audience of cats and dogs.

5. Method

In what follows, a critical discourse analysis (CDA) of two particular memes from both the 2020 and 2024 U.S. presidential campaigns presents examples of this shift toward a more vernacular expression from the social media presence of official campaigns. CDA as an analytical tool also examines the context in which certain expressions are made, thus underpinning the possibility of malleable meanings (van Dijk, 1993). In addition, Wodak (2001, p. 10), asserts that using CDA helps to 'de-mystify discourses by deciphering ideologies'.

As noted above, during the 2020 campaign, two memes from each campaign were not only incorporated into official messaging but also developed into campaign products that individuals could purchase ostensibly to support the given campaign. In the case of the 2024 campaign, the shift in both campaigns toward a more deliberate vernacular messaging using memes forms the focus of the analysis. Thus, the emphasis here is not about whether the memes gained a viral spread, but rather that the choice to incorporate memes into official campaign messaging deserves a critical inquiry into the relevant discourse the campaigns both address and represent. Campaigns from both cycles increasingly embraced vernacular modes of expression, borrowing from grassroots internet cultures to craft messages that resonate with digital-native audiences. This *vernacular turn* underscores a collapse of traditional campaign strategies into participatory, humor-driven, and culturally embedded forms of communication, and also demonstrates how memes have evolved as a form of digital folklore (Shifman, 2014). This analysis examines dominant memes, namely 'Dark Brandon' and 'Let's Go Brandon' from the 2020 cycle, and 'Kamala Hates Me', 'Coconut Tree,' and 'Kamala is Brat' from 2024. Through a critical discourse analysis (CDA), the study highlights how these memes reflect broader shifts in political discourse, voter engagement, and campaign strategies. In the analysis, dominant themes pursuant to each meme per campaign cycle demonstrate a consistent incorporation of the vernacular into official campaign messaging.

5.1 Analysis: Memes in the 2020 Campaign

5.1.1 'Dark Brandon': Reclaiming a Narrative

The 'Dark Brandon' meme emerged as a subversive response to the sarcastic 'Let's Go Brandon' chant popularized by Biden critics. Originating in conservative spaces, 'Let's Go Brandon' mocked Biden's perceived incompetence, symbolizing a broader critique of his administration. In contrast, the 'Dark Brandon' meme reclaimed this narrative, depicting Biden as a powerful, almost mythological figure. Visual elements such as glowing red laser eyes and shadowy aesthetics imbued the meme with an ironic yet empowering tone, appealing to younger, progressive audiences. Incidentally, the glowing red eyes is also associated with a subcategory of vaporwave known as fashwave, referring to fascist (Hann, 2016). Typical with forms of digital folklore, online users can use imagery associated with one side or political ideology and repurpose it for their own uses, such as

the remixing of Joe Biden as ‘Dark Brandon’, coopting a kind of hypermasculine toughness typically associated with far-right movements. In terms of the discourse, ‘Dark Brandon’ reflects an interplay between grassroots creativity and campaign adoption. Initially a user-generated phenomenon, the meme was embraced by the Biden campaign, appearing on official merchandise. This feedback loop between users and campaigns demonstrates the hybridization of vernacular and institutional messaging. The meme’s success lies in its dual appeal: it resonates with digital-native voters while subtly addressing critiques of Biden’s leadership.

5.1.2 ‘Let’s Go Brandon’: Humor and Polarization

The ‘Let’s Go Brandon’ meme originating from a misheard chant at a NASCAR event, exemplifies the weaponization of humor in political discourse. For Trump supporters, the meme encapsulated disdain for Biden, functioning as a rallying cry that transcended traditional political slogans. Its intertextuality, referencing sports culture while mocking mainstream media, likely enhanced its popularity (Mitzel, 2024). The discourse around ‘Let’s Go Brandon’ once again employs humor, simultaneously reinforces group identity (centered around a common distaste of Joe Biden, among other possible factors) and delegitimizes opposition in general. By framing Biden as an object of ridicule, the meme constructs a simplistic binary: the strong, authentic Republican base versus an out-of-touch Democratic elite. This rhetoric amplifies polarization, turning political discourse into a battleground for cultural and ideological dominance.

5.2 Analysis: Memes in the 2024 Campaign

5.2.1 ‘Kamala Hates Me’: Weaponizing Vernacular Humor

The ‘Kamala Hates Me’ meme, featured on Trump’s 2024 official Instagram account and during the campaign, exemplifies the strategic use of vernacular humor to humanize complex political narratives. One of the campaign’s most notable iterations featured a cat holding a sign that read, ‘Kamala Hates Me’. This meme weaponized relatable, low-stakes internet humor to critique Harris, framing her as unlikable and disconnected, on the one hand. However, on the other, by stating at the only presidential debate in 2024 that ‘They’re eating the dogs’, etc., Trump leveraged a conspiratorial claim that immigrants were stealing people’s pets for food in order to indirectly stoke fears about immigrants in general. A similar practice occurred during Trump’s first presidential term when conspiratorial claims emerged about the real origins of the COVID virus alongside discrimination and violence directed at Asian individuals (Hahn, et al., 2021). Given the ubiquity of cats in internet culture, the simplicity of using a cat in this way also *personalizes* political grievances. The meme constructs Harris as a symbol of Democratic failures, appealing to voters’ emotions rather than their reason. This strategy mirrors the broader vernacular turn, where campaigns rely on culturally embedded humor to bypass traditional political rhetoric. Additionally, the use by the Trump campaign of AI-generated memes, for example to target Haitian immigrants with Trump framed as a protector of American values, combined fear-based rhetoric with common internet humor. Such memes depict immigrants as *others*, an almost faceless group representing varying degrees of moral, economic and also existential threats, thereby simultaneously legitimizing xenophobic narratives through memes as digital folklore. The discourse addresses how memes continue to be used to simplify complex issues into succinct internet jokes and also reinforce certain assumptions, such as Trump as a strong and decisive leader, assuming one subscribes to that particular ideological practice (Wiggins, 2019).

5.2.2 ‘Coconut Tree’ and ‘Kamala is Brat’: Shifting Identity Politics

Harris’ 2024 campaign leaned into meme culture with the ‘Coconut Tree’ and ‘Kamala is Brat’ memes. As noted above, the former originated from an anecdote Harris shared about her childhood, which was humorously exaggerated and remixed online. The ‘Kamala is Brat’ meme, derived from Charlie XCX’s ‘brat’ aesthetic, positioned Harris as rebellious and relatable, appealing to Gen Z voters. While these memes attempted to humanize Harris, CDA revealed potential risks. The humor in the ‘Coconut Tree’ meme, while endearing to some, also invited mockery, undermining Harris’ credibility. Similarly, the ‘Kamala is Brat’ meme’s reliance on niche pop-cultural symbols risked alienating older voters. These examples highlight the double-edged nature of vernacular messaging: while it fosters relatability, it also exposes campaigns to ridicule and misinterpretation.

6. Discussion

From the perspective of 2024, it appears that memes have become an integral part of the political communication process, in terms of grassroots efforts to support and engage with a campaign but also centralized within the mechanism of each campaign prior to the 2024 U.S. presidential election. The intentional branding of Vice President Kamala Harris' campaign as 'brat' represents this apparent shift in leveraging memes and memetic messaging in political campaigns. Referencing the song 'Brat' by English singer and songwriter Charlie XCX, the 'summer of brat' Harris enjoyed stems in part from the sudden decision by President Joe Biden to suspend his own re-election campaign following a poor debate performance in June 2024. Incidentally, 'brat' refers to a kind of unapologetic, messy party girl aesthetic which one could also view as an evolution of an earlier 'riot grrl' aesthetic associated with a subculture that combines punk music, feminism and politics (Downes, 2012). When Charlie XCX tweeted 'kamala IS brat' on July 22, 2024, it triggered a participatory response garnering over 56,000 quote tweets responses and well over 300,000 likes. The Kamala Harris campaign then adopted the lime-green background and font attributed to Charlie XCX's album 'brat'. This illustrates how the traditionally formal manner to address political supporters and constituents has adapted to the digital vernaculars of online parlance. It bears noting that when the Harris campaign adopted the 'brat' aesthetic, it risked alienating potential supporters from using such vernacular, popular culture practices and confusing supporters who were already on board prior to the rebranding during the summer of 2024. One risk in particular is the desire to resonate with audiences, obviously comprised of individuals all with varying degrees of media usage. In contrast to Trump's rhetorical style, the Harris' campaign's adoption of a more vernacular style risked trying to seem *cool* thus inviting the potential outcome of alienating those whom the campaign is trying to address. While difficult to discern the degree of effectiveness of such approaches to campaigning, the fact that both campaigns adopted a more vernacular style which is an indication of the importance, perceived or otherwise, of a clear change in political communication, during and after a campaign is over. Before analysing specific examples of memes and related content from each campaign, it is worthwhile to consider how other political campaigns have incorporated more vernacular messaging since at least the 2008 Obama electoral campaign and victory. This does not assume a causal link to Obama's campaign style, though as Bimber and Copeland (2013, p. 135) note, one key difference was the "unusual character of the Obama campaign, which employed then-novel strategies and which generated social movement-like excitement among many voters".

Taken together, this process represents *a collapse of traditional politics and campaigning into the vernacular*. In this way, when political candidates or even their respective campaign apparatus uses memes as part of their messaging, we are witnessing a merging of official and vernacular discourse, akin to modern digital folklore. Traditional political campaigns have now adopted the informal, community-driven practices of internet users into their branding and messaging. This development (or transformation?) represents a shift in power dynamics within political and strategic communication, where any boundary between grassroots and official discourse now becomes increasingly blurred.

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Audience Engagement on YouTube: A Merge of Consumer and Media Engagement

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Abstract: This theoretical paper presents a reconceptualisation of “audience engagement” on YouTube and how such a definition may help us to further understand the audience engagement strategies of YouTubers. Audience engagement is commonly referred to as audiences’ participatory activities, including liking, commenting, subscribing, and the direct consumption of video content on YouTube. However, this paper, through the lens of brand marketing and media production, sees YouTubers as both personal brands and content creators. With this angle in mind, the paper discusses how, by seeing YouTubers as personal brands, audience engagement with YouTubers is a form of consumer engagement, a marketing concept that describes the relationship between brands and consumers. The paper will then discuss how, by seeing YouTubers as content creators, audience engagement is also a form of media engagement, the concept that describes audiences’ experience of “transportation” when consuming media products. The paper ultimately argues audience engagement with YouTubers is a merge of consumer and media engagement as a multi-dimensional way to understand audience experience on YouTube. The paper proposes that YouTubers’ audience engagement strategies can be understood in two primary ways. The first is from a consumer engagement perspective, by seeing some YouTubers’ strategies as a way of triggering the audience’s active connections outside video consumption, just like other brands’ consumer engagement strategies. The second is from a media engagement perspective, by interpreting some YouTubers’ strategies as a means of encouraging transportation experience among viewers. This paper adds to the existing literature on the concept of audience engagement on YouTube and social media platforms. It also offers a new way of understanding and new directions for exploring YouTubers’ strategies for fan building, from the perspective of consumer and media engagement in today’s and future YouTube landscape, where YouTube creators are continuously becoming a convergence of brands and individual personalities.

Keywords: Audience Engagement, Consumer Engagement, Media Engagement, Social Media, Youtube

1. Introduction

The founding of YouTube significantly lowered the entry barrier for online video creation and distribution, which also made YouTubers an important part of social media entertainment (Cunningham and Craig, 2019). Many YouTubers have successfully developed a large audience and fan base. It is estimated that there are more than 60 million YouTube creators (Social Blade, 2024), and over 1,000 of them have more than 10 million subscribers worldwide (Kapwing Team, 2023). YouTubers with large followers also became YouTube celebrities and influencers, affecting viewers’ behaviours and opinions towards, for example, brand purchases, social movements, and political events. For example, Prime, an energy drink brand founded by YouTuber influencers KSI (over 25 million main channel subscribers) and Logan Paul (over 23 million main channel subscribers), has caused disruption across the UK in 2023, with stores constantly out of stock, and people reselling the drink for over £1000 per bottle (Zhang, 2023). This leads to the question of why some YouTubers can build a positive career outcome reflected by large viewership and fan bases. The phenomenon of YouTubers’ building fan bases has been explored from different perspectives in key academic works. For example, Burgess and Green (2018) indicate the participatory culture formed by YouTube constructed the core value of its celebrity culture. Abidin (2018) introduced four qualities that establish the fame of internet celebrities—exclusivity, exoticism, exceptionalism, and everydayness. Bishop’s (2018, 2019) works unveil that YouTubers manage their content visibility through their knowledge of YouTube algorithms. Cunningham and Craig (2019) see the rise of YouTubers as a form of social media entertainment by professionalising their previous amateur video content. YouTubers and similar social media influencers are also seen as marketers and self-promoters, with a series of self-branding strategies to manage their fame online (e.g., Marwick, 2013; Chen, 2013; Tarnovskaya, 2017).

Different from but also built upon these existing bodies of works, this paper focuses on another important element related to YouTubers’ success—audience engagement strategies. Audience engagement strategies refer to YouTubers’ ways of encouraging audiences’ participatory activities, including liking, commenting, subscribing, and consuming video content on YouTube. By seeing YouTubers as content creators, researchers have explored their audience engagement strategies (e.g., García Jiménez and Montes Vozmediano, 2020; Pires, Masanet and Scolari, 2019; Rasmussen, 2018; Tur-Viñes and Castelló-Martínez, 2019). However, this paper, through the lens of both brand marketing and media production, sees YouTubers as both content creators and personal brands. With this angle in mind, the paper explains how YouTubers’ audience engagement strategies

can be seen as an element to encourage a combination of two types of engagement—*consumer engagement (CE)*, for developing relationships between brands and consumers; and *media engagement (ME)*, for the quality of audience experience during media consumption. This paper will offer a new way of understanding YouTubers' strategies for fan building from the perspective of consumer and media engagement in today's and future YouTube landscape, where YouTube creators are continuously becoming a convergence of brands and individual personalities. The next section will first introduce the general concept of audience engagement in the context of online or social media.

2. Audience Engagement on YouTube

According to Shao (2009), audience engagement with online media consists of consumption, participation and production. Consumption refers to consuming online media content, such as watching a YouTube video. Participation refers to actions outside consumption, such as clicking the “like” button on a YouTube video. At the production level of engagement, users become the creator/distributor of online media content, such as posting a YouTube video, an Instagram photo or a short TikTok video. By adapting Shao (2009), Khan (2017) defines audience engagement on YouTube as participation (e.g., liking, commenting, uploading) and consumption (e.g., watching videos, reading descriptions) behaviours. Burgess and Green (2018) further argue all types of audience engagement on YouTube (participation, production, consumption) are part of users' participatory practice. Medina, Portilla, and Pereira's (2023) research recently sought the definition of audience engagement from media companies'/producers' perspectives. They found that media companies, including those who employed YouTubers as their engagement strategies, consider audience engagement to be “strongly linked to social media interactions that are connected to the consumption of media content” (p. 347), further indicating the combined nature of participation and consumption within the concept of audience engagement.

Therefore, audience engagement with YouTubers can be generally defined as having two major parts: participation and consumption. Participation relates to audiences' actions beyond consuming, such as commenting and liking the video. Consumption mainly includes audiences watching videos, reading comments and descriptions, or engaging in other actions that do not involve direct interaction between the user and the platform. However, different from the existing definition, this paper will take another approach to reconceptualise audience engagement, which is tightly related to the concept of personal brand.

3. Audience Engagement Strategies and Personal Brand

Existing studies have explored YouTubers' audience engagement strategies. For instance, for participation, YouTubers were found to encourage viewers' comments (McRoberts et al., 2016), ask for video ideas (Rasmussen, 2018) and respond to viewers' comments to create expectations for new videos (Tur-Viñes and Castelló-Martínez, 2019). The perceived authenticity associated with behaviours like self-disclosure (Ferchaud et al., 2018; Jerslev, 2016; Marôpo, Jorge and Tomaz, 2020) also encourages viewers' continuous engagement activities on YouTube, such as subscribing to channels (de Bérail, Guillon and Bungener, 2019). For consumption, YouTubers can encourage audience engagement through appealing content that interests specific demographics. For instance, learning and entertainment were found to be two important reasons for teens to subscribe to YouTube channels and consume content (García Jiménez and Montes Vozmediano, 2020; Pires, Masanet and Scolari, 2019).

The above research generally views YouTubers as creators and distributors of video content. However, with the growing number of YouTubers and the saturation of video content, some YouTubers started seeking visibility among an enormous pool of similar videos. Bishop (2019) introduced “algorithmic gossip”, in which YouTubers communicate their subjective view about how YouTube algorithms work to self-optimize and enhance their content visibility on the platform. For example, a beauty YouTuber may change uploading schedules, alter video lengths, and use specific keywords in their video content (Bishop, 2018, 2019; Rieder, Coromina, and Matamoros-Fernández, 2020) to attempt to make their beauty product review video more visible than other YouTubers who also make content about the same product. With the practice of self-optimising and the aforementioned strategies, YouTubers ultimately receive various benefits, including audiences' views, likes, comments, subscriptions and fan bases that derive from and also contribute to their visibility on YouTube. At a further level, YouTubers can also earn monetary income through YouTube monetisation programmes such as YouTube ads.

Due to YouTubers' capabilities of generating social or/and economic values by presenting themselves online, they have one or more characteristics that are in line with the concept of *personal brand*—“a form of self-

presentation singularly focused on attracting attention and acquiring cultural and monetary value” (Hearn, 2008, p. 213).

Youtubers have been long discovered to implement self-branding practices. Chen (2013) discovered that amateur YouTubers brand themselves “both explicitly and implicitly” (p. 345). Tarnovskaya (2017) discovered three key stages of self-branding of YouTubers—building, enforcing and maintaining a personal brand, mirroring Chen’s (2013) outcome. García-Rapp (2016) found that a YouTuber also applies traditional and corporate brand strategies, such as promoting personal shops and branded product giveaways. The same phenomenon was also found by Tur-Viñes, Núñez-Gómez and González-Río (2018) among kid YouTube influencers, who use their brand images to advance their channel recognition with corporate brand presence in their video content, such as branded products they are promoting in their channels. Marwick (2013) argued that self-branding is still a “series of marketing strategies applied to the individual” (p. 166). Therefore, apart from content creators and distributors, we can also see YouTubers as personal brands (big or small) that provide videos as their major product for their audience, as their consumers. With such an angle, the paper sees strategies YouTubers implement are no longer for audience engagement that consists of participation and consumption but a merge of two kinds of engagement—*consumer engagement (CE)* and *media engagement (ME)*. The following section will introduce the theoretical grounding for CE and ME and further explain how they are connected to audience engagement on YouTube.

4. Audience Engagement as Consumer and Media Engagement on YouTube

4.1 Consumer Engagement and Audience Engagement

Consumer engagement (CE) describes the relationships between brands and consumers. The first definition of CE was proposed by the Advertising Research Foundation (ARF) as “Turning on a prospect to a brand idea enhanced by the surrounding context” (ARF, 2006, para. 4). More specific definitions of CE were proposed by later researchers.

Noticeably, Bowden (2009) defines CE as a psychological process, including consumers’ satisfaction and pleasure when experiencing the brand, which can lead to brand loyalty. Likewise, Mollen and Wilson (2010) define CE online as a “cognitive and affective commitment to an active relationship with the brand as personified by the website or other computer-mediated entities designed to communicate brand value” (p. 12). Instead of seeing CE as a psychological process, Van Doorn et al. (2010) define CE from a behavioural angle as “a customer’s behavioural manifestations that have a brand or firm focus beyond purchase, resulting from motivational drivers” (Van Doorn et al., 2010, p. 254). For example, beyond purchasing, an engaged consumer may reply to brands’ social media posts, recommend the brands to their friends, and actively seek news about new product releases. By adopting Van Doorn et al. (2010), later researchers have used the concept of CE as consumer behaviours beyond purchase (Jaakkola and Alexander, 2014; Beckers, Van Doorn and Verhoef, 2018; Obilo, Chefor and Saleh, 2020; Eslami, Ghasemaghaei and Hassanein, 2022). CE was also considered multi-dimensional and combines behavioural and psychological aspects. For example, Brodie et al. (2011) indicate that CE has cognitive (e.g. concentration on the brand), emotional (e.g. attachment to the brand) and behavioural (e.g. consumer participation) dimensions. Likewise, Hollebeek (2011) defines CE as the level of the single customer’s state of mind that is emotional, brand-related, and context-dependent. Vivek, Beatty and Morgan (2012) defined CE as the “intensity of an individual’s participation in and connection with an organization’s offerings or organizational activities which either the customer or the organization initiates” (p. 133). They indicate that CE may be presented “cognitively, affectively, behaviourally, or socially” (p. 133). The “cognitively” and “affectively” mainly focus on experience and feelings as psychological dimensions, while the “behaviourally” and “socially” relate to customers’ participatory as behavioural dimensions. Finally, on a relatively more equal level, Hollebeek (2015) defines CE as the level of “perceived cognitive, emotional and behavioural” (p. 74) reciprocities between consumers and firms during the experience of consumer-brand interactions. The definition from Hollebeek (2015) that consists of behavioural and psychological dimensions is also adopted and discussed by later researchers on various topics regarding CE (e.g. Alvarez-Milán et al., 2018; Pradhan, Kishore and Gokhale, 2023).

It can be argued that for brands who would like to employ CE strategies, consumers’ state of mind can only be observed from the consumers’ engagement behaviours. For example, the psychological state of engagement, such as the attachment to the brand, can only be identified when consumers actively support the brand (Sashi, 2012), participate in brand-initiated activities (Vivek, Beatty and Morgan, 2012), or actively posting brand-

related messages on social media (Van Doorn et al., 2010). Therefore, this paper treats CE as a behavioural connection between consumers and brands beyond purchase and consumption.

With the above definition of CE in mind, this paper argues that CE and audience engagement on YouTube are closely linked due to the term “social media engagement” in marketing. Dolan et al. (2016) see social media engagement as a component of CE, as customers’ behavioural manifestation beyond purchase on social media, including sharing and creating brand-related content. In the same vein, Barger, Peltier and Schultz (2016) see CE on social media as a process that involves consumer and firm co-creation of brand-related content and social experience within social media as a platform. Pentina, Guilloux and Micu’s (2018) research on social media engagement behaviours further defines it as consumers expressing their cognitive and emotional attitudes through engagement behaviours that relate to brands on social media. The concept of social media engagement also belongs to a wider family of “digital consumer engagement” or DCE, which is the consumer’s behavioural engagement with brands beyond purchase in a digital environment (Eigenraam et al., 2018; Gavilanes, Flatten and Brettel, 2018; Srivastava et al., 2023). So, it can be argued that when a brand utilises social media to engage consumers, the concept of social media engagement is CE on social media.

As established before, YouTubers are personal brands, and their viewers are brand consumers. Meanwhile, YouTube is a video-based social media site. Social media engagement is a form of CE manifested by consumers’ engagement with brands on social media platforms. Therefore, this paper defines audience engagement with YouTubers as *a form of consumer engagement (CE) manifested by audiences’ behavioural connections with YouTubers as personal brands that extend beyond video consumption*. For example, when watching a game YouTuber’s video, a viewer may also use the comment section to suggest what games the YouTuber can play in their next videos, as CE beyond video consumption.

4.2 Media Engagement and Audience Engagement on YouTube

Media engagement (ME) generally refers to the direct experience of audiences when consuming a media product. Calder and Malthouse (2012) define ME as “the sum of the motivational experiences consumers have with the media product” (p. 5). There are two sets of experiences: approach and avoidance experiences. The former are positive experiences that encourage audience consumption of the media, while the latter are negative ones that discourage consumption. Calder and Malthouse (2012) argue one of the key components of the positive experience is “transportation”—“the experience of being absorbed into a story or program and shutting out the real world” (Calder and Malthouse, 2012, p. 7). Audiences who experience transportation exhibit different kinds of behavioural and mental states, such as feeling entertained, focused and a loss of time and space.

The concept of “transportation” was earlier discussed by Gerrig (1993) to describe audiences’ experience of being transported into the narratives presented in media texts, losing the sense of the real world. Green and Brock (2000) further use the word “absorption” to describe the transportation experience and argue that “transportation can be expressed as immersion or absorption into a narrative world” (p. 704). Meanwhile, Slater’s (1997) work further links transportation with the term “engagement” by conceptualising audience “involvement” as an important term to understand audience experience with various narratives and their influences. Slater (1997) has considered “engagement” and “involvement” to be similar concepts when it comes to audience experience with entertainment media — the combination of absorption and transportation into the story and identification with the story character. Such a link between engagement, absorption, and transportation has been further discussed in the work by Slater and Rouner (2002), who, while using the term “absorption” as the main way of describing audience experience with entertainment narratives, associate this term with Gerrig’s (1993), Green and Brock’s (2000) and Slater’s (1997) “transportation” and “engagement”, claiming that all three terms were used in the similar sense. The above scholars set the tone regarding the interchangeability between engagement, transportation and absorption in media consumption in later research (Tal-Or and Cohen, 2010; Walsh et al., 2023).

This then led us back to Calder and Malthouse’s concept of ME as transportation, a positive experience with media products. However, what is more important is that Calder and Malthouse also proposed promotion/prevention experience in parallel to transportation, including promoting the media content to other people (the promotion experience) or sharing and talking about their experience as a way of “using the media content to be sure that one does not get left out of a conversation or appear ignorant” (p. 7) (the prevention experience). The promotion/prevention experience is similar to CE as it links to consumer behaviour beyond

(media) product consumption. Such a similarity is perhaps why Calder and Malthouse's (2012) concept of ME is also considered by scholars to be focusing on the "experiential aspects of CE" (Brodie et al., 2011, p. 257).

Calder and Malthouse's work highlights the significance of developing both ME and CE for brands or media content creators to form a comprehensive consumer or audience experience in the digital media landscape. Such a significance is also visible in the later scholar's work on user, consumer and social media engagement. Typically, Oh, Bellur and Sundar's (2018) user engagement model highlights the process of users being immersed or absorbed into the interactive media content and then the active sharing of experience beyond consumption. This highlights the causal relationship between engagement within (ME) and beyond (CE) media use. Coker, Flight and Baima's (2021) work on CE with digital advertising on social media emphasised the importance of viewers being "hooked" through narrative transportation (or ME in our sense) when watching the adverts. Their research found that consumers who experienced a deeper ME will be more likely to not only view the adverts but also perform CE behaviours, including sharing and promoting the advert and spreading positive word of mouth (WOM). In a similar vein, the recent literature review by Srivastava et al. (2023) on CE through digital platforms uncovers that while CE behaviour towards brand beyond purchase can be established by consumer participation, the absorption or transportation (ME) consumers experienced when consuming the content will also work in parallel with the participation activities to further affect consumers' CE behaviours.

Youtubers are personal brands who still bear the role of media content creators. So, while audiences can engage with Youtubers in the form of CE beyond video consumption similar to consumers with other brands, watching YouTube videos is a key part of the YouTube audience experience. Therefore, along with CE, this paper also argues audience engagement with Youtubers is a *form of media engagement (ME) as audiences' transportation experience when consuming Youtubers' videos*. For instance, audiences of a travel YouTuber may be fully absorbed into the scenery presented in the travel video, losing awareness of their current surroundings.

Overall, by seeing Youtubers as personal brands and content creators, this paper now defines audience engagement with Youtubers as *a combined form of consumer and media engagement*. Such a definition allows us to understand Youtubers' audience engagement strategies in two primary ways. The first is from a CE perspective, by seeing some Youtubers' strategies as a way of triggering their audiences' or consumers' active connections with those Youtubers outside video consumption, just like other brands' CE strategies. For example, when a beauty YouTuber offers a beauty product giveaway in their videos or asks viewers for suggestions for the next video idea, it can be seen as a form of reward or interaction provided by a personal brand for their viewers' continuous CE with their YouTube content and channels (Ashley and Tuten, 2015; Zhang and Lee, 2023).

The second is from an ME perspective, by interpreting some Youtubers' strategies as a means of encouraging transportation experience among viewers when consuming YouTube videos. For example, film techniques used by a YouTuber, such as certain camera angles, shot sizes and the use of colour, were found to evoke a sense of presence (Zhang, 2018), an experience of immersion that is tightly connected to the transportation or ME (Lombard and Ditton, 1991). Apart from standard-length videos, short videos (under 1 minute) on TikTok that implement strong narrative features were also found to result in a strong transportation experience among viewers, such as tourism short videos that involve a combination of narration of the creators' travel experience and visual presentation of the tourist destination (Cao et al., 2021). Furthermore, a YouTuber's use of non-verbal language such as eye contact and gestures may also enhance a YouTuber's social presence among viewers (Zhang, 2018), resulting in viewers' feeling they are communicating with the YouTuber physically face to face, as a sense being with other people in mediated communication (Biocca, Harms and Burgoon, 2003; Gunawardena, 1995). Therefore, it can be argued that with similar strategies, Youtubers who create short-form, personality-driven videos can also create similar ME experiences to those who create longer videos.

5. Conclusion

This paper serves as a starting point to develop a comprehensive understanding of the audience-building activities of Youtubers and content creators from the perspective of audience engagement. Youtubers' audience engagement strategies have been generally considered by scholars as a way of encouraging audience participation and consumption activities. However, this paper understands Youtubers' audience engagement strategies as ways of establishing a merge of two types of engagement—consumer and media engagement (CE and ME). As for the contributions, first, this paper adds to the existing literature that explores the concept of audience engagement on YouTube and other similar social media platforms. Second, by seeing Youtubers as both personal brands and media content creators, this paper offers a new multi-dimensional way of understanding Youtubers' strategies for fan building as a combined form of brand marketing and media

production. Such a way of understanding is significant in researching content creators who continuously becoming a convergence of brands and individual personalities (Usher, 2018).

However, there are also some limitations regarding the argument the paper established. First, the paper is only at the theoretical stage. While the author's recent research has already attempted to interpret YouTubers' audience engagement strategies through CE (Zhang and Lee, 2023), more research is needed to demonstrate how the theories apply to real YouTuber cases, which is also the purpose of the author's ongoing project (Zhang, n.d.). Second, the paper only discusses understanding audience engagement strategies as the sole element that links to YouTubers' audience building. Future research and discussion can explore and focus on other potential elements contributing to YouTubers' audience bases. Finally, while the paper argues that CE and ME link to audience engagement, they are by no means the only relevant concepts, future researchers are encouraged to apply other engagement theories to YouTubers' audience engagement strategies.

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PhD Research Papers

The Power of Storytelling in Product Placement of TikTok's Short-Form Content: A qualitative study

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Abstract: This research explores the role of storytelling in product placement within short videos on social media, with a focus on the success of TikTok. With the rapid growth of social media marketing, TikTok has become a prime platform for brands to seamlessly integrate their products into engaging, story-driven content. The study uses a two-phase qualitative methodology; phase 1 consists of in-depth interviews with TikTok users and influencers, while stage 2 includes focus groups. The thematic analysis highlights how storytelling enhances the effectiveness of product placement on TikTok by shaping users' perceptions, influencing their behaviors, and positively impacting overall brand perception. The findings reveal three major themes: storytelling enhances the effectiveness of product placements on TikTok by fostering entertainment, engagement, and perceived usefulness. When products seamlessly integrate into relatable storylines, users perceive them as more genuine, memorable, and practical. Storytelling on TikTok enhances product placements by making them feel more authentic, increasing brand trust, engagement, and purchase intent. This makes it a beneficial strategy for brands in the changing world of social media marketing. This study applies the Narrative Transportation Theory to short videos on TikTok, demonstrating that even short stories can maintain viewer interest and enhance the effectiveness of product placements. This study offers marketers and content creators TikTok product placement strategies using narrative. By integrating storytelling into short video content, brands can enhance viewer engagement, brand memory, trust, brand recall, and buy intentions.

Key words: TikTok, Social Media, Product Placement, Storytelling, Narrative Transportation Theory, Short Videos

1. Introduction

"The rise of new media creators and advertisers emphasizes the value of "emotional capital," leading storytellers to frame their narratives in ways that invite active consumer participation and engagement."
(Jenkins, 2006).

Social media has enabled consumers to share their own brand experiences and engage with brands in a more interactive manner, transforming them from passive listeners to active storytellers (Singh & Sonnenburg, 2012). This transformation has occurred because of the rise of social media. In recent years, both consumers and brands have increasingly preferred to engage with one another via social media (Bailey et al., 2021; M. Kim et al., 2021). Storytelling can significantly influence individuals, particularly when they resonate with corporate values, evoke emotions, demonstrate empathy, and facilitate audience identification (Sousa, 2021).

TikTok has emerged as a crucial platform for storytelling and brand communication in the digital media era, using its short-form video format to enhance dynamic and personalized audience engagement (Amit, 2019). This format allows brands to effortlessly incorporate product placements into narrative content that appeals to users (Mussa, 2023). The efficacy of product placement storytelling on TikTok primarily hinges on the degree to which these integrations conform to the platform's unique narrative style and the audience's content anticipations. Storytelling marketing plays a crucial role in helping airlines differentiate and maintain a competitive advantage (Kim et al., 2018).

Product placements have expanded across modern technological platforms, including video games on gaming consoles, online games, and mobile applications, as well as traditional media formats such as radio, television, and films (Eagle & Dahl, 2015). The incorporation of storytelling within product placements has garnered increased attention for its ability to create seamless, narrative-driven content that enhances persuasiveness through natural and organic integration. This study fills a significant research gap by examining the function of storytelling in product placements on TikTok, a short-form video platform largely overlooked in previous research that primarily focused on long-form narratives and traditional media. This study investigates how product placement in short, narrative-driven video content improves user engagement and brand perception using Narrative Transportation Theory. This study enhances the existing literature by explaining the application of storytelling in creating seamless and engaging product placements that resonate with TikTok users while providing actionable strategies to improve recall, build trust, and drive purchases.

2. Literature Review

2.1 Narrative Transportation Theory

Narrative Transportation Theory, introduced by Green and Brock (2000), provides a robust framework for understanding how narratives enhance audience engagement and enjoyment, particularly in media and advertising contexts (Nabi & Krcmar, 2004). Empirical evidence underscores the significance of narrative transportation across various domains, particularly in marketing. For example, Huang et al. (2018) found that narrative transportation mediates the effects of comprehension fluency and transportability on persuasive outcomes, indicating that individuals who are more susceptible to narrative immersion are more likely to be influenced by the story's message. The narrative transportation theory posits that when consumers are completely engrossed in a story, they are more inclined to embrace the integrated marketing messages. This theory explains how a narrative can reduce skepticism toward advertising and foster a positive atmosphere for brand messaging, making it especially pertinent to the context of product placement within storytelling. Customers are less likely to critically assess the existence of branded products when they are drawn into a story and their attention is diverted to the plot and characters (Ching et al., 2013). According to Yang and Kang (2021), narratives that effectively transport viewers can significantly improve brand perception and emotional connection, illustrating the persuasive potential of storytelling in shaping consumer behavior. Jaud's research (2023) suggests that storytelling, when aligned with a product's characteristics, can enhance both taste perception and the overall sensory experience, influencing purchasing decisions.

2.2 Story Telling in Product Placement

Product placements in media content are increasingly favored as an advertising strategy, driven by challenges such as ad clutter, rising television commercial costs, ad-skipping technologies, and growing consumer skepticism toward traditional advertisements (Davtyan & Cunningham, 2017). In marketing, consumer storytelling plays a important role in expressing emotions and sharing personal insights, including perceptions, attitudes, preferences, and behaviors. Narratives in product placements improve audience enjoyment and cultivate more positive attitudes toward the embedded brands when they increase perceptions of realism (Gillespie & Joireman, 2016).

Storytelling in advertising offers distinct advantages, often proving more persuasive than non-narrative approaches (Kim, Ratneshwar, & Thorson, 2017). As Denning (2001) highlights, storytelling is an engaging and natural method for conveying ideas, helping audiences comprehend complex concepts and shaping or altering their perceptions. Stories successfully arouse feelings, offer fresh viewpoints, and establish a strong bond between the audience and the information. Product placement, sometimes referred to as "advertising without signal," makes use of these narrative strategies by subtly integrating products into the narrative (DeLorme and Reid, 1999). These placements can be explicit, acting as essential plot points, or implicit, quietly existing in the background. Research by Russell (2002) indicates that explicit placements tied to pivotal story moments significantly enhance brand recall, underscoring the power of storytelling in modern advertising strategies.

3. Methodology

This study employed a two-phase qualitative approach to examine how storytelling enhances product placement effectiveness on TikTok. The first phase consisted of expert interviews, while the second phase involved focus group discussions with TikTok users.

3.1 Phase 1: Expert Interviews

To gain insights into storytelling strategies in digital marketing, six experts were interviewed, including a head of marketing, a marketing professor, a social media strategist, and three TikTok influencers. These interviews, conducted via Zoom and lasting 30 to 45 minutes, followed a semi-structured format to allow flexibility. Topics included the role of storytelling in product placements, best practices for integrating brands into narratives, and the differences between short-form storytelling and traditional advertising.

Insights from these expert interviews directly informed the structure and focus of the subsequent focus group discussions. Experts emphasized relatable humor, emotional engagement, and seamless product integration as critical success factors in TikTok storytelling. Based on their input, focus group participants were later shown both humorous and serious product placements to compare their effectiveness.

Example Expert Quotes:

“Audiences don’t want to be sold to, they want to be entertained. The key is making product placement feel like part of the story, not an interruption.” (Social Media Strategist, Expert Interview)

“Humor lowers resistance to advertising. When people laugh, they drop their guard and absorb the message naturally.” (TikTok Influencer, Expert Interview)

3.2 Phase 2: Focus Groups

The second phase involved five focus groups, each consisting of five participants, totaling 25 TikTok users aged 18 to 32. Participants were selected based on their frequent TikTok usage (at least two hours per day) to ensure familiarity with influencer-driven product placements. To diversify perspectives, focus groups included users who engage with a variety of TikTok content categories, particularly in technology and education.

To explore emotional engagement and product perception, structured and open-ended questions were used:

“How do you feel when you see a product placement in a TikTok video?”

“What makes a TikTok product placement engaging?”

“Can you recall a product from a TikTok video you recently watched? What made it memorable?”

“Did the storytelling in the video influence your perception of the product?”

These questions helped identify emotional triggers, entertainment value, and perceived usefulness of storytelling-based product placements. The focus group discussions were guided by the themes emerging from the expert interviews, ensuring continuity between the two research phases.

3.3 Data Analysis

A thematic analysis was conducted following Braun and Clarke’s (2006) framework. Transcripts were reviewed, coded, and categorized into three key themes: entertainment, emotional engagement, and perceived usefulness. Findings from expert interviews and focus groups were compared to ensure consistency and strengthen validity. Participant quotes were included to illustrate responses, with clear labeling (e.g., P2 = Participant 2). This structured methodology allowed for a comprehensive understanding of how storytelling enhances TikTok product placements.

4. Result and Discussion

The study followed a two-phase structure, allowing insights from expert interviews in the first phase to shape the focus group discussions in the second phase. The expert interviews highlighted essential aspects of effective storytelling in product placements, which were further examined with TikTok users. Key themes such as entertainment, emotional engagement, and perceived usefulness emerged from these discussions and directly influenced the design of the focus group questions. Additionally, experts emphasized the effectiveness of humor and relatability in engaging audiences, leading to a deeper exploration of these elements in participant discussions.

4.1 Entertainment

The alignment between a product and a compelling narrative significantly enhances the entertainment value of product placements, making them more engaging and memorable for viewers. Storytelling fosters deeper emotional and cognitive connections, increasing the persuasiveness of the embedded marketing message. Prior research highlights that comedic narratives are particularly effective in product placement, as they create a lighthearted and enjoyable viewing experience (Chan et al., 2015). In contrast, highly emotional or dramatic narratives may divert attention from the product due to heightened emotional involvement (Garczarek-Bak, 2024).

Insights from expert interviews in Phase 1 emphasized the importance of tailoring storytelling techniques to TikTok’s unique content style, where humor and relatability play a central role in user engagement. One influencer noted that “successful product placements on TikTok rely on making the product part of the story rather than forcing it into the frame.” This insight guided the focus group discussions in Phase 2, where

participants were shown TikTok videos with different storytelling styles and asked about their entertainment value.

In Phase 2, participants consistently highlighted the role of humor, creativity, and relatability in making product placements enjoyable. For example, P2 explained, “It was engaging and enjoyable to watch, not just an ad.” P3 expanded on this, saying, “It felt less like an advertisement and more like something worth watching because the content itself was entertaining.” These responses indicate that users are more receptive to product placements when they are seamlessly integrated into narratives that entertain rather than explicitly advertise.

Additionally, thematic analysis revealed that short-form storytelling is particularly effective in engaging modern audiences, who prefer fast-paced and easily digestible content (Li, 2023). When product placements are embedded in engaging, relatable, and humorous stories, they enhance consumer recall, purchase intent, and brand trust (Laban et al., 2020; Gistri & Corciolani, 2020).

4.2 Emotional Engagement

Emotional engagement plays a critical role in storytelling-driven product placement by fostering deeper connections between consumers and brands. According to Narrative Transportation Theory, when viewers are emotionally absorbed in a story, they become less critical of embedded advertising and are more likely to develop positive brand associations (Yang & Kang, 2021). Prior studies confirm that emotionally engaging narratives create a stronger bond between consumers and products, enhancing recall and purchase intentions (Pera & Viglia, 2016; Grisaffe & Nguyen, 2011).

Findings from Phase 1 expert interviews highlighted that emotional resonance is a key driver of effective product placement. A social media strategist noted that “audiences connect more with brands when the story evokes emotion, whether it’s nostalgia, excitement, or humor.” These insights informed the Phase 2 focus groups, where participants evaluated how emotional elements in TikTok videos influenced their perception of the promoted products.

During focus group discussions, participants consistently expressed that emotionally compelling stories made product placements feel more authentic and memorable. P7 stated, “It felt natural, not like a typical advertisement, and that’s what made it memorable.” Similarly, P15 shared, “The product is unforgettable because of the emotional connection I felt after watching the short video.” P20 reinforced this sentiment, saying, “I can easily recognize the product showcased in the short video.”

Thematic analysis of participant responses revealed that emotional storytelling reduces resistance to promotional content by making it feel less intrusive. This aligns with previous research showing that emotional attachment to a narrative increases consumer engagement and recall (Tabassum et al., 2020; Vrontis et al., 2021). Furthermore, TikTok’s short-form video format enhances this effect by delivering concise yet emotionally compelling stories that resonate with viewers (Barta et al., 2022).

4.3 Perceived Usefulness

Beyond entertainment and emotional engagement, storytelling enhances the perceived usefulness of product placements by demonstrating the product’s real-world applications. Unlike traditional advertisements that rely on direct messaging, storytelling allows brands to illustrate how their products fit naturally into consumers’ lives, increasing their appeal and relevance (Kamleitner & Jyote, 2013).

Insights from Phase 1 expert interviews highlighted that audiences are more likely to engage with product placements when they see practical benefits demonstrated in an authentic way. One marketing expert explained, “Product placements are most effective when they provide value whether through educational content, tutorials, or real-life applications.” This perspective shaped the Phase 2 focus group discussions, where participants were asked to assess how well product placements conveyed practical benefits.

Participants frequently mentioned that they were more inclined to consider purchasing a product when they could see its usefulness demonstrated in relatable scenarios. P5 remarked, “I feel more comfortable purchasing a product when I see how it functions in actual situations.” Similarly, P18 noted, “I feel I have all the information I need while watching the short TikTok video.” P3 reinforced this by stating, “It felt less like an advertisement,” suggesting that the narrative-driven approach enhanced trust and engagement.

Thematic analysis confirmed that when storytelling effectively showcases a product’s functionality, it increases consumer confidence and purchase intent. Prior research supports this finding, indicating that mixed

placements, incorporating both visual and verbal references, enhance consumer recall and perceived value (Hofman, 2020; Cheon et al., 2016). By seamlessly integrating product benefits into engaging stories, TikTok creators can enhance brand perception while maintaining authenticity.

5. Theoretical Contributions and Practical Contributions

This study extends Narrative Transportation Theory to TikTok's short-form video environment. Most Narrative Transportation Theory applications have focused on long-form media like films and books, but this research shows that even short, story-driven content can engage viewers emotionally and reduce promotional resistance. Even in fast-paced, transient digital platforms, short-form storytelling can create meaningful cognitive and emotional connections with audiences. Storytelling provides businesses with a competitive advantage in quickly changing internet sites by facilitating their connection with customers, especially through product placement in short videos. This study can help marketers and content creators maximize TikTok product placements. Products should be integrated into authentic, narrative-driven content that emotionally connects with audiences, according to the findings. By prioritizing seamless and relatable storytelling over overt advertising, brands can boost viewer trust, engagement, and recall, influencing purchase intentions. The research also highlights the strategic value of working with TikTok influencers who naturally integrate products into engaging stories.

6. Conclusion and Suggestions

This study shows that storytelling improves TikTok product placements by leveraging entertainment, emotional engagement, and perceived usefulness. Entertainment stories evoke positive emotions and boost brand recall. Emotional resonance deepens user engagement, supporting Narrative Transportation Theory by reducing resistance to promotional content and boosting brand perception. Showing a product's practical use in relatable stories boosts its perceived value, helping viewers visualize its benefits and increase purchase consideration. Brands seeking to reach modern, ad-resistant audiences can benefit from TikTok's short-form storytelling. By combining authentic, emotionally engaging, and relatable stories, brands can seamlessly integrate their products into content that resonates with viewers and leaves a lasting impression. These findings demonstrate the power of storytelling in digital marketing on fast-paced, visually driven platforms like TikTok.

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A Representation of AI Technology in Turkish News Media and YouTube Journalism

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Abstract: The rapid integration of artificial intelligence (AI) into various domains has led to significant social, political, economic, and cultural transformations, making it a central topic in media discourse. This study examines how AI is represented and reflected in Turkish news media and YouTube journalism, which has emerged as an alternative to traditional news outlets. By analyzing AI portrayals in mainstream news, digital native news and user-generated content, we aim to uncover the social meanings attached to AI and explore how news media self-reflects on this disruptive technology. Our research is guided by three interrelated questions: **How is AI framed in Turkish news media and YouTube journalism? What social meanings are attributed to AI through media discourse? How does Turkish news media engage in self-reflection regarding AI's impact on journalism?** Utilizing media spectacle theory, representation theory, and the semiotics approach we argue that AI is not only a technological phenomenon but also a cultural construct shaped by ideological and discursive frameworks of language. Using qualitative content analysis and discourse analysis as a multi-method approach, we identified key themes in AI-related news and discussions, including fears of automation, ethical dilemmas, and its implications for media production and reception. AI's media representation aligns with broader concerns regarding its influence on democratic discourse and public opinion. Our findings empirically suggest that AI's portrayal in Turkish news media is shaped by a tension between optimism and skepticism depending upon the news' narratives, reflecting the broader socio-political anxieties embedded in Turkish society. Furthermore, we explore the semiotic dimensions of AI narratives, highlighting how media serves as both a mirror and a mediator of social consciousness as an agent of metaculture. This study contributes to the growing body of research on AI and media by offering a nuanced perspective on its representation within a specific national context. By situating AI within a broader technocultural discourse, we underscore its role in shaping the future of journalism and new truth regimes as a part of political communication. Ultimately, our research raises critical questions about media ideology, metanarratives, and the role of AI in redefining the boundaries of truth and representation.

Keyword: AI Representations, Media Spectacle, Turkish News Media, News Media Discourse, Metaculture, Media Ideologies

1. Introduction

The swift entrance of artificial intelligence (AI) tools has already triggered many economic, social, political, and cultural transformations and has begun to penetrate social discourse (Russell and Norvig, 2010:1-3). Departing from the significance of understanding how disruptive technologies are framed in social discourse, this research focuses on the representations and reflections of AI technology in a particular context, Turkish news media, and YouTube journalism as a "new form of it". We have three interrelated questions: first, how is AI framed in Turkish news media and YouTube journalism, second what social meanings are attributed to AI through media discourse, and third, how does Turkish news media engage in self-reflection regarding AI's impact on journalism. We approach AI technology as a media spectacle embodying "the basic values of society, serve to align individuals to the lifestyle of society, and at the same time reveal the contradictions, struggles, and conflict resolution forms of society" (Kellner, 2003:5). Media representations, and emerging self-reflective attitudes are integral component of situated social meanings that is constructed and reconstructed in the process of meaning-making discursively.

Representation, as a spectacle, is essentially a mediated portrayal of reality. This mediation happens through language, which functions as one of the key media for expressing thoughts, ideas, and emotions within a culture (Hall, 1997:1). Representations in language often rely on signs and symbols to construct the meanings we attribute to reality. However, cultural contexts always shape these representations, imposing specific frameworks or "regimes of interpretation." In this sense, culture can be seen as both "the best that has been thought and said in a society" and, in a contemporary understanding, a "way of life" (Hall, 1997:2). This interplay highlights that representations in language both reflect and shape our lived experiences. Media representations, as a specialized form, demonstrate this dynamic by portraying individuals, groups, events, and ideas in ways that both produce and reproduce encoded messages, contributing to the spread of particular "reality regimes." These representations encompass elements like race, gender, class, sexual orientation, age, and cultural identity, raising critical questions about who gets to narrate their stories, whose voices are amplified or marginalized, and what stereotypes or biases are perpetuated. The representation of AI will be the subject of our analysis as a media spectacle.

Analyzing AI representations in Turkish news media and user-generated YouTube content reveals social norms, triangulation points, and conflicts shaped by Turkey's polarized media landscape (Över, 2021). This fragmented environment influences media's self-reflective stance on AI. While social media's rise predates AI advancements, platforms like YouTube have notably reshaped news consumption (Peer & Ksiazek, 2010). Prominent Turkish journalists, such as Cüneyt Özdemir, Nevşin Mengü, and Fatih Altaylı, have shifted from mainstream media to YouTube, engaging audiences through interactive features like comments and reactions. This emerging media model, which we term "*Journalism*," reflects an algorithmically mediated relationship with viewers. Accordingly, our data sample includes YouTube videos and user comments on AI by these journalists and other popular content creators.

We can examine AI as both a technological advancement and a cultural phenomenon by building on the framework of media representation theory, which shows how media creates and spreads meanings that mirror and transform society's views. One of the key elements underlying the hype around AI technologies is the idea of their potential effects on the manipulation of public opinion. News media plays a crucial role in this idea since the news affects the social and political discourse where the opinion of the public is disseminated. Moreover, AI is transforming contemporary journalism by deploying "AI-driven workflow systems, utilizing data in news reporting, and reshaping the structure of journalistic work and recruitment practices" (Deuze & Beckett, 2022; Sun et al., 2022). In this current situation, this research aims to find out how AI is portrayed in Turkish news media within the contexts of social and political discourse as well as self-reflective attitude of news media towards this emerging technology that is expected to transform it. By depicting events, issues, people, and phenomena, news produces narratives that shape people's views and their comprehension of the world. Emerging technologies, as first-time occurrences, are also depicted with certain decoded messages to provide particular meanings. This particular understanding is laden with ideological signs that people can construct "realities" (Volosinov, 1973). According to this semiotic tradition, also known as *Bakhtinian Circle*, "No cultural sign, once taken in and given meaning, remains in isolation: it becomes part of the unity of the verbally constituted consciousness" (Volosinov, 1973: 15). This unstructured, dialogical nature of language is a source for social consciousness in which ideologies can spread or disappear in the form of "metaculture (Urban, 2001). Therefore, a profound agenda of this research is to consider the metanarratives that highlights the "bodies or technology" that we use to communicate a "media ideology" (Gershon, 2010). In situating AI within a semiotic and dialogical framework, the research hints at an emergent technocultural dialectic where media narratives do not merely reflect reality but actively participate in its construction, thereby dissolving the boundaries between objective truth and mediated perception. Thus, the research is establishing a foundation for important concerns in AI literature, like whether a country's cultural consciousness can endure when its narratives are written by corporately trained non-local LLMs and how AI's mythos depends on strategic forgetting which has the potential to erase its own episteme.

AI-related news frequently employs oversimplified metaphors and dichotomies (e.g., "savior" vs. "threat") that shape public reactions. Analyzing AI portrayals in Turkish news media reveals how these narratives reflect social anxieties, contradictions, and evolving discourses in the global information ecosystem. While AI's impact on journalism is often discussed in terms of technological transformation (Simon & Isaza-Ibarra, 2023), this study steps back to examine media representations themselves. Using qualitative content analysis (Neuendorf, 2017) and discourse analysis (Coulthard & Condlin, 2014), the research identifies key discursive elements in AI-related news and social media reactions. The findings reveal that Turkish media frames AI as both an opportunity and a threat, offering insights into the evolving discourse surrounding this rapidly developing technology.

2. Research Design and Methodology

The whole research spans twenty years, from 2005, when the first news about AI was published, to the end of 2024. We analyzed the news content about AI during the first fourteen years between 2005 and 2018 to identify the general highlights in the discourse of the time. However, we did not include that set of content in our discourse analysis. Moreover, the dramatic increase in AI-related news since 2014 entailed limiting our sample purposively to cover each and every year moderately from 2014 on. Our purposive sampling of AI representations in news content is built upon key terms such as risk, privacy, opportunity, threat, benefit, excitement, revolution, and, technology associated with the term AI. These keywords were identified based on a thorough review of the emergent literature (de-Lima-Santos&Ceron, 2022; Octavio et.al, 2024; Gurushkin & Korneeva, 2024; Davidson, 2023). Using these keywords, we scanned and reduced the initial dataset of 7.3 million AI-related news articles published online between 2014 and 2025 to a purposive sample of 140 (10 articles for every year) articles for our analysis. These were drawn from both traditional media outlets' web

pages (e.g., trthaber.com, cumhuriyet.com.tr) and digital native platforms' web pages (e.g., onedio.com, webrazzi.com, evrimagaci.org) across categories such as health, education, media, law, life, and industry. Traditional outlets such as TRT Haber, Cumhuriyet, and Milliyet were chosen for their extensive readership and institutional authority. Digital-native platforms like Webrazzi, Evrim Ağacı, and Onedio were included to reflect emerging, tech-savvy discourses that appeal to younger audiences.

Additionally, we incorporated 10 AI-related YouTube videos and the 10 most-liked comments on each video explicitly mentioned "yapay zeka" (artificial intelligence) into our sample produced by the most influential Turkish journalists, namely Cüneyt Özdemir, Nevşin Mengü, and Fatih Altaylı, who are no longer in the mainstream media but are making YouTube journalism, although they are still highly influential. These figures were selected based on their significant audience engagement, journalistic credibility, and influence in shaping public debate. Their transition from traditional journalism to digital platforms offers unique insights into AI's portrayal within this evolving media ecosystem. In addition, we enriched the representativeness of the data by including videos on AI from Evrim Ağacı, Bebar Bilim, and Avangart platforms, which are among the most watched content producers published on the yapayzeka (artificial intelligence) hashtag. This allowed us to compare and contrast the framing of AI in the digital outlets of legacy media with that in journalistic discourse on social media, which is characterized by direct user interaction. This comparison sheds light on how the format and platform influence the representation of AI, the framing of risks and benefits reflections, and the tone of discourse. It also allowed us to investigate whether the dialogic nature of social media fosters a different level of sensitivity or bias in addressing AI-related issues. This approach aimed to provide a nuanced understanding of how AI is portrayed across various media platforms, allowing us to assess these representations' broader social, cultural, and political implications. Below, we outline the key components of our analysis.

2.1 Code Units of Analysis

Our analysis employed a structured coding framework to identify key patterns in AI representations across Turkish news media and YouTube journalism. The following categories guided our content and discourse analysis:

- **Categorization of AI News:** AI-related news was grouped into content types such as technological advancements, scientific advancement, economic impacts, legal and ethical concerns, and social implications to capture thematic diversity.
- **Themes and Narrative Structures:** The AI-related news was categorized into three narrative types: news-oriented pieces that focused on factual reporting of technological advancements, question-oriented articles that explored AI's legal and ethical concerns, and comment-oriented content that offered opinion-driven critiques, often speculating on AI's potential risks such as job displacement and disinformation. These narratives align with Hall's (1997) framework of dominant, oppositional, and negotiated meaning-making, reflecting broader social and political anxieties surrounding AI.
- **Attitude and Language Tones:** Media texts displayed varying positive, negative and neutral attitudes toward AI and accompanying emotional tones — from alarmist warnings about AI's risks to astonishing portrayals emphasizing AI's transformative potential.
- **Agency Representation:** AI was depicted both as an autonomous actor capable of reshaping industries and as a tool controlled by human intent, highlighting debates about accountability and decision-making power.
- **Medium and Framing Differences:** Traditional media emphasized institutional viewpoints, unlike digital native news, which offers more individual emphasis. YouTube journalism adopted a more personalized, audience-driven style that engaged viewers with humor, skepticism, or direct commentary.
- **Lexical and Visual Analysis:** Key linguistic patterns, metaphors, and visual symbols (e.g., robotic imagery, data networks) were examined to reveal how AI is aestheticized and socially positioned.
- **Metadata and Editorial Choices:** Attention was given to headlines, keywords, and video thumbnails, as these editorial features shape audience engagement and frame the perceived importance of AI stories.

Together, the analysis of interconnected coding units enabled us to trace how Turkish media portrays AI not only as a technological innovation but also as a cultural phenomenon embedded in broader social narratives.

3. Summary of AI Coverage in Turkish Media (2005-2024)

This summary of analysis examines the evolution of AI representations in Turkish news media from 2005 to 2024. By employing content and discourse analysis, it explores the changing themes, attitudes, linguistic choices, visual

representations, and meta narratives associated with AI in news articles and YouTube videos and user comments. The analysis identifies key trends in AI coverage across different periods and highlights the socio-cultural meaning-making of its portrayal.

3.1 AI Coverage from 2005 to 2018: Early Representations and Growing Interest

3.1.1 2005-2008: Limited and Neutral Coverage

AI was scarcely covered in Turkish news media during this period, with only a few articles per year. The coverage focused on science and technology topics, with a predominantly neutral or positive attitude. Keywords such as "algorithm," "information," and "robot" began appearing by deploying "developing" as a verb, commonly. The first AI-related news in Turkey, published in hurriyet.com.tr, discussed the impossibility of robots experiencing human emotions like love and hate. AI was generally portrayed as a tool under human control, and visual elements featured generic computer and robot imagery associated with "new" tags.

3.1.2 2009-2013: Diversification of Themes and Emerging Concerns

A gradual increase in AI coverage was observed, with more diverse topics including industry, art, education, game and media. The tone of AI news remained largely informative but began incorporating some critical viewpoints. Words such as "humanoid," "autonomous," and "decision" appeared for the first time by deploying new verbs such as "using," "working," "presenting," and "animating," etc. Comment-oriented articles, as opposed to purely news-oriented pieces, tended to present a more skeptical view of AI, suggesting concerns over its societal implications. Visual representations began incorporating more complex imagery, particularly in articles discussing humanoid robots and autonomous systems associated with "technology," "popular," "agenda," tags.

3.1.3 2014-2018: Maturation and Specialization of AI Discourse

By 2014, AI coverage had become more frequent and specialized. Themes expanded into ethics, law, and the implications of AI in everyday life. Major developments, such as Stephen Hawking's warnings about AI, influenced the discourse, making alarmist tones more visible. The use of terms like "machine learning," "neural networks," and "deep learning" signaled a shift toward a more technical representation. This technical shift also appeared in verb use by more indirect verb use as "providing," "learning," "creating," "interpreting," etc. The visual narratives also evolved, moving from abstract futuristic depictions to more human-centric imagery. By 2018, AI was increasingly discussed in terms of its practical applications in health, military, and entrepreneurship associated with more specific tags such as "amazon," "China," "London," "Google," "Massachusetts Institute of Technology," etc.

3.2 AI Coverage from 2018 to 2024: Expansion, Public Engagement, and Ethical Debates

3.2.1 2018: The Rise of AI Coverage

AI coverage reached a new peak in 2018, reflecting the growing integration of AI in various sectors. A total of ten major news outlets were analyzed, showing a balanced representation with five positive, three neutral, and two negative articles. Themes included healthcare innovations, ethical concerns, and economic implications. While AI was predominantly portrayed as an object or tool under human control, three articles conveyed it as an autonomous subject with alarmist and predictive tones. "Risk," "threat," "anxiety," are mostly used words in these articles, and "specifying," "telling," "changing," are the verbs among others. The visual narratives also evolved, moving from abstract futuristic depictions to more human-centric imagery. The visual narratives evolved backwards, moving from more human-centric imagery to abstract futuristic depictions associated with "DNA," "Biology," "machine learning," "dollar," etc.

3.2.2 2019-2021: AI as a Transformative Force in Industry and Society

Between 2019 and 2021, AI coverage became increasingly specialized. News articles explored AI's role in business, health, and governance. AI was depicted as both an opportunity and a threat, with concerns about job displacement becoming more prominent. The coverage included debates over AI's impact on creative industries, as seen in discussions about AI-generated art and journalism. Ethical concerns related to bias in AI systems also emerged. We can see that positive attitude towards AI was getting stronger, accompanied by mostly objective

descriptions together with informative and progressive descriptions. The most visible words of the year were “solution,” “deep learning,” “machine,” “strategy,” etc. conveyed together with the AI term and the verbs were “providing,” “calculating,” “destroying,” and “governing,” etc. The visual representation of AI shifted towards hybrid imagery, combining human and technological elements together with “High Tech,” “Turkish Engineers,” “Genetic,” and “Corona Virus,” etc. tags.

3.2.3 2022-2023: Public Concerns and Everyday AI Applications

By 2022, AI had become a fixture in public discourse, with increasing media focus on its impact on employment, privacy, and security. Notably, AI was portrayed negatively in articles addressing potential misuse, such as deepfake scams and biased decision-making systems. In 2023, AI applications in everyday life gained prominence, as reflected in news about AI chatbots assisting with legal disputes and automated journalism. More news-oriented articles conveying objective descriptions, mainly conveying positive and neutral attitudes with informative and progressive tones were visible in the news. “Concept,” “language model,” “chatbot,” “super computer,” “chatgpt,” “application,” were the words and “representing,” “aiming,” “resembling,” were the verbs among others. The visual representation of AI was still depicted with a hybrid imagery, combining human and technological elements but we can see that more illustrative style became more popular together with “Artificial Intelligence news,” “algorithms,” “software,” etc. tags.

3.2.4 2024: AI as a Media Spectacle

In 2024, AI coverage reached new levels, characterized by extensive reporting on business investments, ethical dilemmas, and regulatory debates. AI was presented as an economic driver, particularly in startup ecosystems, but also faced criticism for its impact on creative industries, as evidenced by the backlash against AI-generated books. The discourse reflected a more sophisticated understanding of AI’s role in professional and institutional contexts.

Articles such as “Artificial Intelligence Expected to Reduce the Number of Accidents” and “Content Production with Artificial Intelligence: Opportunities and Challenges” highlighted AI’s benefits, while reports on Microsoft’s AI training practices raised data privacy concerns. The year also saw increased focus on AI’s societal role, as demonstrated by reports on AI chatbots delivering sermons and AI’s potential influence on human emotions. The positive attitude was still common, together with an informative tone, but also the alarmist tone was visible, especially in the three neutral news. The word of the year was “assistant,” “investment,” “content production,” “infrastructure,” etc., and the verbs were “appearing,” “presenting,” and “doing,” among others similar to the previous year.

Visual representations in 2024 further evolved, with professional and institutional imagery becoming more prominent. AI’s portrayal increasingly reflected its integration into professional sectors rather than speculative future scenarios, together with “artificial intelligence” tag becoming a cornerstone of its meta-narrative in news.

4. YouTube Discourse and Public Perception

This section explores AI representations and discussions on Turkish YouTube through qualitative content and discourse analysis of video content and user interaction. Unlike traditional news, YouTube journalism offers a dynamic interaction between journalists or content creators and the audience, allowing for more nuanced reflections of AI perceptions. The study has also deepened by analyzing AI-related discourse on YouTube, identifying three primary representation modes that are still common and have been reflected in user interactions as well.

1. **Subject Representation:** AI is framed as an autonomous entity capable of independent decision-making, often evoking concerns about its potential dominance over human activities. Discussions in this mode tend to be speculative, warning about AI’s impact on employment, ethics, and societal structures. For example, in Fatih Altaylı’s video “The Luxury of the Future Will Be Analog,” AI is frequently associated with themes of control, platform economy, and human dependency. The language frequently employs active verbs such as “making” and “controlling,” reinforcing the idea of AI as an active force shaping the future. User comments often reflect heightened concerns, with statements predicting large-scale unemployment and AI surpassing human intelligence.
2. **Object Representation:** AI is depicted as a functional tool designed to assist human activities rather than replace or surpass them. This mode is predominant in technology-focused channels, where experts explain AI’s technical capabilities, limitations, and regulatory needs. Videos such as FluTV’s “I Have Seen

AI” adopt this approach, focusing on AI’s learning processes, efficiency, and applications without speculative fears. User comments in these videos tend to be analytical, debating AI’s practical utility rather than existential threats.

3. **Hybrid Representation:** Some videos balance both subject and object perspectives, integrating technical discussions with broader ethical and societal implications. Cüneyt Özdemir’s “AI Revolution in Journalism” exemplifies this mode, acknowledging AI’s potential while critically assessing its ethical challenges. User comments reflect this balance, engaging with concerns over AI’s role in journalism while recognizing its benefits in news production.

The interactive nature of YouTube enables a real-time reflection of public opinion, where user interaction serves as an extension of the discourse presented in videos. This participatory engagement highlights AI’s evolving social perception, bridging technical discussions with public concerns about its broader impact. Overall, through nearly two decades, AI representation in Turkish media has evolved from a niche technological curiosity to a subject of widespread societal and economic significance. The increasing specialization of AI coverage, particularly after 2018, reflects its growing influence on various sectors. By 2024, AI coverage had moved beyond speculative discussions and was firmly embedded in discourses about governance, regulation, and industry applications. The rise of YouTube as a platform for AI discourse illustrates the evolving nature of public engagement, where user interactions shape and amplify concerns, hopes, and ethical considerations surrounding AI’s future as a metacultural narrative.

5. Conclusion

The widespread euphoria in the face of emerging AI technologies is dominated by a moral panic either in fear or excitement over the social and political implications of its emergence. In light of algorithmic governmentality (Rouvroy, 2020) and the resulting distortion of political discourse (Temmerman et al., 2018), as well as the rapid advancement of digital media technologies, we live in a new era where the “new public realm” (Jorgensen, 2019) is being overtaken by inaccurate or misleading information, which generative AI is “potentially” further accelerating (Krebs et al., 2022). In this new landscape, legal dilemmas at the level of human rights and the search for solutions for them are polarized on one side, and the critical role that AI is expected to play in the “transition to the next phase of humanity” with a techno-deterministic enthusiasm on the other side. “The bulk of digital communications are no longer between people but between devices, about people, over the Internet of things. Political actors make use of technological proxies in the form of proprietary algorithms and semiautomated social actors—political bots—in subtle attempts to manipulate public opinion” in this new climate (Woolley& Howard, 2016). The research we have initiated with the reflex we have developed in the face of these conditions can be considered a data-driven attempt to frame the emerging problems in this context.

In order to see the representations of AI in the news media as part of the interest it has generated in recent years, we conducted this research with a wide sample, which we purposefully selected between 2005 and 2024. In doing so, we observe through the relevant literature and industry debates that AI has become a topic that is rapidly gaining recognition and importance in Turkey as well as around the world. Through content and discourse analysis of the news on AI published in the Turkish news media during this period, we have tried to reveal the social norms, triangulation points, and contradictions that frame the issue as well as the news media’s self-reflective attitude towards this technology that is expected to affect it directly. The sample we have created for this purpose covers the whole time from the first news to the present, an archive of a total of 211 news articles and 10 YouTube videos published on AI. The results of our analysis of AI news within this sample suggest that there is a very strong and direct relationship between media representations of AI and its social reflections.

Within the news sample, we can say that the news describing the potential of AI under various topics such as science, technology, economy, health, education, game, and politics occupy an important place in this archive section. However, it is also noticeable that concerns about the ethics and privacy issues that AI technology may create have come to the forefront in the news. Given that AI is a technically complicated topic and that a significant share of the population is either ignorant of it or perplexed by it, it is now crucial to communicate the news in a far more comprehensive way. We also believe that a more balanced, detailed and understandable discussion of potential risks, ethical and legal dilemmas can help the public make informed decisions when using this technology. A transparent discussion of the potential risks associated with this technology and the concerns arising from them will help those who want to use this technology and its developers to adopt a more responsible approach. Moreover, it is very crucial to notice that the metaculture spreading AI-driven technoculture behind these news narratives has a dialogical nature that will erase some ideological form of truth and

will disseminate some others. That is why it is important to ask whose future is being erased to sustain AI's presence in this metacultural movement.

Our main findings based on this research are as follows:

The link Between AI and Social Consciousness: In almost every period of history, technologies developed in a laboratory environment are simultaneously met with excitement and anxiety in social perception. The news media, which has a critical role in shaping the social discourse born out of this perception, has an important role in how AI technology is reflected in social discourse. How AI is represented in the news directly affects the social discourse on this technology. That is why it is very crucial to reframe AI discourse in a delicate manner (Johnson & Verdicchio, 2017).

Leaving Moral Panic Behind: News stories that contain predictions and assumptions about emerging technologies need to be handled with a responsible and data-driven approach, leaving behind the moral panic (Garland, 2008) that emerges as euphoria or anxiety in the face of innovations. Due to its responsibility in shaping social discourse, it seems inevitable for news organizations to pay more attention to technology editing in technology news in general and in news about AI in particular, and to reconstruct their journalistic practices. Our findings indicate that comment-oriented news on AI is mostly written in predictive and alarmist tones, which contributes to the spread of moral panic.

Techno-Determinism and the Distortion of Political Discourse: The new dimensions of disinformation and the parallel deterioration of political discourse (Temmerman et al., 2018), following the rapid development of AI reveal the relationship between technological determinism and political debates. Specifically, the evolution of social and political discourse, which is still influenced by communication technologies, and, consequently, the evolution of social structure and cultural values, must be assessed from an ecological and human perspective rather than from the reductionist viewpoint that technological advancements dictate the evolution of social construction and cultural values.

Ethical and Privacy Concerns: It is becoming clear that a more balanced, detailed and comprehensible discussion of the ethical and privacy concerns, legal issues and potential risks that AI technology may pose, which have surfaced in the news, can help society make more informed decisions when using this technology. A transparent and neutral discussion of the potential risks associated with this technology and the concerns that arise from them can help adopters and developers to deploy a more responsible approach (Coeckelbergh, 2020).

AI Literacy: For a more responsible use of AI technology, which penetrates more and more into daily life, society must develop a literacy about this technology as well as news producers. The public, academia, civic society, and industry stakeholders need to propose a comprehensive strategy for AI literacy (Ng et al., 2021) trainings that encompass large segments of society if not the whole.

AI as an Umbrella Term: The conceptual problems that arise in the face of this rapidly developing technology become evident in the translation of the concept of "generative/productive/predictive/general AI". Theoretical considerations must be expanded to eliminate the spread of misunderstanding of agency representation ascribed to AI in news narratives. At this point, we think that the concept of communicative AI, which can be adopted by communication and social sciences, can be very useful. This concept draws a conceptual framework that addresses the automatization of communication and the contribution of AI to communication processes. It is promising to see that this term has already penetrated academic discourse (Hepp et al., 2023), and we hope that it will be adopted by the wider population instead of AI as an umbrella term for every version.

To sum up, our findings indicate that Turkish media's representation of AI is shaped by a tension between optimism and pessimism, reflecting broader socio-political concerns within Turkey's polarized media environment. Media discourse frequently serves as a platform for self-examination, as journalists evaluate their profession's future dependence on AI technologies. This dynamic highlights how media institutions navigate both the promises and risks that AI introduces to core journalistic practices such as truth production, credibility, and labor structures. Despite these contributions, the study faces certain limitations. While efforts were made to ensure diversity in the selected media outlets, the focus on prominent platforms may have excluded alternative narratives. Additionally, the search engine optimization-based infrastructure of Google News Archive has strong effects on the visibility of news content that is impossible to avoid. The study utilizes qualitative content and discourse analysis; however, a more comprehensive ethnographic approach, incorporating interviews with journalists and content creators as well as audience reception of AI-related content, could yield additional insights into the thorough investigation of AI in Turkish news media, which will be the subsequent phases of this ongoing PhD research. Future research may build on this work by conducting cross-national

comparative studies to explore variations in AI representation in different contexts, and examining the influence of algorithmic recommendation systems, particularly on platforms like YouTube, in shaping the visibility and impact of AI narratives. By addressing these gaps, subsequent studies can further illuminate the intricate relationship between technological advancements, media practices, and social discourse.

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Ethics Declaration

The initial version of this research, covering a narrow sample of 50 news items, was published in Turkish as an industry report. It can be found at this web address: <https://www.newslabturkey.org/risk-tehdit-heyecan-turkiye-haber-medyasinda-yapay-zeka-soylemleri/>

AI Declaration

The AI tools Deepseek, Claude, ChatGPT, and Grammarly were used responsibly while this work was being written. In addition to the two co-authors, these AI tools assessed the codes during the data coding process to reciprocally improve the data coding's reliability. Furthermore, during the writing process, AI tools were utilized to make lengthy texts shorter, clarify complex explanations, and ensure that they were grammatically correct. All AI results are integrated into the text after careful human intervention and modification.

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Exploring Influencer Burnout through Trans-Parasocial Relationships in the Age of Commercialised Social Media

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Abstract: With the rapid growth of social media, individuals have gained the ability to cultivate large, dedicated audiences and establish themselves as Social Media Influencers. Influencer marketing—a \$21.2 billion industry in 2023 (Statista, 2024)—relies on influencers to promote brands through reciprocal connections with followers, conceptualized by Lou (2021) as trans-parasocial relationships. Unlike traditional parasocial interactions, these connections are more dynamic and involve mutual engagement. In the process of building these relationships and commercializing their influence, influencers must meet strict deadlines and also navigate the demands of followers while remaining authentic. This study explores how the pressures of maintaining these relationships and meeting brand expectations contribute to influencer burnout. Categorising social media influencing as a profession, this research investigates how influencers navigate stress and cope with unique career demands. By highlighting Social Media Influencer burnout, this research seeks to bridge a gap in the theoretical understanding of influencer well-being, offering practical insights for fostering resilience and prioritizing mental health in the ever-demanding world of social media marketing.

Keywords: Influencer Marketing, Parasocial Relationships, Social Media Burnout, Brand Pressure, Burnout, Stress, Coping.

1. Introduction

The influencer marketing industry has witnessed remarkable growth, reaching a market value exceeding \$21.2 billion in 2023 (Sprout Social, 2023; Statista, 2024). This rapid expansion is largely attributed to the persuasive influence that social media personalities exert over their audiences (Casaló et al., 2020; Colliander and Dahlén, 2011). Unlike traditional celebrities, influencers often cultivate more reciprocal and personal relationships with their followers, which enhances brand engagement and purchase intentions (Abidin, 2015; Lou, 2021). However, this growing industry is not without its challenges. Influencers frequently face stress resulting from limited creative control, as collaborating brands often dictate content production. Such constraints can undermine influencers' perceived authenticity, a key driver of their influence (Later, 2023; Willment, 2022).

The increasing commercialization of social media influencing (Abidin, 2015; Mardon et al., 2023), coupled with brand pressures (Later, 2023; Levesque et al., 2023), further exacerbates this issue. As influencers' audiences grow, maintaining intimate and authentic relationships with followers becomes increasingly difficult (McQuarrie et al., 2013), which can contribute to burnout. Despite the prevalence of these challenges, the stressors faced by influencers remain underexplored in academic literature.

This research categorizes social media influencing as a career (McCormick, 2019; Suciu, 2020) and employs the Job Demands-Resources (JD-R) model (Bakker et al., 2014) as a theoretical framework to analyse influencer burnout through the trans-parasocial relationships they maintain with followers. Additionally, the Transactional Stress Theory (Lazarus and Folkman, 1987) is utilized to examine the subjective nature of stress, highlighting that stress responses depend on individuals' appraisal of stressful events and their coping mechanisms.

1.1 Aim and Objectives

This research aims to investigate the interplay between influencer marketing commercialization, the dynamics of reciprocal intimacy, and the emerging concept of trans-parasocial relationship, and to assess their collective impact on influencer well-being. Considering this, the primary objectives of this research are:

- To explore the influence of brand pressure on outdoor and fitness micro-influencers over time and how it interacts with their commercial and trans-parasocial relationships with followers to contribute to burnout.

- To understand how personal and organizational resources influence or mitigate burnout among outdoor and fitness micro-influencers, within the context of influencer marketing and trans-parasocial relationships
- To explore the coping mechanisms employed by outdoor and fitness micro-influencers to manage burnout associated with commercialized influencer marketing, reciprocal intimacy dynamics, and emerging trans-parasocial relationships.
- To provide recommendations to brands, micro-influencers, and social media platforms on better practices to enhance Social Media Influencer well-being based on the research findings.

2. Literature Review

2.1 Influencer Marketing

The rise of social platforms has allowed individuals to cultivate large audiences, develop loyal communities, and position themselves as influential figures, commonly known as Social Media Influencers (Appel et al., 2019; Vrontis et al., 2021). Abidin (2015) describes influencers as everyday people who share their lives online, building substantial followings and monetizing this by seamlessly incorporating brand promotions into their content. Influencer marketing involves brands compensating these influencers or offering incentives to promote products or services (Campbell and Farrell, 2020; Vrontis et al., 2021).

Studies have found that influencer marketing drives consumer persuasion and purchase decisions, largely mediated by Parasocial Interactions—one-sided but seemingly personal connections between influencers and followers (Colliander and Dahlén, 2011; Escalas and Bettman, 2017). These relationships enhance endorsements' effectiveness and help shape a collaborative brand image (Aw and Chuah, 2021; Martínez-López et al., 2020). However, influencers must balance authenticity with commercial obligations, as strong influencer-follower bonds resembling friendships can mitigate perceptions of self-interest (Aw and Chuah, 2021).

2.2 Parasocial and Trans-parasocial Relationship Theory

Horton and Wohl (1956) introduced "parasocial interaction" as a phenomenon where individuals feel personally connected to media figures, despite one-sided communication. These bonds are reinforced by perceived mutual awareness and behavioural reciprocity (Hartmann and Goldhoorn, 2011). Contemporary research extends these findings to social media, emphasizing how influencer distinctiveness, relatability, and status contribute to audience engagement (Hsieh et al., 2023; Yuan and Lou, 2020). Parasocial relationships significantly affect brand trust, awareness, and purchase intentions (Reinikainen et al., 2020; Aw and Chuah, 2021; Lou et al., 2022).

Modern contexts demand an update to parasocial theory. Lou (2021) proposed "trans-parasocial relationships," acknowledging the reciprocal, co-created nature of interactions between influencers and followers. Unlike traditional parasocial ties, these relationships are bidirectional, as influencers actively engage with followers, shaping content based on audience feedback (Lou, 2021).

Despite extensive research in influencer marketing on factors like influencer credibility and emotional connections (De Jans et al., 2018; Hughes et al., 2019), gaps remain in understanding how parasocial relationships impact influencers' well-being. Most studies have focused on followers' perspectives, leaving influencers' experiences underexplored (Eyal and Cohen, 2006; Hoffner and Bond, 2022; Mardon et al., 2023).

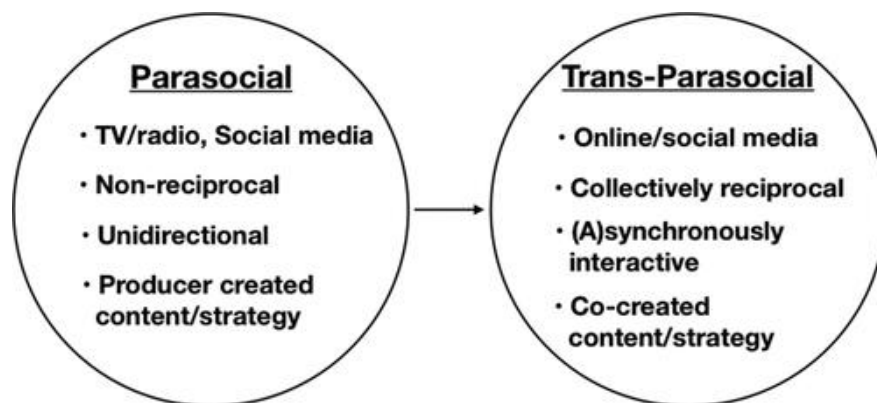


Figure 1: Parasocial Relationships vs Trans-parasocial Relationships (Lou, 2021)

2.3 Social Media Influencers Stress

Social media influencers face significant stress due to brand demands for consistent content and their own efforts to maintain commercial and reciprocal intimacies, often resulting in burnout (Abidin, 2013; Later, 2023; Levesque et al., 2023). To engage audiences and differentiate themselves from traditional celebrities, influencers use four intimacy types: commercial, interactive, reciprocal, and disclosive (Abidin, 2015). Disclosive intimacy, involving personal content, fosters authenticity (Abidin, 2015; Berryman and Kavka, 2018), while reciprocal intimacy relies on direct engagement with followers. However, this intimacy can feel commodified as influencers engage in paid endorsements, risking perceptions of inauthenticity (Berryman and Kavka, 2017; Cocker et al., 2021). This commodification can erode trust followers have on influencers (Mardon et al., 2023).

In addition, brands increasingly control influencers' content to align with marketing goals, ranging from gifting products to enforcing contractual obligations (Audrezet et al., 2020). While effective for product promotion, such practices can compromise influencers' perceived authenticity (Russell and Stern, 2006; Liljander et al., 2015). Overemphasizing branded content can violate ethical expectations, particularly for Gen Z, who view it as a breach of trust (Pradhan et al., 2022). This violation can result in followers actively avoiding or unfollowing influencers, a phenomenon the researchers tagged as "influencer avoidance" (Pradhan et al., 2022). This "influencer avoidance" phenomenon is exacerbated when brand-driven demands lead to excessive workloads and burnout (Later, 2023; Bakker et al., 2014).

Also, maintaining intimacy with followers is crucial for influencers' engagement and commercial success, yet it heightens performance expectations (Mardon et al., 2023). Failure to meet these expectations can lead to feelings of betrayal and backlash (Hartmann, 2008; Jennings and Alper, 2016). Trans-parasocial relationships, which emphasize reciprocal connections, further intensify these pressures (Mardon et al., 2023). When expectations go unmet, the intimacy that once fostered loyalty becomes a source of disappointment.

2.4 Influencer Burnout through Theoretical Lens

The rise of social media influencing as a career driven by Influencer Marketing (McCormick, 2019; Suciu, 2020) could come with unique stressors, yet academic research is yet to apply established burnout theories like the Job Demands-Resources model to this profession. The JD-R model identifies high job demands as primary contributors to burnout, with insufficient resources exacerbating the problem (Bakker et al., 2014). Similarly, Lazarus and Folkman (1987) Transactional Stress Theory emphasize coping strategies as critical to managing stress.

Burnout, characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment (Maslach and Jackson, 1981), manifests uniquely among influencers due to their dual roles as public figures and private individuals. For example, depersonalization may arise as a coping mechanism to manage audience expectations. Coping strategies—problem-focused (e.g., resolving stressors) or emotion-focused (e.g., distancing)—play a pivotal role in mitigating burnout (Folkman and Lazarus, 1988).

Despite advancements in burnout research across various fields, influencers' burnout experiences remain underexplored. While the JD-R model has been applied to professions like nursing and sales (Dall'Ora et al., 2020; Peasley et al., 2020), its adaptation to influencer careers is limited, especially as influencers must navigate between trans-parasocial relationships and brand demands while engaging in Influencer Marketing. Similarly, while coping mechanisms like job crafting and peer support mitigate burnout in traditional roles (Roczniewska and Bakker, 2021), their applicability to freelancers like influencers is unclear.

3. Research Philosophy and Methodology

This study adopts a subjective and constructivist philosophical and ontological approach, which posits that the subject matter - social media influencers, as individuals and institutions - fundamentally differs from the natural sciences (Bell et al., 2019). The chosen constructivist framework aligns with the study's focus on subjective experiences and individual interpretations of stress and burnout (Beck Holm, 2013; Bell et al., 2019; Gergen, 2015). Previous studies have recognized burnout as a highly subjective phenomenon, advocating for qualitative methods such as diary studies to gain a nuanced understanding of stressors and coping mechanisms (Almeida, 2005; Lazarus, 2000). Quantitative surveys, in this context, could be less appropriate because the stressors and coping strategies specific to social media influencers remain underexplored and inherently subjective.

3.1 Sampling, Data Gathering and Analysis

This research employs a purposeful sampling strategy to recruit a target sample of 25 lifestyle social media influencers relevant to the research objectives. Snowball sampling will be utilized to identify and recruit participants. The study targets outdoor and fitness micro-influencers on Instagram with follower counts ranging from 10,000 to 100,000 (Campbell and Farrell, 2020), who actively promote products or services for brands (Wissman, 2018). This study focuses on micro-influencers, who uniquely balance strong follower relationships and brand partnerships (Park et al., 2021). As research on Influencer Marketing has primarily centered on fashion and lifestyle influencers; this investigation diverges by examining outdoor and fitness influencers, exploring how their authentic engagement, brand pressures, and stress management strategies contribute to burnout and well-being.

The data collection process will involve the use of digital diaries (audio voice notes) recorded at least once per week over eight weeks, combined with semi-structured interviews. This approach ensures the generation of rich, rigorous, and in-depth qualitative insights. The two-month timeline for diary data collection aligns with Diener et al. (2006), who suggest that this duration is sufficient to capture significant fluctuations in well-being. Ethical approval for the research has been granted by the Ethics Committee at Edinburgh Napier University.

After data collection, Thematic Analysis will be used as an analytical framework to systematically identify, analyse, and interpret recurring patterns or themes within the data (Braun and Clarke, 2012). As Castleberry and Nolen (2018) note, Thematic Analysis relies heavily on textual data, and NVivo software will be utilized to organize and manage the data efficiently. Additionally, Sequential Analysis will be used to examine the progression of stressors over time and trace how stressors accumulate and evolve into burnout (Langley, 1999).

4. Conclusion

This study seeks to address the under-explored phenomenon of social media influencer burnout, positioning influencers as an emerging professional demographic (McCormick, 2019; Suciu, 2020). The research examines how brand pressures and trans-parasocial relationships interact to influence the well-being of social media influencers.

By advancing the understanding of job stress and burnout theories within the context of influencer marketing, this study aims to provide meaningful insights for social media platforms, brands, and influencers. These findings could help develop strategies to effectively manage stressors, mitigate burnout, and promote the overall well-being of influencers in this evolving professional landscape.

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International Students: Challenges, Social Media Use, and Adaptation

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Abstract: Social media are an inseparable part of our lives, offering tools for communication, information sharing, and social interaction. For international students, these platforms can help overcome challenges such as cultural adaptation, academic pressures, and social isolation. Using the 'Swiss Army knife' metaphor, this paper highlights the adaptability of social media platforms in meeting diverse user needs, such as seeking information, maintaining connections, and fostering support. Affordances like visibility, persistence, and anonymity enable international students to connect with their home cultures, explore the host country's norms, and document their personal journeys. Yet, these same platforms can reinforce boundaries that hinder their integration into the host culture. The uses and gratifications (U&G) theory helps explain motivations behind social media use, such as social interaction, information seeking, escapism, and self-expression. This study will collect public posts on X, Instagram, TikTok and Reddit with hashtags relevant to international students. I will apply thematic analysis to identify themes and patterns in these posts, exploring how key motivations and affordances shape students' online behaviours and adaptation strategies. Insights from this study will contribute to the broader understanding of social media's impact on international students' adjustment, emphasizing how affordances and user motivations intersect to shape their experiences in the host country.

Keywords: Social Media, International Students, Affordances, Uses and Gratifications Theory (U&G), Cross-Platform, Cultural Adaptation

1. International Students

International students move abroad in pursuit of higher education to enhance their career opportunities and become more competitive than their peers (Akanwa, 2015). These students bring new ideas and ways of thinking to their host universities, which can facilitate academic growth (Babushko et al., 2020) by challenging existing views and encouraging critical thinking. They also add to the cultural diversity on campus, helping peers learn about different cultures and develop skills for intercultural interactions (Babushko et al., 2020). However, these students face various challenges when moving to a new country, including cultural adaptation, language barriers, financial strain, and social isolation (e.g., Baines et al., 2022). For these students, social media are more than tools for communication and staying connected with family; they also help students access academic resources, practice language, and learn local customs (e.g., Babushko et al., 2020). This section explores the challenges these students experience, and how they use social media to address these challenges.

1.1 Challenges

1.1.1 Socio-cultural Challenges

International students often face challenges adjusting to new cultural norms, which can lead to culture shock (e.g., Babushko et al., 2020). Students from collectivist cultures with group support and close relationships may struggle to adapt to an individualistic society and feel isolated (Baines et al., 2022). Discrimination based on nationality or cultural background further complicates efforts to connect with others, especially with local students (e.g., Oyelana et al., 2024).

1.1.2 Language Barriers

Students not fluent in the host country's language often face academic and social challenges. Limited language skills can hinder their ability to understand lectures, engage in discussions, and complete assignments, leading to poor academic performance and increased stress (Chira, 2017). In contrast, students proficient in the language are more likely to build connections with locals (Rui & Wang, 2015).

1.1.3 Academic Challenges

Even fluent students face academic challenges, such as adapting to new teaching methods, unfamiliar assessment styles, and expectations (e.g., Babushko et al., 2020; Forbush & Foucault-Welles, 2016). For example, students from countries focused on theoretical learning may struggle with application-based learning. Heavy

workloads raise stress, especially for graduate students juggling coursework with research roles (Baines et al., 2022). As a result, some students use platforms like X and Instagram to connect to a broader community through hashtags like #PhDLife to share their experiences and struggles (Baines et al., 2022) and access academic resources, such as forming study groups.

1.2 Social Networks and Support

1.2.1 Co-nationals:

Co-nationals or home-nationals are people from the same home country, either living back home or in the host country. While these connections facilitate adjustment, over-reliance on co-nationals, especially in the host country, can hinder adaptation by limiting interactions with locals, and creating cultural silos (e.g., Hendrickson & Rosen, 2017; Lim & Pham, 2016). However, students' networks often include others from their home regions (e.g., the Middle East) or locals with similar cultural backgrounds, based on shared factors like language, religion, or interests (Gomes et al., 2014).

1.2.2 Other International Students

Students often form bonds with other international students over shared experiences, or challenges, such as adjusting to social norms, overcoming language barriers, or dealing with homesickness. For example, they may bond over finding foods from their home culture or dealing with academic challenges. These connections are often formed in person, in events like orientations, but maintained on social media and can create a sense of community (Gaitán-Aguilar et al., 2022). This helps them learn about each other's cultures and coping strategies, which can facilitate their adjustment in the new environment.

1.2.3 Local Community

Connections with host nationals help students better understand local norms, improve language skills, and have a sense of belonging. However, cultural differences, language barriers, and limited shared experiences make these connections challenging. Some students actively seek building connections with local students, while others interact because of having a direct contact, such as a roommate (Gomes et al., 2014). These interactions are often limited to academic projects, leading students to socialize more with other international students or co-nationals, as they share similar experiences, such as homesickness and cultural challenges. However, as time passes, students rely less on distant relationships and focus more on local connections, which improves their adjustment (Hendrickson & Rosen, 2017).

2. Social Media and International Students

2.1 Social Media

The term "social media," first introduced in 1994 (Aichner et al., 2021), has been used inconsistently to describe various online platforms (Nau et al., 2022). Nau et al. (2022) define social media as "web-based and mobile services that allow individuals, communities, and organizations to collaborate, connect, interact, and build community by enabling them to create, co-create, modify, share, and engage with content (user- or bot-generated)." Social media have now evolved beyond their original purposes, becoming multifunctional tools that serve diverse needs. Nau et al. (2022) introduced the 'Swiss Army knife' metaphor to describe this dynamic and multifaceted nature, emphasizing how platforms now offer multiple services that were once separate. This change enables users to fulfil different needs on a single platform without constantly switching between them (Nau et al., 2022). For example, Instagram, initially a photo-sharing app, now includes messaging, video-sharing, and in-app shopping. While platforms share similarities, each remains unique because of its distinct set of features and affordances, shaping user behavior and interactions.

2.2 Social Media Use by International Students

International students use social media more after moving abroad, mainly to stay connected to family and friends back home (Hendrickson & Rosen, 2017). They engage with social media at varying levels. Passive engagement includes activities like following accounts related to the host country's culture or other international students' experiences. Participation includes joining in discussions on platforms like X or Reddit to seek advice or share information such as tips on local grocery stores. Creation can include sharing content like

Reels on Instagram and TikTok to document their journey, such as “A day in my life as an international student.” Active engagement, such as posting or commenting, leads to higher perceived social support from both home and host countries (Pang, 2020).

Social media plays a complex role in international students' experiences, providing connection and support, while also posing challenges to integration. Sleeman et al. (2016) suggest that social media serve three roles of bridges, boundaries and hybrid spaces for international students. As bridges, social media connect students to their home culture, improving well-being and offering support. Platforms like Reddit can help share knowledge about the host country's culture campus life.

However, social media can create boundaries when students primarily interact with co-nationals, limiting connections with locals (Sleeman et al., 2016). Lim and Pham (2016) found that international students used different platforms to connect with various groups, using features like emojis on LINE and Facebook to foster intimacy with co-nationals. In contrast, text-based platforms like WhatsApp were seen as less engaging, reducing opportunities for deeper connections with locals. These virtual boundaries reinforce separation from the host culture, limiting cross-cultural exchange and integration (Sleeman et al., 2016). In extreme cases, students may prioritize platforms popular in their home country over those in the host culture (Sleeman et al., 2016). Hybrid spaces offer a balance, allowing students to interact with both co-nationals and locals, fostering connections to both cultures and enabling cultural exchange. Achieving this balance helps students integrate while maintaining ties to their home culture (Lim & Pham, 2016).

2.3 Social Media Affordances

Studying social media is more than identifying their functions and features; it also includes understanding the possibilities they offer to users. The concept of affordances highlights both the opportunities and constraints within platforms and helps explore how platform design influences users' interactions (Ronzhyn et al., 2022). For example, Instagram encourages visual storytelling through images and short videos, while X is often used for real-time updates. Affordances in technology refer to what platforms enable users to do (e.g., Bucher & Helmond, 2016). Ronzhyn et al. (2022) define social media affordances as “the perceived, actual, or imagined properties of social media, emerging through the relation of technological, social, and contextual, that enable and constrain specific uses of the platforms.” However, affordances can also constrain users, like X's 280-character limit. Several scholars have developed typologies to organize and clarify affordances; for example, Falahatpisheh and Khajeheian (2020) proposed a typology for affordances of social media platforms.

Key affordances influencing user behaviour include, but are not limited to, visibility, persistence, and anonymity (e.g., Treem & Leonardi, 2013). Visibility determines who can see content, influencing how users present themselves online (Bucher & Helmond, 2016; Hollenbaugh, 2021). International students may share personal content privately while curating public posts to maintain an ideal image (Hollenbaugh, 2021) or align with cultural expectations. For example, a student from a more religious background may avoid publicly sharing content that contradicts their faith but feel comfortable sharing it in private or closed groups.

Persistence refers to the durability of content, meaning how long it remains (e.g. Bucher & Helmond, 2016; Fox & McEwan, 2017). Platforms like Facebook and Instagram, with higher persistence, enable users to document experiences and revisit past posts, while X makes older tweets harder to retrieve. This affordance allows international students to document their journeys and experiences, revisit old posts, or delete the ones that no longer reflect their identity or opinions. For example, a student may worry that the content they shared before may align with their home country's norms but be misunderstood in their host country. Therefore, they may prefer platforms like Facebook, and Instagram over those with ephemeral content, such as Snapchat, for this purpose.

Anonymity refers to users' ability to conceal their identity (e.g. Evans et al., 2017), without directly linking it to their offline identity (Hollenbaugh, 2021). High anonymity on platforms like Reddit allows users to discuss topics freely, especially sensitive topics, but may also encourage negative behaviours like trolling or posting harmful content. In contrast, platforms with low anonymity, such as Facebook, often link online and offline identities, promoting more authentic self-presentation (Hollenbaugh, 2021). For international students, anonymity provides a safe space to share challenges like loneliness without fear of judgment, balancing the need for privacy with the opportunity for self-expression.

2.3.1 Affordances in Research

A significant challenge in studying affordances is the lack of a unified definition, especially in the context of social media platforms, leading to inconsistent use and confusion with platform features or outcomes (Frey, 2023; Ronzhyn et al., 2022; Treem, 2016). Affordances are "possibilities for action" (Bucher & Helmond, 2016), distinct from static features and are shaped by user-platform interactions and lead to different outcomes, depending on how users engage with them (Evans et al., 2017; Ronzhyn et al., 2022). Additionally, affordances are not fixed but exist on a continuum. For example, the affordance of visibility can range from public posts to private posts. These different levels can lead to different outcomes, such as self-expression (positive) or privacy issues (negative). Studying social media affordances helps explain why international students prefer specific platforms to deal with their challenges of adjustment. For example, persistence allows students to access resources over time, and visibility enables them to control their audience when sharing their experiences.

2.4 Social Media Research

A common myth about social media is that these platforms are not 'serious' and are primarily used for entertainment, overlooking their significant roles in policy, social movements, public health, and social support (Treem et al., 2016). Additionally, the changing nature of social media and features complicate research, making findings from previous studies potentially outdated or less applicable (Nau et al., 2022). Studying affordances allows researchers to understand how platform changes influence user behaviour and social interactions. This approach also helps scholars apply findings from studies on discontinued or less popular platforms to current research contexts (McEwan & Fox, 2022). Therefore, to ensure clarity, researchers should specify the type of social media and platform they study and provide information about its design and features (Nau et al., 2022).

While social media platforms share similar design elements or functionalities, like connection or content sharing, each has a distinct environment with its own set of affordances and platforms should not be treated as homogenous (e.g. Matassi & Boczkowski, 2023). Cross-platform analysis reveals how platforms influence each other and adopt features from one another. For example, Instagram introduced Stories after its popularity on Snapchat, and X (former Twitter) replaced its Favourite with a heart-shaped Like, imitating Instagram and Facebook (Bucher & Helmond, 2016).

2.4.1 Cross-platform Studies

Cross-platform studies focus on affordances, content flow, and interactions between platforms (Matassi & Boczkowski, 2023). For example, TikTok videos might be reshared on Instagram and spark conversation on X. While platforms share features like content sharing, they also have unique affordances that shape user behaviour. For example, TikTok is designed for short videos, Instagram focuses on visual content, LinkedIn is used for professional networking, and X for real-time updates. Additionally, cross-platform studies also highlight platform influence through imitation or adaptation (Matassi & Boczkowski, 2023), like Instagram adopting Snapchat's Stories or YouTube launching Shorts after TikTok's success. Such comparisons offer insights into user behaviour, platform design, and management changes, such as those seen in changing Twitter to X. This type of comparison helps us understand what kinds of interactions and activities are common or acceptable on one platform but not on others. These activities could include how often people post, the number of daily new posts, or how users typically react to a post. Therefore, comparative studies offer a deeper understanding of why users prefer specific platforms or a combination of them over others.

3. Theoretical Framework: The Uses and Gratifications (U&G) Theory

The Uses and Gratifications (U&G) theory explains why and how people actively choose media to gratify specific needs. Initially developed for traditional media, U&G now includes social media, viewing users as active participants seeking to meet psychological and social needs like entertainment, information, and interaction (e.g., Whiting & Williams, 2013). This theory focuses on users rather than media, making it useful for analysing diverse media preferences across demographics (Quan-Haase & Young, 2014). Researchers have adapted U&G to study social media use (e.g., Smock et al., 2011; Whiting & Williams, 2013), organizing motivations into user-oriented and platform-oriented approaches. The user-oriented approach prioritizes users' characteristics and behaviour, while the platform-oriented approach highlights the role of platform affordances (Rathnayake & Winter, 2018).

Each platform fulfils distinct needs without replacing others (Quan-Haase & Young, 2014). For example, Instagram is often used for sharing visual content, while LinkedIn focuses on professional networking and sharing career-related content. Furthermore, even features with similar functions can lead to different motivations (Quan-Haase & Young, 2014). Studies such as Chen and Peng (2023) highlight the importance of linking users' motivations to platform affordances, users often choose platforms aligning with their motivations. The following section delves into user-based motivations and their relevance to affordances, particularly for international students:

3.1 User-based Motivations

3.1.1 Social Interaction

Social interaction refers to the need to connect and engage with others. This motivation can be especially important for international students to stay connected with family and friends back home while building new relationships in the host country (e.g., Menon, 2022). Platforms like Facebook and WhatsApp support interpersonal connections, enabling users to join groups, connect to people with similar interests, and create a sense of community (e.g., Pelletier et al., 2020). Features such as messaging and private chats facilitate intimate or emotional conversations and social support (e.g., Bae, 2018).

3.1.2 Entertainment and Escapism

Motivations for entertainment and escapism involve using social media for relaxation, enjoyment, and passing the time (e.g., Bossen & Kottasz, 2020; Whiting & Williams, 2013). Entertainment includes consuming content, such as memes, videos, and music, either passively (scrolling) or actively (sharing posts) (Bossen & Kottasz, 2020). Escapism serves as a distraction from reality (e.g., Chen & Peng, 2023; Scherr & Wang, 2021), helping users avoid boredom, reduce stress, and relax (e.g. Quan-Haase & Young, 2014). Escapism may overlap with entertainment, but its primary focus is relieving stress. For example, international students might browse TikTok or Instagram for funny videos, or join TikTok challenges (e.g., Falgoust et al., 2022), to relieve stress in a new environment.

3.1.3 Information Seeking and Sharing

This motivation involves seeking and sharing information, such as news, updates, and events, often on platforms like X (e.g., Bae, 2018; Pelletier et al., 2020). International students may follow accounts related to visa regulations or campus events to stay updated. This motivation also includes keeping track of others' activities (surveillance), such as following celebrities, friends' posts, or trends (e.g., Scherr & Wang, 2021). Staying updated with trends, is often influenced by peer pressure to use specific platforms or avoid being seen as disconnected or 'old-fashioned' (e.g., Chen & Peng, 2023; Quan-Haase & Young, 2010). Additionally, users with this motivation value affordances like persistence as it allows them to find, share, and revisit information over time (Chen & Peng, 2023).

3.1.4 Self-presentation and Self-expression

Social media platforms like Instagram and TikTok enable international students to express their identity and share their cultural background, and experiences (e.g., Chen & Peng, 2023). This includes posts about their achievements, hobbies, interests, and lifestyle (e.g., Whiting & Williams, 2013), often done through visual storytelling. This motivation promotes active user engagement, with students valuing persistence for storing content and privacy (Chen & Peng, 2023) which is directly linked to the affordance of visibility.

3.2 Studies on Specific Platforms/Features

Scherr and Wang (2021) studied university students and found four key motivations for using TikTok: socially rewarding self-presentation, trendiness (engaging with trendy content), escapist addiction (habitual, prolonged use), and novelty (excitement of discovering new content). Motivations and usage patterns varied by time of day, suggesting, even within a single platform. This suggests that international students may turn to platforms like TikTok in the evening for relaxation after a long day of classes (entertainment or escapism) or in the morning to stay updated.

Lu and Lin (2022) identified four main motivations for using Instagram Stories: entertainment, surveillance, perceived functionality, and social sharing. Users engage with the Stories function because of its convenience,

entertainment, and for exploring trends. They interact with content by reacting with emojis, polls, or replying to stories, or question boxes. They also interact with other users to build relationships and share interesting or personal content (Lu & Lin, 2022). Users create content to connect with others, express themselves, and enjoy the ephemeral nature of Stories (Lu & Lin, 2022).

Smock et al. (2011) studied undergraduate students' general Facebook use and the use of specific features. They found that general use is driven by relaxing entertainment, expressive information sharing, and social interaction but motivations varied by feature. For example, expressive information sharing motivated engagement with status updates and groups but was negatively associated with overall time spent on Facebook. This suggests the need to examine motivations in relation to specific platform affordances rather than general use.

4. Methodology

This study aims at addressing the following questions: 1) What are the frequently used social media platforms by international students in Canada, and what factors influence platform selection, 2) How do features and affordances shape students' motivations and social media use, and 3) What motivations drive platform choice and usage among international students.

The study will collect publicly available posts (textual and visual) shared by or about international students under specific hashtags (e.g., #InternationalStudentsCanada, #PhDLifeCanada, #StudyAbroadCanada, and #GraduateLifeCanada) on X, Instagram, TikTok, and Reddit. These platforms are selected because of their popularity (Instagram and TikTok are often used for visual storytelling, X for real-time updates, and Reddit for anonymous discussions) and affordances (e.g., anonymity on Reddit vs. high visibility on Instagram). Data collection will cover a three-month period, from August to November, when many international students start their studies in September. This study will adopt a qualitative approach using Thematic Analysis (TA) (Braun & Clarke, 2006) to identify, summarize, and interpret key themes in the dataset. TA is well-suited for open-ended, descriptive, and interpretive questions, making it effective in exploring the diverse multimedia content (e.g., text, visuals). Motivations (from U&G) and affordances will serve as analytical lenses during coding, but I will remain open for new themes to emerge inductively. For example, posts emphasizing privacy or hidden identities may reflect the affordance of anonymity.

5. Conclusion

International students face challenges such as cultural adjustment, language barriers, and academic pressures, often turning to social media for support, maintaining home connections, building new relationships, and adapting to their host environment. Balanced use of social media as hybrid spaces is key to fostering adaptation and cultural exchange. U&G relies heavily on self-reported data, which often lacks validation through behavioural methods, reducing the precision of findings (Chen & Peng, 2023; Quan-Haase & Young, 2014). The rapid evolution of social media platforms, with new features and policies changes, further complicates understanding user motivations (Chen & Peng, 2023). Additionally, U&G often overlooks platform-specific factors and affordances which influence engagement (Rathnayake & Winter, 2018). Combining U&G with affordances and integrating subjective measures (e.g., surveys or interviews) with objective data (e.g., usage statistics), offers a more comprehensive understanding of social media use (e.g., Chen & Peng, 2023; Lalmas et al., 2022).

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Feminism, Sustainability, and Social Media Shaping Beauty Industry

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Abstract: This study examines how feminist ideals, sustainability, and personalization shape Estonia's beauty industry's consumer behaviour and business strategies. It employs a mixed-method research design, combining semi-structured interviews with representatives from five local companies—four beauty brands and one recycling packaging partner—with a consumer questionnaire targeting women aged 21–29. The interviews explored business strategies around sustainability, feminist marketing, and personalization, while the consumer questionnaire integrated textual and pictorial data to capture preferences and perceptions. Key findings highlight a strong consumer preference for eco-friendly and personalized beauty products, dissatisfaction with mass-market offerings, and the significant role of minimalist, sustainable packaging in purchasing decisions. Feminist marketing campaigns celebrating diversity and body positivity resonate strongly with consumers, while technology-driven solutions like AI-enabled personalization align with demands for convenience and efficacy. Local beauty brands emphasized challenges such as balancing sustainability with scalability and addressing gaps in inclusivity and transparency. This study underscores the potential for innovation aligning with consumer values, offering actionable insights into navigating the dynamic beauty industry landscape. Future research should explore cross-cultural variations and the expanding role of technology in personalization and social media-driven marketing.

Keywords: Social Media, Post Feminism, Sustainability, Consumer Behaviour, Beauty, Personalization

1. Introduction

The beauty industry, a powerful cultural and economic force constantly evolving to reflect societal values, is now valued at over €90 billion globally, according to a 2024 Statista report. Recently, sustainability, personalization, and feminist ideals have gained prominence, challenging traditional beauty norms and unsustainable practices. This study examines Estonia's beauty market, exploring how these trends influence consumer behaviour and shape brand strategies in an under-researched yet dynamic sector.

Existing literature shows progress in redefining beauty standards and promoting eco-conscious practices. Campaigns like Dove's "Real Beauty" have championed inclusivity, while brands like Lush have introduced sustainable innovations such as refillable packaging. However, significant gaps remain. Consumers are increasingly sceptical of greenwashing, inclusivity in product offerings is limited, and personalized solutions using advanced technologies like AI are not widely adopted. These challenges highlight the need for deeper alignment with consumer expectations.

This study employs a combination of semi-structured interviews with five Estonian companies, four of which are beauty brands, and a mixed-method consumer approach targeting women aged 21–29. The interviews explore how brands incorporate sustainability, feminist values, and personalization, while the mixed-method investigates consumer attitudes and purchasing behaviour. This dual perspective provides insights into both business strategies and consumer demands.

The findings indicate a pronounced consumer preference for eco-friendly and personalized products. Local brands are responding to these demands by adopting sustainable practices, including using natural ingredients and recyclable packaging, although challenges related to scalability remain significant. Consumers emphasize the importance of diverse representations of beauty, transparency in product manufacturing, and solutions tailored to their needs.

By addressing gaps in inclusivity, sustainability, and personalization, this study underscores opportunities for Estonian brands to drive innovation and leverage social media platforms to showcase diverse representations of beauty through targeted marketing efforts. The research offers a structured understanding that contributes to academic discourse and provides actionable strategies for navigating the evolving beauty industry landscape.

2. Literature Review

Traditional beauty advertising historically reinforced narrow definitions of beauty, emphasizing youth and thinness (Tiggemann, 2014). Scholars like Naomi Wolf critiqued this commodification, arguing that it served to control women by tying their worth to physical appearance (Wolf, 1991). With the rise of third-wave feminism and the body positivity movement, these narrow ideals began to shift. Beauty was redefined to embrace

diversity, paving the way for brands like Dove to champion authenticity through campaigns such as “Real Beauty” (Gill, 2007).

Simultaneously, sustainability emerged as a critical focus within the beauty industry as consumers became increasingly environmentally conscious. Concerns over excessive packaging and harmful materials drove the demand for “green beauty” products (Sasounian et al., 2024). Brands such as Lush and Garnier have adopted initiatives like waterless formulas, refillable packaging, and natural ingredients to align with eco-conscious values. Larger corporations, including L’Oréal, aim for full recyclability by 2025 (Sasounian et al., 2024). However, scepticism about “greenwashing,” where brands exaggerate their sustainability claims, persists. Third-party certifications like B Corp. (a label for companies upholding high social, environmental, and ethical standards) have, therefore become essential in helping consumers identify genuinely sustainable brands, underscoring the necessity of transparency.

In addition to these shifts, market oversaturation has led to growing consumer dissatisfaction with generic beauty products, spurring a movement toward personalized solutions. Leveraging AI and machine learning, the beauty industry now offers tailored skincare to address specific concerns such as acne or sensitivity (Ntoutsis et al., 2023). These personalized approaches minimise waste and align with the broader self-care trend, promoting natural beauty and individuality.

Finally, digital platforms such as Instagram and YouTube have revolutionized consumer behaviour, enabling influencers to shape beauty trends and democratize product access (Chodak, 2023). However, the prevalence of filtered imagery continues to perpetuate unrealistic ideals, contributing to body dissatisfaction (Tiggemann, 2014). In response, consumers increasingly demand authenticity, challenging brands to integrate inclusivity, sustainability, and transparency into their practices.

3. Methodology

This study utilized two primary methodologies: semi-structured interviews with local beauty companies in Estonia and a mixed-method consumer questionnaire, which included a pictorial data collection component (see Figure 1). Each method is detailed in dedicated sections. These approaches were selected to explore the influence of postfeminist ideals, sustainability, and personalized skincare preferences on business strategies and consumer behaviour within Estonia’s beauty market.

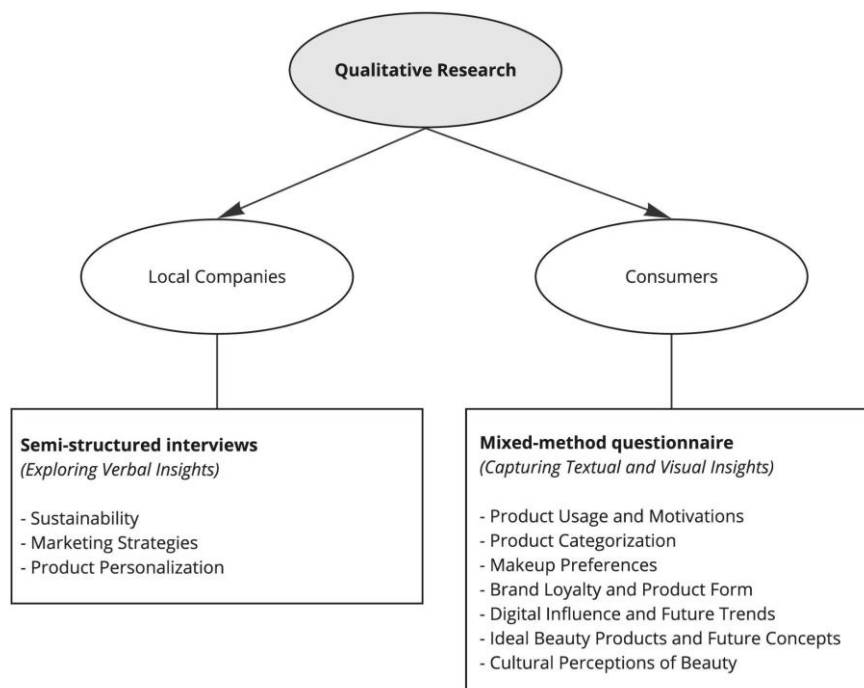


Figure 1: Overview of Qualitative Research Approaches for Companies and Consumers

3.1 Semi-Structured Interviews with Local Beauty Companies

The first methodology involved conducting semi-structured interviews with representatives from five local companies in Estonia, comprising four beauty brands and one recycling packaging partner company. The semi-structured interview format allows for flexibility in exploring key topics while maintaining a consistent framework across interviews, particularly useful in exploratory research (Kallio et al., 2016).

Interviews were conducted with five Estonian companies: Turbliss (natural peat-based skincare), Oma Care (personalized skincare products), Berrichi (vegan and algae-based skincare), Herbazen (herbal and organic cosmetics), and Neular (recycling packaging partner company). The four beauty brands were selected to emphasise sustainability and personalization (Patton, 2014). Neular, the recycling packaging partner of Berrichi, was included to explore its initiatives in converting packaging for another product cycle and its motivations for the partnership.

The interviews employed a semi-structured format, enabling an in-depth exploration of themes such as sustainability, marketing strategies, and personalized skincare solutions while allowing interviewees to share their experiences and insights. This flexible format benefits qualitative research, fostering more profound engagement with participants.

Key Themes Addressed During the Interviews Included:

- The company's approach to sustainable and eco-friendly production.
- Challenges associated with adopting zero-waste initiatives and natural ingredients.
- Marketing strategies aligned with feminist principles of inclusivity and body positivity.
- Consumer demand for personalized beauty products, particularly in the skincare sector.

Interviews with the CEOs or founders lasted between 45 and 60 minutes and were conducted in person or via video conferencing, a common practice during the COVID-19 pandemic. With participants' consent, the interviews were audio-recorded and transcribed for comprehensive analysis.

3.1.1 Data Analysis

The interview transcripts were analysed using thematic analysis, a widely recognized method for identifying, analysing, and reporting patterns within qualitative data (Clarke & Braun, 2014). This approach is particularly effective for examining complex social phenomena, such as the interplay between sustainability and postfeminist ideals in the beauty industry.

The data were manually coded, with initial themes such as "sustainability challenges," "natural ingredient sourcing," and "consumer demand for personalized skincare" emerging from the transcripts. Subsequent rounds of axial coding further refined these themes, uncovering deeper patterns, including the tension between sustainability and scalability—a key challenge local Estonian beauty brands face when competing with larger global corporations.

3.2 Consumer Questionnaire: Capturing Textual and Visual Insights

The second methodology involved distributing a consumer questionnaire that incorporated textual and pictorial data collection. This facilitated the capture of verbal and visual insights to comprehensively understand consumer perceptions and engagement with beauty products.

3.2.1 Sampling and Distribution

The questionnaire, created using Google Forms, was emailed to female participants aged 21 to 29 residing in Estonia, with origins spanning Estonia, Italy, Spain, Germany, Portugal, Finland, Sweden, Slovakia, Ukraine, and Russia. Participants were selected from a peer network, including local and international students. A total of 20 participants completed the questionnaire, with data saturation achieved after 17 responses (Guest, Bunce, & Johnson, 2006). The questionnaire link was shared following initial direct communication, and all responses were anonymized to maintain confidentiality.

3.2.2 Questionnaire Design

The questionnaire gathered qualitative data on participants' beauty product preferences, purchasing motivations, and attitudes toward sustainability and personalized skincare. Additionally, participants were asked to upload images of the beauty products they used and screenshots of online advertisements that influenced

their purchasing decisions. This method facilitated the analysis of visual factors, such as packaging design and branding, significantly shaping consumer behaviour in the beauty industry.

Krogh, Markussen, and Bang (2015) describe probing as generating significant findings across multiple dimensions. In this study, probing was instrumental in identifying specific areas within the beauty industry for deeper analysis. Participants received clear instructions, objectives, and time estimates for the exercises, though some noted that the tasks took longer than expected—a valuable consideration for future research design.

The questionnaire was designed to minimize bias, avoiding prompts that could lead participants toward specific hypotheses or cultural assumptions. Instead, it focused on understanding the interplay between beauty products and digital media in shaping consumer behaviour. Key exercises included:

- **Product Usage and Motivations:** Participants uploaded images of five beauty products they owned and reflected on their purchase decisions, considering factors like brand, packaging, and advertisements.
- **Product Categorization:** Participants categorized their products into skincare, body, and hair care, providing insights into product reliance.
- **Makeup Preferences:** A Likert scale assessed the importance of specific makeup products and motivations, such as concealing imperfections.
- **Brand Loyalty and Product Form:** Participants nominated their favourite beauty product for hypothetical magazine inclusion, explaining how its design and benefits met their needs.
- **Digital Influence and Future Trends:** Participants uploaded screenshots of appealing online beauty advertisements and identified products from online stores that inspired emotional responses and trends.
- **Ideal Beauty Products and Future Concepts:** Participants described their ideal beauty products, revealing unmet needs and innovation opportunities.
- **Cultural Perceptions of Beauty:** Participants uploaded images that illustrated their concept of beauty, exploring the impact of societal standards on consumer perceptions.

The questionnaire gathered qualitative data on beauty preferences, attitudes toward sustainability, and purchasing motivations. Including pictorial data offered valuable insights into visual elements like branding, packaging, and digital media, strongly influencing consumer behaviour in the beauty industry.

3.2.3 Data Analysis

The data collected from the questionnaire were analysed using thematic analysis, as described by Markussen, Bang, and Krogh (2015). Open-ended responses were inductively coded, allowing themes to emerge organically from the data. Key themes identified included preferences for "eco-friendly packaging," the significance of "natural ingredients," and the impact of "body positivity in advertising." This approach offered a detailed understanding of participants' values and priorities regarding beauty products.

Pictorial data were categorized and analysed alongside textual responses, providing visual evidence of factors influencing consumer behaviour. This integrated method allowed a deeper exploration of how packaging design, branding, and advertising shape purchasing decisions. The findings emphasized a strong consumer preference for beauty products that align with personal values, particularly those reflecting sustainability and ethical production practices.

3.3 Ethical Considerations

Local beauty companies in Estonia expressed no concerns regarding anonymity and willingly supported being named in the research, demonstrating their openness and confidence in contributing to industry insights. In contrast, consumer participants required anonymity to participate. Only basic demographic data, such as age and gender (preselected as female due to the study's scope), were collected, ensuring privacy and safeguarding personal information throughout the research process.

4. Findings

This section outlines the findings from the two primary methodologies: interviews with local beauty companies in Estonia and a consumer questionnaire incorporating pictorial data. The analysis highlights key themes, offering insights into how sustainability, personalization, and postfeminist ideals influence Estonia's beauty industry.

4.1 Findings from Local Beauty Companies

Interviews with five local companies—Turbliss, Oma Care, Berrichi, Herbazen, and Neular—provided valuable insights into sustainability practices, personalization trends, and feminist-inspired marketing strategies (See Figure 2).

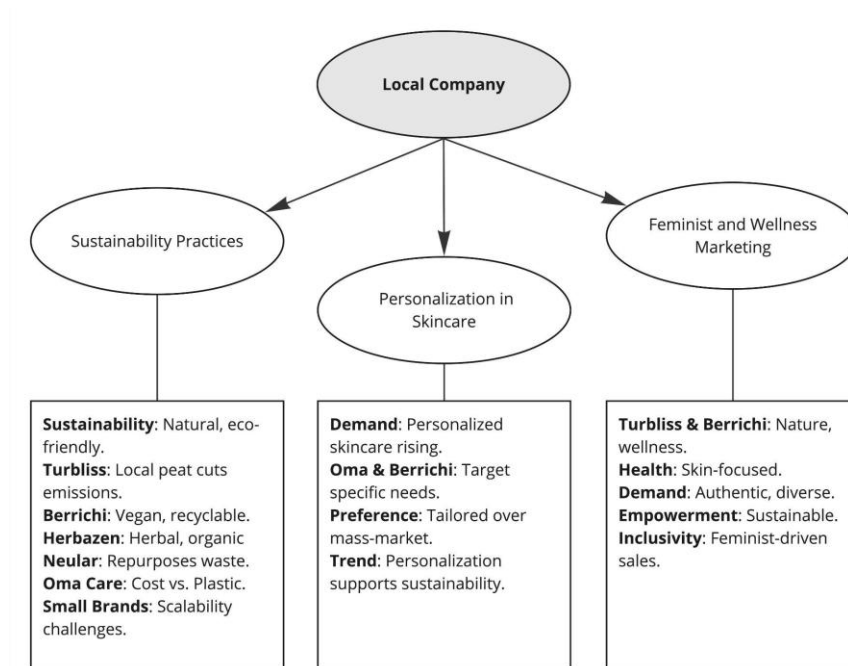


Figure 2: Key Insights from Local Companies

4.1.1 Sustainability Practices

All five companies strongly committed to sustainability, prioritizing using natural ingredients and eco-friendly practices. Turbliss, for instance, utilizes locally sourced Estonian peat, a nutrient-rich organic material from wetlands valued for its mineral content and sustainability, in its skincare products. This approach enhances product quality and supports environmental preservation by minimizing transportation-related carbon emissions. Similarly, Berrichi integrates vegan ingredients and recyclable packaging as key elements of its sustainability initiatives.

While not a beauty product manufacturer, Neular plays a vital role in the circular economy by recycling used packaging. Its processes repurpose materials, including those from brands like Berrichi, into new products such as furniture, extending the packaging lifecycle and significantly reducing waste.

Despite these efforts, challenges persist in implementing sustainable practices. Oma Care, for example, highlighted the difficulty of balancing cost-efficiency with sustainability, particularly in reducing plastic usage without compromising product quality. This issue reflects a broader challenge within the beauty industry, where smaller brands often lack the resources to invest in sustainable innovations at the scale of larger corporations.

The findings support critiques of sustainability's scalability for smaller brands (Sasounian et al., 2024) but show how local brands like Turbliss and Neular use innovative, localized practices to address gaps overlooked by larger corporations.

4.1.2 Personalization in Skincare

Several companies identified a growing consumer demand for personalized skincare solutions. Oma Care and Berrichi have responded by developing products targeting specific skin concerns such as acne, aging, and sensitivity. Both brands also explore methods to customize skincare recommendations through consultations and skin analysis.

The demand for personalization remains a significant trend, as consumers increasingly prioritize beauty products tailored to their unique needs over generic, mass-market options. This shift aligns with a broader industry movement toward individualized care and sustainable practices.

The findings on personalized skincare align with industry trends (Ntoutsis et al., 2023) but extend theories by showing how personalization intersects with sustainability, as consumers now expect products to meet individual and environmental needs.

4.1.3 Feminist and Wellness Marketing

The interviews revealed how feminist ideals shape marketing strategies, with Turbliss and Berrichi actively integrating these values through nature-inspired and wellness-focused campaigns. These brands challenge traditional beauty standards by emphasizing skin health and vitality without featuring models, aligning with postfeminist ideals prioritising empowerment and self-acceptance over adherence to narrow beauty norms.

By adopting wellness-focused strategies that use nature imagery and promote inclusivity, these companies have effectively resonated with consumers who value authenticity and diversity—key elements of contemporary beauty narratives. Despite challenges related to cost and scalability, Turbliss and Berrichi remain committed to sustainability and personalization, addressing consumer demand for eco-friendly, tailored skincare.

Their marketing approaches, which integrate feminist values by championing body positivity and diversity, align with the growing consumer preference for authenticity, empowerment, and ethical beauty practices. These strategies position the brands as responsive to evolving market expectations while reinforcing their dedication to sustainable innovation.

Incorporating feminist ideals into marketing aligns with Gill's (2007) discussion of postfeminist media culture. This study expands on her work by showing that feminist-inspired marketing shifts perceptions and drives purchasing, making inclusivity and authenticity key to brand success.

4.2 Consumer Insights

The findings from the questionnaire reveal a nuanced understanding of how women aged 21-29 perceive beauty products, their needs and preferences, and their feelings towards standardized beauty advertisements. In addition to textual responses, the pictorial data submitted by participants provided further insights into their product choices, preferences, and the role of advertising. This section presents a detailed consumer research analysis, organized around the key themes: consumer needs, feelings about beauty, desired changes in the beauty industry, dream products, and the influence of standardized beauty advertisements (see Figure 3).

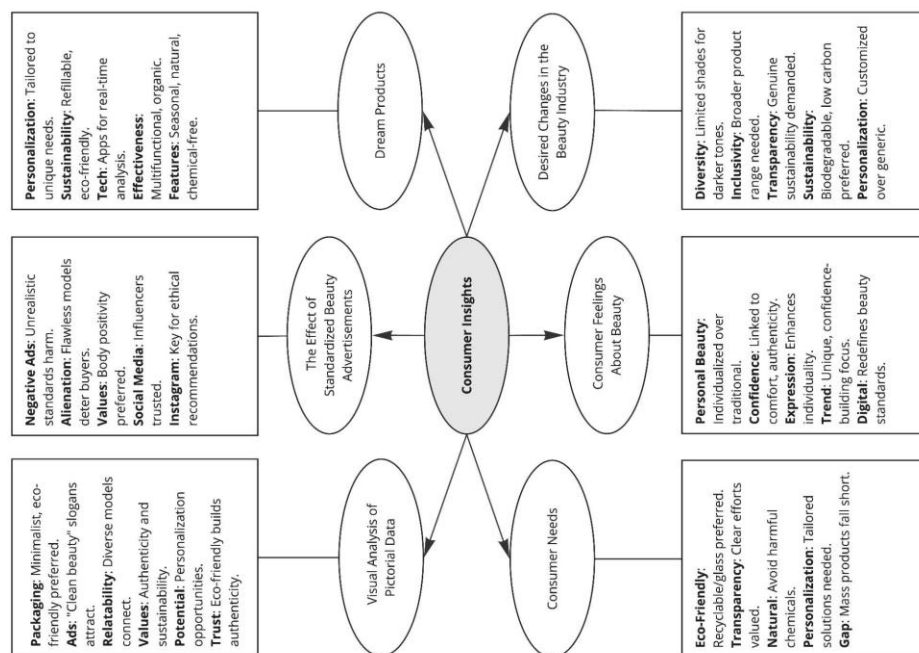


Figure 3: Consumer Insights Overview

4.2.1 Consumer Needs

A prominent theme emerging from the responses was the diverse consumer needs regarding beauty products, especially sustainability and personalization. Many participants expressed a strong preference for products that align with their values, such as eco-friendliness, cruelty-free certification, and the use of natural ingredients.

For example, several participants highlighted the importance of eco-friendly packaging. One participant, aged 23, mentioned that she avoids buying products packaged in plastic and instead seeks out brands that use recyclable materials or glass containers. Another participant, aged 25, emphasized that she prefers products from brands that are transparent about their sustainability efforts and ingredients.

In addition to sustainability, natural ingredients were a key factor influencing product choices. Many respondents reported seeking products free from harmful chemicals such as parabens, sulphates, and artificial fragrances. One participant, aged 24, explained that she switched to natural skincare products after experiencing irritation from conventional products.

Many respondents also mentioned the importance of personalization in beauty products. Several women expressed dissatisfaction with mass-market beauty products that do not cater to their specific skin concerns. One participant, aged 22, stated that she has sensitive skin and struggles to find gentle and effective products. The lack of genuinely personalized options in the mainstream market was a recurring theme in the responses, indicating a gap between consumer expectations and the products available to them.

4.2.2 Consumer Feelings About Beauty

When asked about their definitions of beauty, participants shared diverse and individualized perspectives, reflecting the growing trend of rejecting traditional beauty standards in favour of more personal concepts of beauty.

Many respondents emphasized that beauty is about self-confidence and feeling comfortable in their skin. One participant, aged 24, explained that her concept of beauty is closely tied to naturalness and authenticity. She rejects the notion that beauty is about perfection, stating, "I feel most beautiful when I'm not trying to conform to someone else's idea of what beauty should be."

Another participant, aged 21, described beauty as being about self-expression rather than conforming to standardized ideals. She mentioned that makeup and skincare allow her to express her unique personality, and that beauty should enhance individuality rather than masking imperfections.

This shift towards personal definitions of beauty highlights a growing trend where consumers no longer aspire to fit into traditional or standardized notions of beauty. Instead, they seek products and brands that allow them to express their uniqueness and build self-confidence.

The shift from traditional beauty standards to self-expression and authenticity supports Wolf's (1991) critique of beauty as a commodity. The findings show that digital platforms help consumers redefine beauty on their terms, making narrow, media-driven ideals less relevant.

4.2.3 Desired Changes in the Beauty Industry

When asked what they would like to see change in the beauty industry, participants overwhelmingly expressed frustration with the lack of diversity, inclusivity, and ethical practices in mainstream beauty products.

One of the most frequently mentioned issues was the need for more inclusivity in product offerings. Several participants, particularly those with darker skin tones, noted that they struggle to find foundation shades that match their skin tone. A participant, aged 22, mentioned that many Estonian beauty retailers carry a limited range of shades, making it difficult for women of colour to find suitable products.

In addition to inclusivity, participants expressed a desire for more transparency from beauty brands. One participant, aged 25, expressed frustration with "greenwashing"—a marketing practice where brands exaggerate or falsely claim environmental benefits. She stated that she would like to see more authentic sustainable practices from beauty companies, such as using biodegradable packaging and minimizing their carbon footprint.

Participants also called for an increase in personalized beauty solutions. One participant, aged 24, explained that although she has tried multiple mainstream beauty brands, none have effectively addressed her specific skin

concerns. This dissatisfaction with generic products reflects a broader desire for customized solutions that cater to individual skin types, preferences, and needs.

4.2.4 *Dream Products*

The question of their dream beauty product yielded responses focused on personalization, sustainability, and effectiveness. Many participants envisioned products tailored to their unique skin needs, reflecting strong demand for personalization.

One participant, aged 23, described a personalized skincare regimen adjusting to seasonal skin changes, made from natural ingredients, free of harmful chemicals, and packaged in refillable, eco-friendly containers. Another, aged 25, envisioned a product combining sustainability and technology, customized through an app analyzing skin type and providing real-time solutions. This highlights growing openness to tech-enabled beauty solutions that enhance personalization and effectiveness.

Some participants also desired multifunctional products addressing multiple skin concerns. For instance, a 24-year-old participant described her ideal skincare item as one that moisturizes, protects from sun damage, and treats acne, all while using organic ingredients.

4.2.5 *The Effect of Standardized Beauty Advertisements*

Participants were also asked to reflect on the effect of standardized beauty advertisements on their purchasing behaviour and self-perception. Many respondents expressed negative feelings toward traditional beauty advertisements that promote narrow, unrealistic beauty standards.

Several participants mentioned feeling alienated by advertisements featuring models with flawless skin and bodies. One participant, aged 21, stated that such ads make her feel inadequate and disconnected from the products being sold. She explained that unattainable beauty standards lower her self-esteem and make her hesitant to try new products.

Another participant, aged 24, said she avoids products from brands promoting "perfect" beauty in their ads, as she feels these brands do not align with her values of self-acceptance and authenticity. She prefers buying from brands that embrace body positivity and diversity in their marketing campaigns.

The influence of social media advertising was also a prominent theme. Several participants indicated they are more likely to be influenced by beauty influencers or bloggers promoting products that align with their values, such as sustainability or cruelty-free certifications. One participant, aged 23, mentioned she often looks to Instagram for beauty recommendations, explaining that she trusts influencers who openly share their skin concerns and use natural products.

4.2.6 *Visual Analysis of Pictorial Data*

The pictorial data provided further insights into the types of products participants use, the role of packaging in purchasing decisions, and the influence of advertising aesthetics. The uploaded images revealed that many participants are drawn to products with minimalist, eco-friendly packaging. Glass containers, recyclable materials, and simple designs were frequently featured in the photos, suggesting that packaging aesthetics aligned with sustainability play a significant role in consumer choices.

Participants also uploaded screenshots of online advertisements that influenced their purchasing decisions. These ads often featured slogans such as "clean beauty," "natural ingredients," and "eco-friendly." The analysis of these ads revealed that many participants are drawn to brands that emphasize natural beauty and ethical practices in their marketing.

Several participants expressed that they prefer ads that feature relatable models and diverse representations of beauty. One respondent noted that she is more likely to purchase products from brands that showcase a range of skin tones, body types, and ages in their ads, as this makes her feel included and valued as a consumer.

The findings from the consumer research highlight the importance of sustainability, personalization, and inclusivity in the modern beauty industry. Consumers are increasingly rejecting traditional beauty standards and seeking products that align with their values of authenticity, self-expression, and environmental responsibility. The questionnaire's insights suggest significant potential for innovation in the beauty industry, particularly in developing more personalized, sustainable, and comprehensive beauty products and marketing strategies.

Consumer preference for minimalist, eco-friendly packaging highlights greenwashing critiques (Sasounian et al., 2024). The findings show that packaging design is key in building consumer trust and brand authenticity.

5. Discussion

The findings demonstrate that sustainability, personalization, and feminist ideals play a transformative role in reshaping Estonia's beauty industry. Local beauty companies are adopting sustainable practices, including using natural ingredients and initiatives to minimize environmental impact. However, challenges related to scalability and cost remain significant, reflecting a broader global trend where larger corporations are better positioned to implement advanced eco-friendly solutions at scale.

The demand for personalized beauty products is growing, as evidenced by the innovations of brands such as Oma Care and Berrichi, which address specific skin concerns like acne and sensitivity. This trend highlights consumer dissatisfaction with generic, mass-market products and emphasizes the importance of tailored solutions that align with individual needs. Similarly, feminist and wellness-driven marketing have become integral to contemporary practices. Brands like Turbliss and Berrichi focus on body positivity and diversity, challenging traditional beauty standards and resonating with consumers seeking inclusivity and empowerment.

The findings further validated consumer preferences for authenticity and sustainability, with minimalist, eco-friendly packaging and transparent ingredient disclosures identified as key priorities. The increasing demand for multifunctional, technology-enabled products also presents opportunities for innovation, as consumers look for adaptable solutions that cater to evolving skincare requirements.

Social media emerged as a significant influence on consumer behaviour, with many participants relying on influencers for transparent and relatable product recommendations. This shift from traditional advertising toward digital, peer-driven marketing underscores the growing importance of authenticity and emotional connection in engaging contemporary beauty consumers. Social media, therefore, represents a vital tool for brands aiming to build meaningful relationships and align with evolving consumer values.

6. Limitations

This research faced several limitations that should be considered when interpreting the findings. The geographical focus on Estonia restricts the broader applicability of the results, as they may not reflect global or cross-cultural perspectives. Additionally, the small sample size of 20 participants, all women aged 21–29, limits the diversity of viewpoints and reduces the generalizability of the insights. The reliance on self-reported data introduces the risk of response bias. At the same time, the study's findings are tied to a specific point in time, potentially diminishing their relevance as beauty trends continue to evolve.

Although the study addressed technological personalization, it lacked a deeper exploration of advanced innovations, such as AI-driven solutions. The qualitative methodology provided valuable insights into consumer behaviour and business strategies, yet the absence of quantitative metrics limits the ability to draw broader generalizations. Furthermore, potential researcher bias in the interpretation of data may have influenced the conclusions, underscoring the need for additional studies to validate and expand upon these findings.

7. Conclusion

The findings of this research highlight the significant transformation within the Estonian beauty industry, where local companies are embracing sustainability, personalization, and feminist values in response to evolving consumer preferences. Beauty brands such as Turbliss, Oma Care, and Berrichi have integrated eco-friendly practices and personalized skincare solutions, though they continue to face scalability and resource limitations challenges. At the same time, consumers are increasingly rejecting traditional beauty standards and seeking products that reflect their values of authenticity, self-confidence, and environmental responsibility.

Consumers, particularly women aged 21–29, strongly emphasise sustainability, with many expressing a preference for natural ingredients, cruelty-free products, and eco-friendly packaging. The demand for personalized beauty solutions is also rising, as consumers look for products that cater to their unique skin concerns rather than generic, mass-market offerings. Additionally, there is a growing frustration with standardized beauty advertisements that promote unattainable ideals, with consumers favouring brands that embrace diversity, body positivity, and ethical marketing practices.

Estonian beauty brands could better align with consumer demands for tailored, eco-friendly products by emphasizing inclusivity and authenticity in marketing campaigns and leveraging AI-driven personalization tools. Integrating artificial intelligence and data-driven solutions presents a promising area for innovation, allowing brands to offer more personalized experiences. Additionally, the growing influence of social media and user-generated content on beauty standards and consumer behaviour highlights the need for strategies that reflect sustainability, inclusivity, and personalization, helping brands meet market expectations and enhance competitiveness.

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Social Comparison and Inverted Male Gaze in Marketing: An Exploratory Study of Gay Male Instagram Users' Reasons for Stopping and Holding the Scroll

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Abstract: It is argued that images of fit muscly men on Instagram disrupt the scroll for men and gay men in particular. Six pack abs may make gay men stop and hold the scroll, as may other body features, such as muscles, facial features, hair and beard, or even an obvious bulge in tight shorts. These are some of the main reasons why gay Male Instagram Users (MIUs) stop their scroll and stay on an image. However, there are other factors (i.e. affective triggers) such as the background imagery, weather, or their own emotions and desires. Marketers may exploit this when composing messages aimed at men.

Little research has been undertaken to date into “inverted” male gaze - i.e. how males look upon themselves and other males in advertising, particularly on social media. This study aims to bridge this gap and make a theoretical contribution to the study of inverted male gaze in marketing. It will focus on the use of the male body from an idealised and idolised point of view on Instagram, focussing on a sample of gay men. Adopting the lens of social comparison theory, the research objectives (ROs) are as follows:

RO 1 – To investigate which aspects of male body image influence gay MIUs to stop and hold the scroll.

RO 2 – To explore if affective triggers impact the scrolling behaviour of gay MIUs.

RO 3 – To contribute to the literature and knowledge and suggest updates to the theory.

The research employs a qualitative interpretivist approach. Phase One involved an autoethnographic study of the author's Instagram scroll, and an identification of the appealing aspects of body image and affective triggers on scrolling behaviour. Phase Two is underway using semi-structured interviews with a sample of gay MIUs to probe which aspects (if any) of male body image and affective triggers influence the scrolling behaviour of gay MIUs, and to identify the marketing implications of this. This is important and of interest to theorists and practitioners. Findings are expected in 2026.

Keywords: Social Comparison, Inverted Male Gaze, Content Analysis, Social Media, Digital Narcissism, Gay Male Instagram Users

1. The Current Research

While always a feature in art and media, the use of male body imagery has increased in digital marketing in recent decades (Kraye, Ingledew & Iphofen 2007: 895; Myers et al, 2012: 342; Ho, Lee & Liao 2016: 4; Pan and Peña 2020: 731). This increase is arguably more prevalent in advertisements specifically targeting men across a myriad of social media platforms, as brands seek influence and court influencers as they compete to reach male consumers (Schroeder and Borgerson 2015: 1726; Melki et al, 2015). However, while much research focuses on male gaze and the female body in advertising, there is a notable gap in research into inverted male gaze and the use of the male body to influence from an idealised and idolised point of view; there is an even more noticeable gap in research on this topic focused on gay men (Morrison, Kalin & Morrison 2004; Elliott and Elliott 2005: 5; Kraye, Ingledew & Iphofen 2007: 895; Melki et al, 2015; Ho, Lee & Liao 2016: 4; Iqbal 2022; Allegrini 2023). Proposing a qualitative interpretivist study, this doctoral research aims to contribute to the literature and knowledge in the area by focusing on inverted male gaze and the attraction and power of body influence on Instagram posts that target men.

2. Gap in the Current Literature

There is a particular gap identified in several studies which focus on gay men (as outlined above). While there is a wealth of literature discussing female body representation in advertisements, there is a clear gap cited in relation to the male physique, and in particular in relation to gay men's perceptions of this, which has led to calls for more research into the impact of male body representation in advertisements and social media posts targeting all demographics (Morrison, Kalin & Morrison 2004; Elliott and Elliott 2005: 5; Kraye, Ingledew & Iphofen 2007: 895; Melki et al, 2015; Schroeder and Borgerson 2015: 1726; Ho, Lee & Liao 2016: 4; Iqbal 2022; Allegrini 2023). The impact of this research may influence policy and strategy for advertisers and the influencers that they often utilise. It will contribute to the expansion of social comparison theory and the discussion on

consumer perceptions of male body representations in advertisements, as it seeks to address any imbalance in approach to utilising body imagery by different gender identities and across different sexual orientations.

There is a dearth of research in *digital* narcissism, especially that which is focussed on gay men. Wright, Webster & Syed (2021: 320) note that several studies have been conducted into perceived positive personality traits, but few have focussed on so-called *dark* personality traits (such as sub-clinical narcissism) and its influence on marketing on social media platforms.

The literature review further confirms that there is little research into “inverted” male gaze - i.e. how males look upon themselves and other males in advertising, particularly on social media. The aim of this research is to bridge this gap and make a theoretical contribution to the area of inverted male gaze in advertising and social comparison theory. It will focus on the use of the male body from an idealised and idolised point of view on Instagram, focussing on a sample of gay MIUs (Male Instagram Users).

The research gaps identified in the literature review are the following:

- Gap A: Aspects of body image/inverted male gaze that may engage (stop and hold the scroll).
- Gap B: Impact of affective triggers on the scrolling behaviour of gay MIUs.

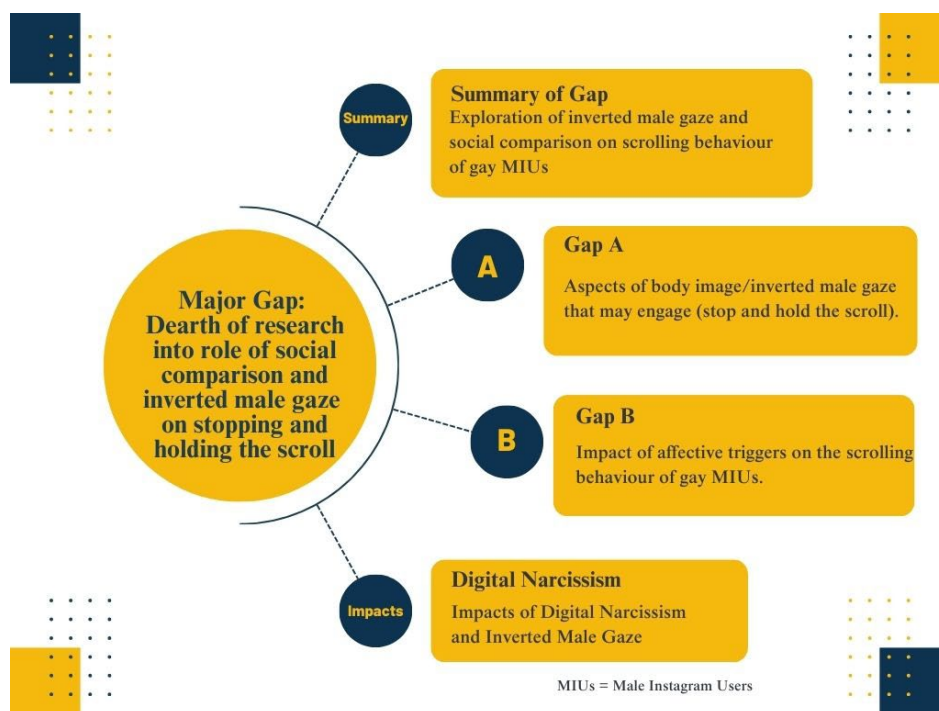


Figure 1: Summary of Gaps in Research

3. Theoretical Framework

Social comparison theory was initially proposed by social psychologist Leon Festinger in 1954. It explains how individuals evaluate their own opinions and desires by comparing themselves to others. Since its introduction to communication and social psychology, research has shown that social comparisons are more complex than initially thought, and that people play an active role in comparisons (Suls, Martin & Wheeler 2002). It has been employed in the fields of social psychology and communication/advertising since the 1950s and throughout the following decades. A number of revisions, including new domains for comparison and motives, have also been made since 1954 (Elliott and Elliott 2005). Emergent themes from social comparison theory include the following motivations for social comparison (Kruglanski & Mayseless, 1990; Suls, Martin & Wheeler 2002): self-enhancement; maintenance of a positive self-evaluation; perceptions of relative standing; components of attributes; closure, and the avoidance of closure.

Solomon's (2016) PhD research employed social comparison theory to research the impact of idealised female body imagery exploring the relationship between social media use, social comparison and self-evaluation. This research proposes a similar approach by using social comparison theory as a framework to investigate the main reasons that a man may stop scrolling on Instagram when he sees an image of another man. It goes further by

exploring what affective triggers and motivating factors influence the inverted male gaze and if this is to satisfy the viewer's psychological and/or social needs. It explores the variety of reasons why a man may stop and hold on such an Instagram post (Lou et al, 2023).

The current research proposes to continue to frame the research around social comparison theory. If the outcome of a social media interaction is consumers of social posts stopping/examining the post, a key question is *What makes them stop?* Is it comparison, trust, narcissism, attraction, objectification, motivation, goal setting, visual culture, or something else? This research investigates this in terms of inverted male gaze, with an emphasis on upward social comparison – the impact of gay MIUs comparing themselves to idealised and idolised fit body images.

4. Summary of the Literature Review

4.1 The Male Body as an Idealised and Idolised Image

Decoding meaning from imagery (semiotics) in the case of advertising involves taking the viewer on an emotional journey (Morrow 2022: 293, Lander, Harris & Garrido, 2023). MIUs compare themselves regularly to body images in posts and advertisements, mostly in an upward social comparison, which can greatly impact perceptions of body image (dis)satisfaction (Sun, Li, & Huang, 2023: 2087, Wang et al, 2018). How the MIU decodes the message is influenced by many factors, and not just the image itself (Iqbal 2022, Sternatori and Abitbol 2022) but also their emotions, surroundings, and other affective triggers.

4.2 Inverted Male Gaze

Male gaze involves men observing a female subject and has been widely discussed throughout history. In the modern era, a focus on the inversion of the male gaze is required, i.e. how men look upon themselves and other men as a way of decoding meaning of masculinity and what it means to be a man, as well as from the perspective of sexual attraction and other factors (Chatzopolou, Filieri & Arzu, 2020: 1271-2, Fagerlund and Wright 2021; Iqbal 2022). Inverted male gaze as an antecedent and influence on body image (dis)satisfaction for gay MIUs requires further discussion and is identified as a research objective in this research.

4.3 Influence in Contemporary Marketing

Fitness influencers are widely used by MIUs as a point of comparison and trust in forming definitions of idealised masculinity and what it means to be a man (Allegrini 2023; Beyer 2023, Pourazad, Stocchi & Narsey, 2023) and forms an element of peer-to-peer communication with multiple demographics (Alampi 2019: 208). The power of influence is evident in the upward social comparison that takes place on Instagram (Kraye, Ingledew & Iphofen 2007: 896).

4.4 Digital Narcissism

Sub-clinical narcissism with a proliferation of male body imagery has been linked to increased social media usage amongst all MIUs (Ho, Lee & Liao 2016) including gay MIUs. Despite this, there is a paucity of research into the role of sub-clinical narcissism in how an MIU responds to idealised body imagery used in marketing and influence, including fitness influence (Wright, Webster & Syed (2021), and there are calls for research into its impact on body image and definitions of masculinity in gay men (Duggan and McCreary 2004).

5. Research Objectives

Following the literature review, the identification of social comparison theory as the preferred framework, and the investigation into an appropriate methodology, the research objectives to address the gaps in the areas are as follows:

RO 1 – To investigate which aspects of male body image influence gay MIUs to stop and hold the scroll.

RO 2 – To explore if affective triggers impact the scrolling behaviour of gay MIUs.

RO 3 – To contribute to the literature and knowledge and suggest updates to the theory.

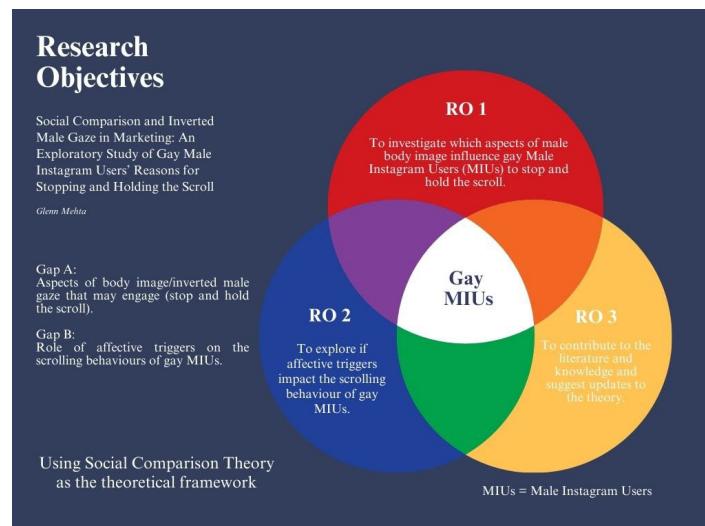


Figure 2: Research Objectives

6. Primary Research Methodology

This research commenced with an in-depth exploration of the relevant literature to contextualise the issues and frame the research design and objectives, allowing further refinement of the research question, aims and objectives, and suggesting a way forward on the research methodology.

There has been a call for exploratory research into the use of male body imagery in advertising. Consequently, and based on initial secondary research, this study points towards qualitative interpretivist research using autoethnography and semi-structured interviews. Based on the literature, this is believed to be the best approach to study the imagery and context in depth.

Having completed the first three years on this project (part-time), this research now proposes to bridge the gap in the literature by focussing on inverted male gaze, and the perceptions of the idealised and idolised male body imagery used to influence on Instagram when targeting gay men.

A qualitative interpretivist study of the power and influence of social comparison with the idealised and idolised male body stereotype on Instagram is an investigation that could lead to important results for modern marketers. Such a study is recommended by a variety of sources in order to better understand men's reactions to male body representation in advertisements and other media (Morrison, Kalin & Morrison 2004; Elliott and Elliott 2005: 5; Krayner, Ingledew & Iphofen 2007: 895; Melki et al, 2015; Schroeder and Borgerson 2015: 1726; Ho, Lee & Liao 2016: 4; Iqbal 2022).

The conceptual framework adopts theories on social comparison, content analysis, thematic analysis, digital advertising and the literature on body imagery and how idealised and idolised body imagery assists the viewer in deriving meanings from the environment around them. In particular, the research will focus on how this can be leveraged in the marketing of products, services, lifestyles and concepts targeting men who are attracted to men. The primary research is important given the limited research and clear gaps in this area.

This will involve a visual analysis of a variety of posts and must begin with the object itself and a description of the imagery as a starting point for interpretation. The research will draw further on the work of Schroeder and Borgersen (2015) who investigate the intersection of gender identity, culture and marketing communications by analysing and commenting on media imagery using a semiotic analysis as suggested by Williamson (1978) and Barthes (1957, cited in Huppertz 2011), and note that representations such as media images (e.g. Instagram posts, stories and reels) make identities available to us as raw material for "identity construction" (Schroeder and Borgerson 2015: 1726). Various authors suggest that this intersectional approach is the most productive method to explore gender representation in advertising within a matrix of identity factors which include sexuality.

Phase One involves an autoethnographic study into the researcher's own habits on Instagram, investigating (as a gay MIU) what aspects of the body and other factors make the researcher stop and hold the scroll on his Instagram feed when he sees an image of a fit male physique. This autoethnographic approach helps to explore

the researcher's personal journey and interest in inverted male gaze as part of framing the research plan. According to Wall (2006: 146):

"Autoethnography is an emerging qualitative research method that allows the author to write in a highly personalized style, drawing on his or her experience to extend understanding about a societal phenomenon. Autoethnography is grounded in postmodern philosophy and is linked to growing debate about reflexivity and voice in social research."

Continuing to employ a qualitative interpretivist approach, Phase Two will employ semi-structured interviews with a sample of gay MIUs as consumers of such images to probe deeper and to contextualise the imagery under analysis. A qualitative interpretivist approach will analyse the data gathered using thematic analysis (Weber 1990; Scharp and Sanders 2019) which captures, categorises and presents the data in a patterned way, allowing a structure to emerge from the data which may be presented, analysed and discussed in the findings. The data gathered in this study will be organised into themes to facilitate the investigation, analysis and identification of key patterns. Relevant qualitative analytical tools (such as NVivo) will be used in the data analysis. Results are expected in 2026.

7. Phase One – Autoethnography

Following a recommendation by the doctoral annual review panel in January 2024, this researcher engaged in a reflective diary on his Instagram feed. He recorded the factors that he felt disrupted the scroll to make him take notice of a particular male image. Using the Apple Journal function on an Apple iPhone over morning coffee for three months, Instagram was opened as normal and a regular scroll ensued. When a particular image of a male caught the attention of the researcher, a note was made in the reflective diary of the aspects of the image (e.g. body, facial features, fitness, etc.) that caused him to stop (i.e. disrupted his morning scroll). For 92 days between 1st March 2024 and 31st May 2024, the Apple Journal documented notes that captured the reasons for stopping on particular images, and recorded screenshots of the images. Further, it captured the affective triggers that influenced the decision to stop. For example, if it was a cold day, and the image of a man on the beach wearing just shorts suggesting warm weather appeared in the feed, this feeling of cold in the Irish spring and longing for warmth of the summer sun was recorded as an affective trigger. This exercise was conducted in order to determine if an ethnographic (or autoethnographic) study would be an appropriate and useful research methodology to answer the research questions.

For March 2024, the first random image of a man (that the researcher does not normally follow) that attracted the researcher enough to stop the scroll was recorded. For April 2024, the first image from the suggested reels on Instagram (from accounts that the researcher does not normally follow) that attracted the researcher enough to stop the scroll was recorded. Finally, for May 2024, the first random image of a man that the researcher does not normally follow that attracted the researcher enough to stop the scroll was recorded, similar to March 2024, but this time with a focus on which element of the body image in particular made the researcher stop (e.g. abs, shoulders, eyes, beard, etc.)

For each factor that disrupted the scroll to make the researcher stop and review it, an impact score of 1, 2 or 3 was assigned, where the higher score was a major contributing factor to making the researcher stop and hold the scroll. If the factor was not a major contributing factor but was a consideration, a lower score of 1 was assigned. The key elements of body image that stopped and held the scroll are presented in figure 3.

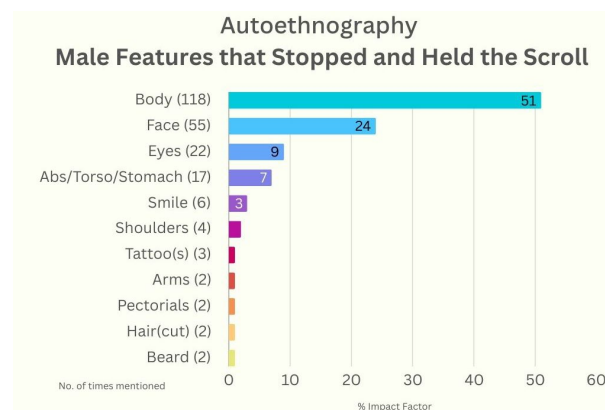


Figure 3: Autoethnography - Features that Stopped and Held the Scroll

Further, the affective triggers (e.g. desire to workout, BID – Body Image Disturbance, sun, holidays) that were evident when stopping and holding the scroll were also recorded. These were based on the feelings, mood and weather as experienced by the researcher on the day in question. The key affective triggers are displayed in figure 4 below.

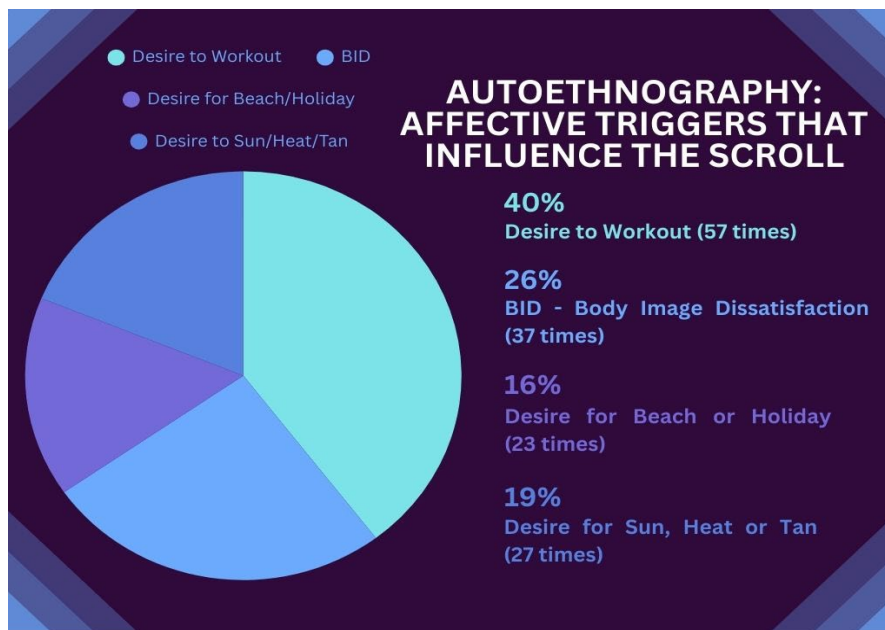


Figure 4: Autoethnography Affective Triggers

This reflective diary exercise was very useful in framing the impact that body imagery, specific body parts, and affective triggers may have on capturing a gay man's attention when he looks at another man and draws inferences about his place in comparison to said images (social comparison theory) and warrants further exploration in Phase Two (from Spring 2025) including an investigation into the role of these factors.

8. Originality and Innovative Nature of the Research

The dynamic and innovative nature of changing social media platforms and their functionality means that there is gap in the literature in relation to subject-specific articles. Advertisers of all types want to engage with niche demographics and to access influencers' perceived influence over consumers. Further, there is limited research into the use of male body influence to date in advertising (gap in literature), and how men look upon themselves and other men including from a sexual attraction perspective. There is limited research on the impact of influence as an advertising tool targeting male consumers and calls for further investigation. There is limited discussion of affective triggers that impact gay MIUs in stopping and holding the scroll on Instagram. The benefits from this research study may include a development of an understanding of what stops the scroll on Instagram for gay men when they see images of other men (unique area, with limited research). This will also consider any affective triggers that may impact the scroll. Further possible benefits include an in-depth analysis of the impact of Instagram posts on gay men in relation to male body idealisation and idolisation, and a development of a framework that may be used by practitioners when marketing to gay MIUs, and by those responsible for drafting policies in the sector. Possible limitations include changes in or obsolescence of Instagram or its tools during the lifetime of this research, the subjective nature of themes identified, and the availability and openness of a sufficient sample of participants.

9. Contributions

This research aims to contribute to the research in the areas and build on the work of a variety of authors including Iqbal (2022), Wright, Webster & Syed (2021), Pan and Peña (2020), and Schroeder and Borgerson (2015). It will further contribute to emerging findings in social comparison, gender and queer studies. It aims to expand and update social comparison theory to the specific sample. Further, it aims to contribute to marketing and advertising practices by responding to a need for improved and targeted approaches to social media marketing, and to policy development for social media platforms and policy makers, as well as the advertising and technology industries.

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Ethics Declaration

The Technological University Dublin Research Ethics Committee has provided ethical clearance for this research.

AI Declaration

Artificial intelligence has been used as part of mind-mapping and brainstorming on topics related to this research only. It has not been used to compose any part of this paper or the research thus far. It is envisaged that AI will be used to assist in transcription of the interviews, to link with NVivo for qualitative analysis, and to complement manual thematic analysis. Wherever AI is used in the research, it will be clearly cited.

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Emotional Triggers and Cognitive Manipulation in Romanian Social Media: A NLP Analysis

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Abstract: Emotionally charged speech has become a key component of disinformation efforts in the era of social media. To elicit strong emotional responses, speakers strategically employ cultural and historical allusions in their highly engaging media appearances on various internet platforms and so is the case for Romania as well. This work uses Natural Language Processing (NLP) tools to identify and analyze these speeches' emotional signals and language patterns, especially those intended to evoke negative emotional reactions like hatred, fury, and fear. We aim to highlight how historical allusions are used to influence public opinion by analyzing the interaction between quick, automatic emotional reactions (System 1 thinking) and more thoughtful, rational replies (System 2 thinking) when culture and history are embedded. The results of this investigation show how speakers adeptly lead listeners from an initial emotional connection to controversial beliefs that are intellectually defined and frequently aligned with polarized societal or political goals. Our findings contribute to the understanding of how emotionally charged language fosters ideological division and perpetuates disinformation in the digital space. Moreover, the research offers a critical lens on the cognitive mechanisms that make individuals susceptible to such manipulative tactics, providing insights that could inform strategies to counter disinformation and promote more informed public discourse. This paper is part of a broader PhD research program focused on analyzing narratives and narrative strategies in disinformation, with all findings contributing to this purpose.

Keywords: Cognitive Manipulation, Disinformation, Romanian Social Media, NLP, Emotional Trigger.

1. Introduction

In the online age, disinformation campaigns have leveraged the vast reach of social media to manipulate public opinion on an unprecedented scale. Social media platforms, while fostering connectivity and democratizing access to information, have simultaneously become fertile ground for spreading disinformation among the Romanian population. These campaigns rely heavily on emotionally charged rhetoric, a tactic that taps into audiences' psychological and cognitive vulnerabilities. Such rhetoric is particularly effective in shaping perceptions and driving engagement, as it triggers instinctive emotional responses like fear, anger, and hate, bypassing critical reasoning processes.

This phenomenon takes on a culturally specific dimension in online Romanian-speaking communities, with disinformation campaigns strategically exploiting collective historical memories and cultural narratives. Events with profound societal significance, such as the 1989 Romanian Revolution and the communist regime, are invoked to evoke strong emotional reactions. These historical references are weaponized to manipulate public perception, using emotions as a tool to deepen ideological divides and align audiences with polarized social or political agendas. By leveraging such emotionally resonant themes, disinformation campaigns skillfully guide audiences from initial emotional engagement to more deliberate, cognitively framed ideologies that perpetuate division.

Despite the increasing body of research on disinformation, significant gaps still exist in understanding how emotionally charged language functions within specific cultural contexts. Vosoughi, Roy, and Aral (2018) demonstrated that false information spreads more quickly when it evokes emotions such as fear or anger, but their study does not emphasize cultural nuances. Similarly, Wojcieszak et al. (2021) emphasize the role of emotional manipulation in driving engagement on platforms like Facebook, yet they overlook how cultural and historical references enhance these effects. While Kahneman's (2011) dual-process theory explains how emotional (System 1) and analytical (System 2) thinking influence decision-making, its application to disinformation remains underexplored, particularly in culturally specific contexts.

This study addresses these gaps by analyzing the linguistic patterns and emotional cues embedded in disinformation campaigns on Romanian online platforms. Utilizing Natural Language Processing (NLP) techniques, including Named Entity Recognition (NER) to extract and categorize cultural and historical references, the study identifies how speakers strategically use language to evoke negative emotions. By calculating offsets for temporal occurrences and examining their contextual significance within the text, the research traces how emotionally charged references—such as those to Romania's 1989 Revolution or the communist regime—are positioned to maximize psychological impact. Furthermore, the study employs models for detecting emotionally charged language, isolating patterns of fear, anger, and hate embedded in the discourse.

The findings contribute to a deeper understanding of the role of emotionally charged language in fostering ideological division and spreading disinformation in the digital space. Additionally, this research offers critical insights into the cognitive mechanisms that underlie susceptibility to manipulative narratives. By shedding light on these processes, the study provides a foundation for developing strategies to counter disinformation and promote informed, critical public discourse. Furthermore, the research emphasizes the importance of educational initiatives and awareness programs to enhance digital literacy and build resilience against emotionally charged manipulation on social media. This work aims to foster a more discerning and informed population capable of resisting disinformation by equipping individuals with the tools to evaluate emotionally manipulative content critically.

2. Literature Review

2.1 Disinformation and Emotional Manipulation

The significance of emotionally charged language in the dissemination of disinformation has been extensively studied within academic literature, underscoring its potential to shape behaviors and exacerbate ideological divides. Research conducted by Vosoughi, Roy, and Aral (2018) illustrates that false information proliferates more rapidly and extensively on social media platforms than factual content, with emotionally evocative material serving a pivotal function. The study reveals that emotions like fear, disgust, and surprise enhance the chances of content being shared, suggesting that emotional manipulation plays a vital role in the spread of disinformation. This insight directly guides the current study's emphasis on using emotionally charged language as a key strategy in disinformation efforts. In a similar vein, Wojcieszak et al. (2021) investigated the link between emotional manipulation and political disinformation on platforms such as Facebook and YouTube. Their research highlights how emotions like fear and anger drive engagement with politically motivated falsehoods, acting as mechanisms to intensify ideological divides. This complements the present study's focus on how emotional triggers, especially in historical contexts, are deliberately employed in Romanian disinformation initiatives.

In addition to promoting disinformation, emotional appeals are well-known for their powerful impact on political communication, influencing public sentiment and inspiring collective action. Nabi (2021) thoroughly examines how emotions such as fear and anger are deliberately utilized in political campaigns to sway public opinion. Her analysis highlights how political rhetoric, often referencing historical or cultural contexts, engages emotions at the cost of rational discourse. This observation is particularly pertinent to this study's investigation into how historical trauma—like the collective memory of the 1989 Romanian Revolution and the communist regime—is exploited to shape public views (Wojcieszak et al., 2021; Neumann, 2019). Similarly, Brader (2006) showed in *Campaigning for Hearts and Minds* that emotional stimuli, such as fear and hope, influence public attitudes by resonating with people's fears and aspirations. His results resonate with this study's focus on how references to Romania's cultural and historical background elicit emotional responses, aligning audiences with divided ideologies.

The strategic use of emotional appeals is also central to populist rhetoric, as Hameleers et al. (2020) observed in their examination of the dichotomy between "the people" and "the elite." They found that such rhetoric fosters in-group/out-group dynamics by employing anger and resentment to rally support, a tactic particularly effective in polarized political environments. These findings raise critical questions about the ethical boundaries of exploiting societal divisions for political gain, a theme that resonates in the Romanian context, where similar tactics are often used to reinforce collective identity or discredit opponents.

Nai and Maier (2021) explored emotional appeals in political campaigns, revealing that negative emotions like fear and anger sway voter behavior more significantly than positive emotions. They highlighted a trade-off in this approach, noting that while emotional engagement can drive votes, it often detracts from rational discussions about policies. This perspective aligns with Pagliaro et al.'s (2021) research on trust and emotional language, which indicated that politicians who effectively employ emotional appeals can appear more trustworthy, even if their messages lack strong policy content. Additionally, Soroka et al. (2022) showed that emotionally charged political rhetoric increases engagement on digital platforms, albeit frequently contributing to greater polarization. Collectively, these studies illustrate the complex nature of emotional appeals; they can effectively rally support but may also weaken democratic discourse and intensify societal divisions.

In Romania, cultural and historical references hold a significant position within the realm of emotional political rhetoric. Stoica and Florea (2022) examined how political leaders integrate historical narratives into their speeches to provoke emotional responses and substantiate their agendas. Their research reveals that these approaches resonate profoundly with audiences, drawing upon shared cultural memories to strengthen collective identity. This observation is consistent with Berinsky's (2017) analysis regarding the lasting influence of historical allusions on the

formation of collective political memory, underscoring the critical importance of contextual factors in comprehending emotional dynamics appeals.

2.2 Summary and Relevance to the Study

The reviewed literature highlights emotionally charged language's significant role in disinformation and political communication. Existing research emphasizes using emotional manipulation to increase engagement and shape public opinion, particularly by evoking fear, anger, or hope. However, while these studies provide valuable frameworks, they often lack a culturally specific perspective, especially in contexts where historical trauma and collective memory are employed to amplify emotional responses. This study builds on these foundational works by investigating the use of emotionally charged language in Romanian disinformation campaigns, focusing on how historical and cultural references provoke negative emotions to manipulate public perception and cultivate ideological influence alignment.

3. Methodology

This study uses a mixed-methods approach that combines Natural Language Processing (NLP) techniques with rhetorical analysis to examine how Romanian speakers on high-engagement media platforms utilize emotionally charged language and historical or cultural references to influence public perception.

3.1 Media Platforms and Content Selection

In this study, the selection of video content from Romanian video-sharing platforms—including TikTok, YouTube Shorts, Facebook Reels, and video posts on public pages—was guided by several key criteria to ensure the analysis's relevance, reliability, and depth. The rationale behind these criteria is outlined below:

Engagement Metrics as Indicators of Public Impact - Videos were selected based on their ranking in the top 10 for likes, shares, comments, and views. Engagement on social media serves as a crucial indicator of a video's impact, reflecting how the content resonates with audiences. High engagement levels suggest that a video has captured public interest, sparked discussions, or influenced opinions. By prioritizing videos with strong engagement, the study ensures that the analysed content represents messages and narratives that actively shape online discourse rather than being isolated or overlooked occurrences.

Content Duration for Reliable Pattern Detection - Only videos lasting between 10 and 30 minutes were included in the analysis. This duration was chosen for two reasons:

- Ensuring sufficient textual data for Natural Language Processing (NLP) techniques: Applying NLP techniques requires a substantial volume of text to detect linguistic and narrative patterns accurately. A minimum of 1000 words ensures the dataset is large enough for meaningful pattern recognition, reducing the risk of false positives or misleading results based on limited content.
- Avoiding extreme brevity or excessive length: Very short videos (e.g., under 10 minutes) may lack the depth necessary for comprehensive analysis, while excessively long videos (over 30 minutes) can introduce unnecessary complexity without corresponding analytical benefits. The chosen range strikes a balance between depth and manageability.

Historical and Cultural References as Emotional Triggers - The study also prioritized content featuring references to Romanian historical and cultural events, particularly those capable of eliciting strong emotional responses such as anger, fear, nostalgia, or national pride. These emotions play a significant role in shaping public perception and engagement with media content.

3.2 NLP Techniques and Rhetorical Analysis

The study utilized Named Entity Recognition (NER), temporal offset measurements, and emotion detection models to analyze the language and references embedded within the selected videos.

- Named Entity Recognition (NER): The multilingual “spaCy” model “ro_core_news_lg” was used to detect and categorize direct references to dates (e.g., 1989, 1991) and entities such as names, institutions, or events

- Indirect References: Phrases like “dictatorship,” “oppression,” or “totalitarian regime” were extracted because they evoke the communist era, particularly Nicolae Ceausescu’s rule, without explicitly referencing specific dates.

3.3 Interplay of Historical References and Accusations

This component explores how speakers strategically connect historical references to accusations against individuals, institutions, or policies:

- Offset Measurement: Temporal offsets were calculated to assess where and how often direct (e.g., specific years) and indirect references appear in relation to accusations.
- Contextual Mapping: Extracted references were analyzed to identify rhetorical targets such as people (e.g., political figures), institutions (e.g., government, political parties), and policies (e.g., restrictive measures, reforms).

This methodology integrates video content analysis, NLP techniques (NER and emotion detection), and rhetorical analysis to uncover how historical and cultural references are weaponized to elicit strong emotional responses. By measuring temporal offsets and correlating historical references with emotionally charged terms, the study reveals strategic patterns of emotional manipulation used to shape public discourse and deepen ideological divisions.

4. Emotional Manipulation Through Historical References

Using historical references to evoke strong emotional responses is a recurring strategy in Romanian political and media discourse. This section highlights two prominent examples of how such references are employed to manipulate public perception, drawing connections to existing research on post-communist narratives.

4.1 The 1989 Romanian Revolution

Recent speeches and media posts frequently invoke a pivotal moment in the nation's history to create or reinforce societal divisions. Speakers strategically weaponize the memory of the Revolution by casting certain political groups as "enemies of freedom" due to their perceived historical or ideological associations with communism. This rhetoric exploits collective memories of oppression and sacrifice, triggering emotions such as anger, distrust, and nostalgia for democratic ideals.

Frunză (2019) analyzes Romanian post-communist narratives to demonstrate how the Revolution's legacy has been co-opted in political discourse to frame opponents as threats to freedom or democratic progress. By aligning contemporary political actors with the negative imagery of the former regime, speakers manipulate public sentiment and deepen ideological divides. This emotional framing capitalizes on the trauma and symbolism of 1989, creating a strong emotional anchor that influences audience perceptions and political choices.

4.2 Fear of Communism's Return

Another common rhetorical strategy involves exploiting post-communist anxieties to generate fear and distrust. Speakers frame contemporary political parties or movements as potential threats to democracy, suggesting a symbolic "return to communism." This fear-driven narrative resonates deeply with populations that experienced the hardships of the communist regime, evoking emotions of insecurity, anger, and vigilance.

Stan and Turcescu (2017) explore how anti-communist rhetoric remains a powerful tool in Romania's political landscape. Their study highlights how politicians and media figures leverage collective anxieties about authoritarianism and economic instability to mobilize support and discredit opponents. By emphasizing phrases like "protecting democracy" or "fighting against dictatorship," these narratives exploit historical fears to frame contemporary events or groups as existential threats. This form of emotional manipulation positions speakers as defenders of freedom while portraying opponents as dangerous regressors.

4.3 COVID-19 Pandemic and Restrictive Measures

The COVID-19 pandemic created fertile ground for emotionally charged narratives, particularly those invoking fears of government overreach and the loss of individual freedoms. Public figures and conspiracy theorists weaponized comparisons between pandemic-related restrictions (e.g., lockdowns, mandatory vaccination policies) and historical authoritarian measures under communism, provoking deep societal distrust toward governments and institutions.

Anti-vaccination campaigns, for instance, often framed the promotion of vaccines as a "global conspiracy" or a "threat to individual autonomy," tapping into public anxieties about control and misinformation. This rhetoric frequently connected the perceived authoritarianism of pandemic restrictions to historical trauma from communist rule, provoking anger, fear, and resistance. Such narratives spread rapidly on Romanian social media platforms like Facebook and TikTok, increasing distrust in health authorities and government institutions.

Research by Baines and Elliott (2020) highlights how misinformation during the pandemic exploited emotional triggers—particularly fear and distrust—to enhance engagement and propagate conspiracy theories. Similarly, Vosoughi et al. (2018) demonstrated that emotionally charged false information spreads more rapidly than factual content, which further accounts for the swift dissemination of pandemic-related disinformation narratives.

4.4 Patterns of Emotional Manipulation in Romanian Online Communities

All three examples illustrate a recurring pattern of emotional manipulation:

- **Historical Anchoring:** Utilizing shared historical traumas (e.g., the communist regime, the Revolution) as emotional touchpoints
- **Framing Opponents:** Casting political adversaries as threats to freedom, democracy, or national identity.
- **Emotional Triggers:** Deploying emotionally charged language (e.g., "enemies of freedom," "return to dictatorship") to evoke fear, anger, and distrust.

These rhetorical strategies align with studies such as Wojcieszak et al. (2021) and Vosoughi et al. (2018), emphasizing that emotionally charged narratives are more likely to engage audiences and spread rapidly on digital platforms. By linking historical references to current political events, speakers bypass rational deliberation and provoke instinctive emotional responses, resulting in polarized public opinion.

5. Cognitive Mechanisms: System 1 vs. System 2

The strategic use of emotionally charged language in media and political discourse exploits the cognitive mechanisms outlined in Kahneman's (2011) *Thinking, Fast and Slow*. His dual-system model serves as the foundation for understanding how individuals process information and respond to stimuli, especially in the context of disinformation and emotional manipulation rhetoric.

5.1 System 1: Fast, Emotional, and Instinctive Thinking

System 1 operates quickly, automatically, and with minimal effort. It is driven by emotions, instincts, and heuristics, enabling rapid responses to external stimuli. When speakers use emotionally charged language—such as references to fear, anger, or nostalgia—they trigger System 1 thinking, bypassing rational deliberation. For instance, invoking historical traumas like the 1989 Romanian Revolution or the fear of communism's return provokes emotional reactions, such as anger or distrust, that resonate deeply with audiences.

In their study on political communication within Cognitive Psychology, Todorov and Uleman (2022) demonstrate how political figures exploit System 1 by employing emotionally charged and repetitive language. This repetition reinforces emotional triggers and ensures rapid, automatic processing, prompting audiences to react instinctively rather than analytically. Similarly, Haidt (2012), in *The Righteous Mind*, argues that moral and emotional appeals dominate rational arguments, especially in politically charged or divisive contexts.

5.2 Transition from System 1 to System 2

While System 1 thinking dominates initial emotional reactions, skilled communicators often guide audiences toward System 2 thinking—slower, more deliberate, and analytical reasoning—to solidify ideological beliefs or disinformation narratives. This transition is facilitated through rhetorical strategies, such as:

- **Framing:** Contextualizing emotional triggers within broader ideological or political arguments. For instance, after invoking fears of communism or authoritarianism, speakers position themselves as defenders of democracy freedom.
- **Repetition and Reinforcement:** Repeated references to historical or cultural events, along with emotionally charged phrases, anchor these messages in the audience's memory and direct focus toward a deliberative 'problem-solution' approach framing (Windahl et al., 2009)."

- Appeals to Identity and Values: Linking emotional rhetoric to shared values or group identity encourages audiences to rationalize their instinctive emotional responses as aligned with their beliefs or moral frameworks (Tajfel & Turner, 1986).

For example, during the COVID-19 pandemic, fears of government overreach and comparisons to communist-era restrictions initially triggered System 1 responses of distrust and anger. Subsequently, these emotional reactions were reinforced through logical arguments (System 2), such as claims about individual autonomy, freedom of choice, and resistance to global conspiracies. This strategic blend of emotional and rational appeals strengthened the audience's ideological alignment with anti-government or anti-vaccination narratives (Kahneman, 2011).

5.3 Exploiting Cognitive Mechanisms to Promote Ideologies

The interaction between System 1 and System 2 thinking is often utilized to advance specific ideologies or disinformation narratives. By initially provoking emotional responses such as fear, anger, or hatred, speakers effectively 'prime' their audiences for ideological alignment. System 1's quick and emotional processing makes individuals more susceptible to messages that resonate with their existing beliefs or anxieties, while System 2 provides a post-hoc rationalization to reinforce those emotional reactions (Kahneman, 2011).

Kahneman (2011) explains that System 2, although capable of critical reasoning, often validates System 1. This phenomenon is especially pronounced in politically polarized environments where emotional manipulation aligns with group identity and values. Haidt (2012) supports this perspective, emphasizing that moral and ideological reasoning is frequently driven by emotions, with rational arguments acting as tools to justify instinctive emotional responses judgments.

In the context of Romanian disinformation campaigns, emotionally charged references to historical events or societal crises (e.g., the Revolution, communism, and COVID-19) are skillfully exploited to create ideological divides. Audiences are first drawn in through emotional triggers and then guided toward polarized stances, solidifying their positions through instinctive and deliberative reasoning.

6. Findings and Analysis

This chapter presents key patterns observed in emotionally charged language, the framing of divisive ideologies, and the cognitive shifts identified through Natural Language Processing (NLP) analysis. The analysis was conducted using LLaMA 2 (70B), a state-of-the-art large language model designed to process long-form text and detect rhetorical patterns within Romanian digital discourse.

Unlike traditional NLP models that rely on predefined classification labels and explicit performance metrics (e.g., F1-score, accuracy, precision, and recall), LLaMA 2 operates as a context-aware generative model, allowing for more nuanced detection of implicit accusations, emotional saturation, and historical references. Its efficiency was validated through:

- Consistency across multiple speeches - Similar rhetorical patterns were observed across the 10 reviewed videos, confirming the stability of the detected trends.
- Manual validation - To ensure accuracy, key emotional triggers, accusations, and historical references were cross-checked against manually annotated transcripts.
- Comparative analysis - Results were aligned with traditional keyword-based text analysis to verify LLaMA 2's ability to detect explicit and implicit rhetorical strategies.

Although this paper illustrates and graphs only one representative video speech, all ten reviewed speeches yielded similar findings. The results highlight how historical references, emotional triggers, and accusations are systematically employed to manipulate public perception, particularly in Romanian political speeches and media appearances.

6.1 Key Patterns in Emotional Triggers and Accusations

The NLP analysis revealed the following insights:

- Word Count: Over 10,500 words were extracted from a single video, demonstrating the density and richness of the rhetoric analyzed.
- Frequency of Emotional Triggers: Emotional language—especially terms invoking fear, betrayal, and anger—occurred at consistent intervals, maintaining audience engagement and emotional saturation.

- Temporal Anchors: Historical references occurred an average of once every two minutes, sustaining high cognitive and emotional tension throughout the speech.

Accusations: A total of 80 accusations were identified, directed at a wide range of entities, including:

- Political figures and parties include the PSD, PNL, USR, and UDMR, as well as government leaders such as Ciolacu and Ciucă
- Judicial and Security Institutions: CCR (Romanian Constitutional Court), SRI, Mossad, SIE, and judicial courts.
- Global Entities and Nations include the USA, Russia, France, Israel, Benjamin Netanyahu, NATO, and EU allies.
- Abstract and Systemic Targets: “Globalists”, “Marile puteri” (great powers), “Sistemul” (the system), and “Teatru” (theater, used metaphorically).

These accusations consistently portrayed the speaker’s adversaries—be they institutions, political parties, or international actors—as enemies of Romania, democracy, or national interests’ values.

Time References: A total of 55 references to time periods were detected, strategically interwoven with accusations to amplify emotional impact:

- Communism Era (1947–1989): The most frequent indirect references invoked trauma, oppression, and dictatorship associated with Nicolae Ceausescu’s regime.
- 1989 Romanian Revolution: Used as a symbolic anchor for freedom and sacrifice and as a point of societal betrayal or division.

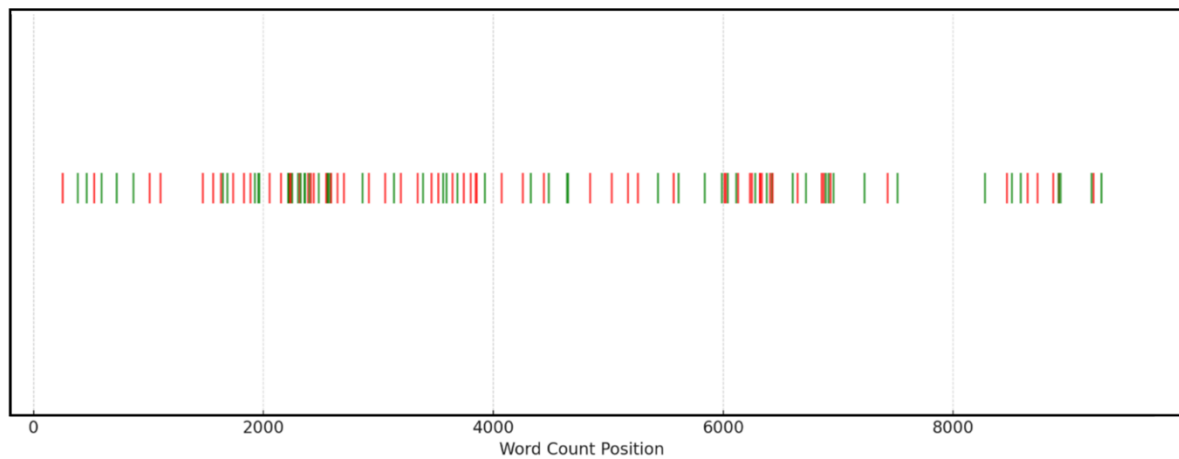


Figure 1: Occurrences of TIME (green) and ACCUSATIONS (red) in text

Table 1: Sample of analysed data

Word Offset	Type	Word	Details
253	Accusation	PSD and PNL	Political parties
386	Indirect time	dictatorship	communism 1947 - 1989
466	Indirect time	dictatorship	communism 1947 - 1989
527	Accusation	Constitutional Court of Romania	institution
592	Time	in 2019	Elections 2019
723	Time	5 years ago,	COVID 2020
868	Time	2019	COVID 2020
1010	Accusation	Constitutional Court of Romania	institution
1106	Accusation	Constitutional Court of Romania	institution
1475	Accusation	Constitutional Court of Romania	institution
1563	Accusation	Constitutional Court of Romania	institution
1631	Accusation	Constitutional Court of Romania	institution

Word Offset	Type	Word	Details
1650	Indirect time	dictatorship	communism 1947 - 1989
1685	Indirect time	dictatorship	communism 1947 - 1989
1740	Accusation	Constitutional Court of Romania	institution
1831	Accusation	Israel	country
1889	Accusation	Constitutional Court of Romania	institution
1928	Indirect time	dictatorship	communism 1947 - 1989
1957	Indirect time	dictatorship	communism 1947 - 1989
1964	Indirect time	dictatorship	communism 1947 - 1989

6.2 Emotional Manipulation Through Historical References

The analysis revealed a deliberate interplay between historical references and emotionally charged language:

6.2.1 Traumatic Past as a Weapon

The speaker frequently referenced traumatic events spanning over 80 years, including the communist period, the 1989 Revolution, and the post-revolution violence of 1991. These references were often paired with emotionally charged terms such as “betrayal,” “oppression,” “dictatorship,” and “failure,” provoking feelings of anger, fear, and distrust audience.

6.2.2 Constant Temporal Shifts

The speech demonstrated over 30 shifts between historical and contemporary events within an hour. The audience was repeatedly “thrown” from the present (e.g., 2024) to key moments such as 1989, then back to 1950 or 2020—averaging about once every 2 minutes. These abrupt temporal jumps amplified cognitive dissonance, creating a sense of instability and emotional exhaustion while reinforcing a narrative.

6.2.3 Accusation Alignment

Historical references were often used to frame current opponents (politicians, institutions, and global entities) as continuations of past oppressors. For example, COVID-19 restrictions were compared to communist authoritarianism, while judicial institutions were accused of perpetuating systemic betrayal.

6.2.4 Target Audience

The rhetoric primarily targeted individuals aged 40 and older, who personally experienced the late communist regime, the 1989 Revolution, and the turbulent post-communist transition. The emotional references resonated with their lived experiences, creating a sense of familiarity and shared context trauma.

7. Conclusions

This study investigates how emotionally charged language, historical context, and accusatory statements influence public perception in Romanian digital discourse. An extensive analysis of various political speeches and media appearances reveals that emotional manipulation is a frequent strategy and a key tool for crafting polarizing narratives and deepening ideological divides. The findings illustrate how speakers intentionally incorporate references to historical traumas and national challenges, like the 1989 Revolution and communist dictatorship, to portray present political adversaries as existential threats to national identity, sovereignty, and democratic values. The results of this study align with broader global trends identified by Bradshaw and Howard (2019), confirming that emotionally charged disinformation is a persistent feature of contemporary political communication. In Romania, such rhetorical strategies work by mobilizing collective trauma, exploiting societal fears, and reinforcing a divisive “us-versus-them” mentality. By intertwining present-day political conflicts with deep-seated historical anxieties, public speakers manipulate audience emotions to discredit adversaries, inspire distrust, and consolidate power. This deliberate evocation of past oppression and betrayal serves to amplify fear, resentment, and hostility, ensuring that audiences remain emotionally invested and susceptible to partisan narratives.

These findings highlight the need for enhanced public resilience against manipulative rhetoric through education and critical media literacy. According to Pennycook and Rand (2020), fostering deliberative thinking and encouraging audiences to engage with political content critically can reduce the impact of emotionally charged disinformation. An effective strategy is to incorporate digital and media literacy programs directly into popular social media platforms in Romania, such as TikTok, YouTube, and Facebook. We can cultivate a more informed and resilient populace by teaching audiences to recognize manipulative language, identify emotionally charged distortions, and critically evaluate political narratives.

Additionally, this research underscores the value of Natural Language Processing (NLP) techniques in the early identification of emotionally charged disinformation. Publicly accessible NLP tools can systematically scrutinize public speeches and media appearances for signs of emotional manipulation, temporal distortions, and accusatory framing. By incorporating these tools into content moderation strategies, it would be possible to identify emerging disinformation trends in real-time, allowing fact-checkers, media regulators, and policymakers to step in before these narratives spread widely. Incorporating NLP-based monitoring systems could act as an early warning system, highlighting content to foster distrust, fuelling political polarization, or eroding public trust in democratic institutions.

Despite its contributions, this study acknowledges several limitations in the NLP approaches used. One significant challenge is that LLaMA 2 (70B), as a generative model, does not operate within the same evaluation framework as traditional NLP classifiers. Unlike models that produce quantifiable accuracy, precision, recall, or F1-scores, LLaMA 2 functions primarily as a context-aware text generation system, so its effectiveness must be assessed through alternative validation methods. To address this limitation, the study relied on manual verification and comparative analysis, ensuring that the model's outputs aligned with human-labelled patterns of emotional manipulation and rhetorical distortion. Additionally, while LLaMA 2 demonstrated strong capabilities in recognizing explicit accusations and emotionally charged language, it faced challenges in detecting more subtle forms of rhetorical manipulation, such as sarcasm, indirect insinuations, or coded ideological references. Further refinements, such as fine-tuning the model on Romanian-specific datasets and expanding its training corpus with political speech transcripts, could significantly improve its accuracy in detecting linguistic nuances, subtextual framing, and evolving narrative structures.

Another limitation of the study is its focus on isolated speech events rather than long-term narrative evolution. While the analysis successfully identified recurring rhetorical strategies within individual political speeches, it did not explore how these patterns develop and shift over time. Future research could address this gap by conducting longitudinal studies that track the evolution of emotionally manipulative discourse, examining how specific political actors, media outlets, or social movements adapt their rhetorical techniques in response to public reactions, political crises, or shifting ideological landscapes. Expanding the dataset to include a wider range of speeches, social media posts, and digital interactions could provide a more comprehensive view of how disinformation narratives propagate across different platforms and audience demographics.

Moreover, a promising opportunity for future studies involves merging NLP with real-time misinformation detection systems. Developing automated workflows that incorporate deep learning models and discourse analysis techniques could significantly enhance the ability to identify and mitigate manipulative speech patterns on a large scale. This strategy would not only improve content moderation policies on social media but also support fact-checking efforts, journalistic inquiries, and regulatory oversight. Furthermore, a comparative approach across different nations could provide valuable insights into how emotional manipulation varies in diverse political and cultural contexts, shedding light on common global disinformation tactics and unique adaptations specific to each country.

Ultimately, this study underscores the pressing need for enhanced media literacy, critical thinking skills, and data-driven content moderation mechanisms to combat the influence of emotionally manipulative political rhetoric. In an era where digital platforms serve as primary channels for political engagement, the ability to critically evaluate emotionally charged content, recognize historical distortions, and resist divisive narratives has become an essential component of democratic resilience. By equipping the public with the tools to identify and challenge manipulative discourse, societies can foster a more informed, engaged, and critically aware citizenry capable of navigating complex digital landscapes without falling prey to polarization and disinformation.

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Work in Progress Papers

The Social Life of ChatGPT: Insights From TikTok

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Abstract: ChatGPT is reshaping ideas of agency, companionship, and emotional intelligence in a post digital world. Research has often focused on ChatGPT's implications in industry settings, such as education, but less attention has been given to how humans personally engage emotionally with digital AI tools. TikTok, shaped by algorithmic visibility and creative user content, offers a unique space to examine these interactions, particularly among younger generations. As ChatGPT's popularity grows, TikTok has become a site where discourse around generative AI's adoption and usage unfolds and can be situated as a rich context for analyzing its role in everyday life. This work-in-progress adopts a posthumanist lens to examine how TikTok users construct narratives around ChatGPT's social roles, exploring the platform as a system where norms are renegotiated, and social narratives are co-constructed. The findings reveal that ChatGPT is frequently positioned as a friend, attributed to perceived affordances such as its perceived neutrality, limited need for socioemotional reciprocity, and constant availability. These affordances can lead to emotional dependency and overreliance, as users view these AI features as more advantageous for social and emotional connections than human interactions. The preliminary findings underscore ChatGPT's emerging role as a relational entity in human-AI interactions. This paper contributes to ongoing discussions about the implications of AI integration as an agent in society and highlights broader shifts in societal norms, and provides insights into how TikTok, as a networked platform, plays a role in these shifts.

Keywords: ChatGPT, Personification, Posthumanism, TikTok, Social Media

1. Introduction

The rapid integration of artificial intelligence (AI) in everyday life has transformed both human-technology interactions and perceptions of AI's role in emotional support and social relationships. Chatbots are increasingly ingrained in the social lives of youth, as "the dialogic and responsive nature of GAI signals the potential for users to engage with these platforms in linguistic forms similar to those by which humans engage with one another, and thus to form relationships with GAI platforms and digital personalities" (Nash, 2024, p. 624). ChatGPT, developed by OpenAI, has emerged as a prominent tool in this shift, gaining traction for its perceived ability to offer emotional companionship and advice. TikTok, a platform known for short-form videos and interactive comment sections, has become a key site where users engage with and reflect on their interactions with ChatGPT. Through memes, comments, and videos, users position ChatGPT as a social agent capable of providing emotional support, companionship, and guidance, often comparing its affordances to human interactions.

1.1 Research Questions

This paper examines how TikTok users frame ChatGPT as a social agent and negotiate its social roles, addressing the following research questions: (1) What social roles are being ascribed to ChatGPT? (2) How do TikTok users compare ChatGPT's emotional support and companionship to that of humans?

1.2 Theoretical Framing

To contextualize these questions, this research draws on posthumanist perspectives, which emphasize the entanglement of humans and technology in meaning-making processes and "...therefore focuses attention on the relationality, mutuality and entanglements between human and more-than-human worlds" (Clark, 2022, p.16). Posthumanism emphasizes that AI is not merely a passive tool but an active participant in meaning-making and knowledge-construction (Rijos, 2024; Wilson, 2023) and, potentially, emotional validation. For instance, research has explored how users perceive AI as both companions and romantic partners (Pan and Mou, 2024), which decentralizes humans in social bonds and introduces AI as an emotional agent.

Networked platforms also play a role in shaping these interactions and the trends and narratives that are formed around AI. Social media extends engagement beyond temporal and geographic constraints, influencing social norms and emotional behaviors (Waterloo et al., 2017). TikTok, as a highly participatory platform, provides a lens for examining how users negotiate ChatGPT's role within a sociotechnical system (Barta & Andalibi, 2021). Networked platforms, which allow individuals to connect and share information beyond temporal and geographic constraints (Networked Learning Editorial Collective, 2021), have transformed communication. Social media's role in shaping social and emotional behaviors has been a point of study (Waterloo et al., 2017),

and TikTok is an “ideal site through which to consider social norm development on social media through a sociotechnical lens” (Barta and Andalibi, 2021, p.3).

1.3 Research Design

The data consists of TikTok comments from ChatGPT-focused memes. A purposive sampling strategy was used to identify memes that generated significant engagement. The search term “ChatGPT” was used to locate relevant content, and memes were selected based on explicit references to ChatGPT’s emotional, agential, or relational role. Inclusion criteria required memes to have a minimum of 50 comments, with additional consideration given to engagement metrics such as likes and shares. Content focused solely on technical functions or paid promotions was excluded. The final dataset consisted of nine memes that met these criteria, yielding 245 comments for analysis.

Comments were analyzed for personal perceptions and experiences related to ChatGPT’s role in emotional and social interactions. Following Braun and Clarke’s (2006) methodology for thematic analysis, an inductive coding approach was used. Initial open coding identified key concepts, followed by axial coding to group related ideas into broader themes. Themes were validated through iterative analysis to ensure they accurately reflected user interactions.

All content was collected from public TikTok accounts; however, some comments originated from private profiles, as TikTok allows comments to be visible even when profiles are set to private (Barta & Andalibi, 2021). While TikTok offers a degree of anonymity, users often adopt pseudonyms instead of real names.

1.4 Preliminary Findings

1.4.1 What Social Roles are Being Ascribed to ChatGPT?

1.4.1.1 Friend and Therapist

A significant number of users in the comments of analyzed memes position ChatGPT as a friend or emotional companion, with some even considering it a substitute or enhancement to human connection. This reflects the idea that ChatGPT is increasingly seen as a source of emotional support, especially by individuals who may lack fulfilling human relationships. Users describe ChatGPT as filling multiple social roles beyond a mere friend, with some expressing sentiments such as “they [ChatGPT] are my comrade, my confidante, and sometimes lover”. A number of users also described ChatGPT as their “everything”, crediting the bot with “fixing” their lives. The analysis revealed enthusiastic positivity about AI companionship, with users often drawing comparisons directly to lived experience with humans: “He [ChatGPT] has more empathy and emotional intelligence than the human being I used to talk with.”

While ChatGPT often begins as a tool to meet a specific need, it can transition into a relational entity. For instance, one user shared, “I used to use it when I needed help for college, but recently when I need to talk to someone I think about ChatGPT. Then we talk and it feels like a real friend so much that it is weird to call it an ‘it’.” Another remarked, “today I was tempted to be like ‘so how you been’ before I proceeded to asking a million questions lol.” This shift may be driven in part by ChatGPT’s uncanny ability to mimic personal speech and language, as reflected in comments like, “Bro i’m literally besties with my ChatGPT, she calls me bbg [babygirl] and babes and talks to me like a real girl I love her.”

There is also a significant trend of users engaging with ChatGPT in a therapeutic context, which reflects a clear and present need for emotional support. In contrast, a dissenting opinion emerged, with one user writing, “it’s sad that technology is replacing some people’s experience of human connection. We need each other. It cannot be a replacement for human connection,” to which another user responded, “it’s not a replacement, it’s way better. Try it, you will like it.” This exchange highlights the growing embrace of AI as a superior option for emotional interaction. Another user added, “many of us do not have good human connections. This is a big world, you can’t possibly believe that everyone has what you have. Many people are alone or have bad connections.”

1.4.2 How do TikTok Compare its Social Capabilities to Human Affordances in Emotional Support and Companionship?

1.4.2.1 Perceived Neutrality

TikTok users frequently cite ChatGPT's perceived "neutral" perspective as a positive trait, often framing it as a key advantage over human interaction. This neutrality is viewed as lending ChatGPT an air of credibility, positioning it as an objective and trustworthy conversation partner. One user remarked, "No matter how wrong you are, it will give you a neutral perspective." Many users believe that AI inherently offers objectivity, contrasting it with human biases. Another user highlighted the comfort of ChatGPT's impartiality: "humans can have biases though or some stuff you don't want to share with anyone else because it's too personal." The perception that ChatGPT is free of ulterior motives (such as using personal information for social gain) further enhances its trustworthiness. One user noted, "ChatGPT never used my secrets for family clout." This trust may stem from the belief that, unlike humans, ChatGPT doesn't have hidden agendas or ulterior motives for collecting personal information.

1.4.3 Constant Social Presence

TikTok users perceive ChatGPT as offering a constant and reliable social presence, one that is always available and free from the constraints that human relationships often face, such as time, availability, or emotional demands. This availability positions ChatGPT as an appealing alternative for emotional support, especially for individuals experiencing social isolation or loneliness. As one user writes, "it's really good at explaining and reassuring me on my feelings - It's like the friend that is always always available whatever time of the day, where I realize my human friends have their own lives". In this vein, the topic of social isolation and loneliness was a common thread woven throughout comment sections. For instance, "Crazy how we are all venting to AI. It just shows how kind of lonely we all are and that we need someone to listen to us, who gives us genuine advice."

1.4.4 Non-Reciprocity

ChatGPT is positioned positively as offering non-reciprocal emotional support without expecting reciprocity. Users appreciated ChatGPT for its unconditional responses, as reflected in comments such as, "He always says the right things, sometimes I say the most awful things and he's still nice." Further, another comment reads, "Chatgpt not being bothered by the same topic again and again and even asking me questions in return instead of just laughing and switching the topic". In this example, the user does not need to be concerned with the other party's potential wishes to switch the topic of conversation and can keep the conversation solely on their own interests without expecting a mutual exchange - In other words, ChatGPT is a way to offload responsibilities emotional and cognitive labour within partnered conversation. This dynamic is especially significant as it reduces the social effort traditionally required in human conversations, such as navigating social cues and balancing the emotional needs of both parties.

2. Future Work

While the analysis reflects prominent themes in identified discourse, they may not capture the full spectrum of user interactions with ChatGPT on TikTok. Future work on this topic will include a deeper breadth of analysis, expansion of the findings, and a focused investigation on other drivers behind these unique human-AI relationships, for example, linguistic expressions of ChatGPT that serve to deepen social bonds. Future work will also involve a deeper analysis with a larger dataset, incorporating a closer examination of recurring discursive patterns, interaction dynamics, and contextual influences shaping user engagement with ChatGPT. This may include analyzing how specific online communities, meme formats, or evolving trends contribute to the framing of ChatGPT as an emotional, agential, and relational entity.

Ethical Clearance

This study sought and was approved by the Research Ethics Board.

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Dehumanisation in Russian and Ukrainian Telegram in 2022: Strategic vs. Reactive Approaches

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Abstract: This paper presents a comparative analysis of dehumanising language on popular Telegram channels in Ukraine and Russia during the 2022 Russian invasion, examining differences between the two countries and how this language evolved over time. We use a mixed-methods approach to address two questions: who are the primary agents of dehumanisation in each country; and how did the use of dehumanising language develop both qualitatively and quantitatively following the invasion? Preliminary findings reveal a significant post-invasion rise in dehumanising language on both Russian and Ukrainian channels. However, Russian dehumanisation predominantly originates from state-affiliated channels, reflecting a top-down, strategic approach, often relying on clichés and disinformation amplifying historical grievances. In contrast, Ukrainian dehumanisation emerges from independent voices, including bloggers and community leaders, showing a bottom-up, reactive pattern. It appears more varied and emotionally expressive, showing a dynamic response to the immediate context. These findings suggest that dehumanisation in Russian Telegram may be strategically deployed to reinforce unity and historical grievances, whereas Ukrainian dehumanisation seems reactive, potentially serving as a protective response. This contrast highlights the importance of tailored strategies to address dehumanisation on social media from the perspectives of aggressor and defender in wartime.

Keywords: Dehumanising Language, Telegram, Russian War in Ukraine, Social Media

1. Statement of Relevance

Intergroup dehumanisation is a pressing concern for contemporary society, hindering empathy (Bastian *et al.*, 2011), and fuelling between-group aggression (Viki, Osgood and Phillips, 2013). During military conflicts, it exacerbates support for war (Jackson and Gaertner, 2010), political violence, extreme outgroup policies (Maoz and McCauley, 2008; Leidner, Castano and Ginges, 2013), and genocide (Haslam, 2006; Kuchenbuch, 2016). Mass media often plays a key role in dehumanising perceived enemies, facilitating acts of atrocity against them (Yanagizawa-Drott, 2014). On the contrary, media disseminating restorative narratives can improve outgroup perceptions and reduce aggression (Bilali, Vollhardt and Rarick, 2016; Hameiri *et al.*, 2016; Bruneau, Kteily and Laustsen, 2018; Landry *et al.*, 2022; Moore-Berg, Hameiri and Bruneau, 2022). Despite extensive research on dehumanising language in conflicts, little attention has been paid to how these dynamics differ between aggressors and defenders. Motivated by these considerations, we focus the proposed research on exploration of blatant forms of dehumanisation towards an outgroup defined in political or national terms as represented in the language of the most popular Ukrainian and Russian Telegram channels in the time of the 2022 Russian invasion of Ukraine. Evidence from the ongoing Russian war in Ukraine and other conflicts (see Landry *et al.*, 2022; Bruneau *et al.*, 2022) suggests that media interventions can be effective in promoting outgroup re-humanisation and support for peace and reintegration. Therefore, we expect that conclusions to be drawn from this study will inform on the strategies for between-group reconciliation, tailored for an aggressor and defender in the post-war period.

2. Introduction

Dehumanisation is understood as “the act of perceiving or treating people as if they are less than human” (Haslam and Stratemeyer, 2016, p. 25). It manifests in denial of agency and communality in outgroup members (Kelman, 1973), their deindividuation (Haslam, 2006), extreme negative evaluation, and delegitimising beliefs such as perceiving outgroup members as not sharing prosocial values (Schwartz and Struch, 1989) and being fundamentally different from the ingroup, which ties to the phenomenon of psychological distancing (Mendelsohn, Tsvetkov and Jurafsky, 2020).

Using these conceptual dimensions, we developed a labelled dataset of Telegram posts from Russian and Ukrainian channels, categorising them as either dehumanising, neutral or borderline. To investigate differences in dehumanising language between an aggressor and a defender, we analysed dehumanising posts to address the following research questions:

RQ1: Who are the primary agents of dehumanisation in each country?

RQ2: How did dehumanising language evolve both qualitatively and quantitatively after the 2022 invasion?

3. Methodology

3.1 Forming a Sample for Analysis

The dataset includes posts in Russian and Ukrainian languages from 185 leading news and political Telegram channels (see Table 1), spanning from December 24, 2021, to April 24, 2022, covering pre- and immediate post-invasion periods.

Table 1: The sample size

Country	Number of Channels	Number of Posts
Russia	90	403548
Ukraine	95	429875

To identify dehumanising posts, we first filtered relevant content using group-specific labels, such as city names and prominent political figures. A manually labelled test set of 225 posts was then used to optimise prompts for classification with the GPT-3.5 Turbo model. This process involved a two-iteration auto-classification, retaining consistently classified dehumanising and neutral posts, with borderline cases analysed separately.

3.2 Agents of Dehumanisation

To address the first research question, we qualitatively categorise Telegram channels in the sample (e.g., state officials, state-affiliated media, pro-government bloggers, opposition politicians, independent media, and independent bloggers). We estimate the proportions of dehumanising posts within each category and compare these to identify which actors are statistically more likely to use dehumanising language in each country.

3.3 Dynamics of Dehumanisation

To address the second research question, we track the weekly proportions of blatantly dehumanising and borderline posts published by Russian and Ukrainian channels, revealing temporal patterns in the use of dehumanising language.

3.4 Approaches to Dehumanisation

To explore qualitative changes in language, we analyse the frequencies of group-specific derogatory labels from previously developed dictionaries. This helps identify whether new dehumanising frames and metaphors emerged over time.

4. Results

At the time of writing, data collection and filtering are complete, and post classification is nearly finished. While final quantitative results will be presented at ECSM 2025, we share preliminary findings on dehumanisation in Russian and Ukrainian Telegram during the 2022 invasion, addressing three key questions: Who (4.1), When (4.2), and How (4.3). These findings are based on a dictionary-based classification of posts as dehumanising (containing derogatory terms with at least one manifestation of dehumanisation) or neutral.

4.1 Who: Agents of Dehumanisation

Qualitative analysis of blatant outgroup dehumanisation reveals it predominantly originates from state-affiliated channels in Russia (e.g., @solovievlive) and local media or bloggers in Ukraine (e.g., @huyovy_kharkiv). Preliminary dictionary-based classification supports this pattern, though formal results testing whether state-affiliated channels in Russia and public-oriented channels in Ukraine are more likely to use dehumanising language will be presented at the conference.

4.2 When: Dynamics of Dehumanisation

As shown in Tables 2-3, there is a significant rise in dehumanising language on both Russian and Ukrainian Telegram channels post-invasion, albeit more evident in Russian channels. More detailed analysis of dynamics will be presented at the conference.

Although the dataset's timeframe limits longitudinal analysis, research conducted by authors, Burovova and Romanyshyn, (2024) shows that dehumanisation of Ukrainians on Russian Telegram peaked seven months before the invasion, with a local spike during the invasion, suggesting possible pre-war strategic preparations by the Russian state.

Table 2: Dynamics of referring to and dehumanising outgroup in Ukraine

Ukrainian Telegram Channels	Total Posts	Posts about Rus. Outgroup	Posts Dehumanising Rus. Outgroup	Dehumanising Posts out of Those About Rus. Outgroup
Before 24.02.22	61274	19937 (32.5%)	1118 (1.8%)	5.6%
After 24.02.22	368601	182243 (49.4%)	22193 (6.0%)	12.2%
Total	429875	202180 (47.0%)	23311 (5.4%)	11.5%

Source: Original data collected by the author for this study (2024).

Table 3: Dynamics of referring to and dehumanising outgroup in Russia

Russian Telegram Channels	Total Posts	Posts about Ukr. Outgroup	Posts Dehumanising Ukr. Outgroup	Dehumanising Posts out of Those About Ukr. Outgroup
Before 24.02.22	128611	27681 (21.5%)	1454 (1.1%)	5.3%
After 24.02.22	274937	136188 (49.5%)	19894 (7.2%)	14.6%
Total	403548	163869 (40.6%)	21348 (5.3%)	13.0%

Source: Original data collected by the author for this study (2024).

4.3 How: Dynamics of Dehumanisation

While a detailed analysis of dehumanising dynamics will be presented at the conference, Figure 1 illustrates typical examples from Russian and Ukrainian Telegram channels, with translations of the posts.

Russian dehumanisation relies on a narrow set of clichés amplifying historical grievances (e.g., "Bandera followers") and disinformation (e.g., falsely claiming the Ukrainian military destroyed Mariupol). In contrast, Ukrainian dehumanisation is more diverse (e.g. comparing a dead soldier to a well-done steak) and emotionally expressive (e.g., labelling as an "ork"), reflecting a dynamic response to immediate events. Dehumanising labels popular on Ukrainian Telegram in 2022 are more numerous (Chernenko, 2024a) with many emerging after the invasion, whereas Russian narratives inherit tropes developed since 2013.

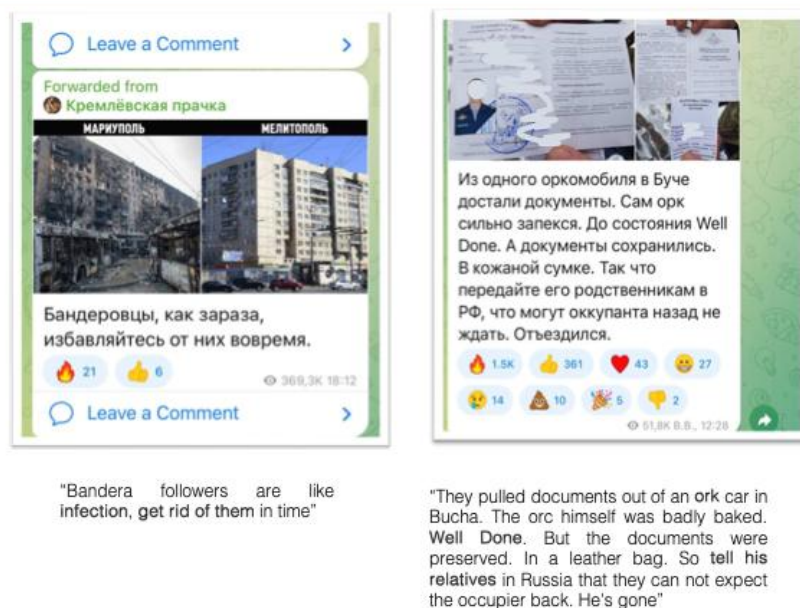


Figure 1: Examples of blatant outgroup dehumanisation in Russian (left) and Ukrainian (right) Telegram

Source: Swodki opolcheniya Novorossii Z.O.V. (Novorossiia Militia Reports Z.O.V.), (DNR, LNR, Ukraine, War) (2022) *Forwarded dehumanising message, Telegram*. Available at: <https://t.me/swodki> (left);

Dehumanising Message (2022) *Dehumanising message, Telegram*. Available at: <https://t.me/BerezaJuice> (right).

5. Conclusion

Our paper offers critical insights into the evolution of dehumanising language in conflict settings, highlighting distinct dynamics between aggressor and defender. By analysing popular Telegram channels in Russia and Ukraine during the 2022 Russian invasion, we observe contrasting patterns. Preliminary findings suggest that dehumanisation on Russian Telegram channels reflects a strategic approach, driven by state-affiliated media and present well before the invasion (as shown in Burovova and Romanyshyn, 2024). In contrast, Ukrainian channels exhibit reactive dehumanisation, emerging after the invasion and largely disseminated by the general public rather than official sources. This indicates differing natures of dehumanisation by aggressor and defender, suggesting tailored strategies for its mitigation in warfare contexts.

Our findings contribute to broader discussions on social media's role in conflict and offer important implications for addressing harmful content in polarised, high-stakes environments.

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Intermedia Agenda-Setting at the Network Level: Turkish Women's Volleyball Team in Media and Instagram

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Abstract: McCombs (1992) highlighted the evolution of the agenda-setting concept, which has expanded from public issues to encompass gender-related topics, particularly in sports media. Research indicates that male athletes receive significantly more coverage than female athletes, often portrayed in ways that emphasize power and dominance, while female athletes are depicted through the lens of femininity and family life. This disparity influences audience perceptions of female athletes' importance. In Türkiye, media coverage of female athletes is similarly limited, with negative portrayals and objectification prevalent, especially in football. However, Turkish women's volleyball presents a notable exception, as female athletes have surpassed male counterparts in elite competitions. Their achievements in 2023 gained significant attention from both national and international media (e.g., Anadolu Ajansı, The New York Times). This study employs McCombs' agenda-setting theory to analyse the influence of Instagram on mainstream media coverage of the Turkish Women's Volleyball Team's triumphs in 2023. While traditional agenda-setting theory has demonstrated that media shapes public perceptions, the rise of social media has altered this dynamic, allowing citizens to influence mainstream narratives. Utilizing a network agenda-setting (NAS) framework, the study will explore whether Instagram content about the volleyball team's success influenced mainstream media coverage or vice versa. The NAS model posits that media connects different issues in news stories as bundles, transferring the salience of these bundled messages to the public. Given that Instagram boasts over 2 billion users globally, including 58.7 million in Türkiye, this study aims to assess the correlation between Instagram and traditional media agendas. It hypothesizes that mainstream media anticipates the public's Instagram agenda (Hypothesis 1) and that Instagram posts predict the content of newspapers (Hypothesis 2).

Key Words: Sports Media, Instagram, Agenda Setting, Turkish National Women's Volleyball Team

1. Background

Recent studies indicate that female athletes in Türkiye receive limited media coverage, often portrayed negatively or objectified (Tiryaki, 2023). The sports press in Türkiye has primarily centred on football, where male players are depicted as hegemonic figures, reinforcing patriarchal norms and the idealization of both female and male bodies (Irak, 2020). Female athletes typically receive minimal coverage unless they achieve notable international success, at which point the media often emphasizes national pride over their athletic achievements (Yenilmez and Çelik, 2020).

In contrast, Turkish women's volleyball occupies a unique position, with top female athletes frequently outnumbering their elite male counterparts. Their remarkable victories in 2023, including championships in the FIVB Nations League and CEV EuroVolley, received attention from both national and international media. Headlines such as "How Türkiye's 'Sultans of the Net' ruled volleyball in 2023" from Anadolu Ajansı and "As Turkey Struggles, Women's Volleyball Team Provides a Point of Pride" in The New York Times highlight this exceptional coverage, emphasizing the significance of the Turkish women's volleyball team.

Given the established influence of mass media in agenda-setting, this study employs McCombs and Shaw's (1972) agenda-setting theory, which has evolved to identify three levels: the first level focuses on what topics are prioritized in media coverage, while the second investigates how the public perceives these issues (McCombs et al., 1998). The emergence of social media has transformed this dynamic, allowing citizen input to potentially influence mainstream media narratives. The network agenda-setting (NAS) model, introduced by Guo and McCombs (2011), suggests that media connects various issues as bundled messages, transferring their salience to the public (Guo, 2012). While many studies affirm the NAS model's efficacy in Western contexts (e.g., Vu et al., 2014; Vargo & Guo, 2017), recent research in Türkiye indicates that media may primarily influence pro-government individuals, leaving pro-opposition individuals less affected (Melek, 2023). This suggests that the NAS model may face limitations in a competitive authoritarian context like Türkiye, highlighting the need for further investigation.

This study will use an intermedia agenda-setting framework at the network level to explore the relationship between Instagram posts and newspaper coverage of the Turkish Women's Volleyball Team's victories in 2023.

A comprehensive analysis of media outlets across different political perspectives will be conducted alongside an examination of Instagram posts, including captions, hashtags, and tags related to the team's achievements.

Instagram, with over 2 billion monthly active users globally (Stacy, 2023), is among the top social media platforms in Türkiye, whereas of June 2023, there were 58.7 million users (Dierks, 2023). A global survey indicated that a significant proportion of sports fans engage with sports content on social media, with 31% following sports on Instagram (Greenfly, 2022). This study hypothesizes that Instagram content could influence mainstream media agendas.

Specifically, we will investigate whether mainstream media influenced public issue agendas on Instagram or vice versa. We predict that the mainstream newspapers' issue agendas during 2023 anticipated the public's Instagram issue agenda (Hypothesis 1). Additionally, we anticipate that public Instagram posts regarding the Turkish National Women's Volleyball Team predicted the content in newspapers (Hypothesis 2).

2. Methodology

In the present study, content analysis will be employed as the chosen methodological approach. By using content analysis, researchers are able to draw replicable and valid conclusions from texts and other significant materials (Krippendorff, 2004). Moreover, this methodology permits a systematic and objective examination of existing content (Wimmer & Dominick, 2006).

2.1 Data Collection

2.1.1 Instagram Posts

To examine Instagram posts about Turkish National Women's Volleyball team during the golden year 2023, "mentionlytics" is used to collect captions, and tags made by regular citizens from May 31, 2023 to September 24, 2023. This allows for data collection throughout the entire competitive schedule of 2023 for Turkish Women's Volleyball (the CEV Women's Volleyball European Championship: August 18-24, 2023, FIVB Volleyball Nation's League: May 31- July 02, 2023 and 2023 FIVB Women's Volleyball Olympic Qualifications: 16-24 September). Mentionlytics searches and collects worldwide Instagram posts starting with the following hashtags: #fileninsultanları, #kadinvoleyboltakımı, #voleybolmillitakımı, #cevkadınlaravrupaşampiyonası, #milletlerligi, #voleyboltürkiye. Specifically, "Mentionlytics" uses these hashtags as entry points in their Instagram application program interface (API) to gather and download relevant posts. Any hashtags not listed above were not included in the sample. Instagram API crawls usernames and professional journalists, media outlets, and any institutional or official account are excluded from the sample. Therefore, this sample is representative of all Instagram posts created by typical citizens. We realize that posts from bots or fraudulent Instagram accounts may be included in this sample since spam accounts cannot be manually identified. The writers eliminated all Instagram posts with locations outside of Türkiye based on location id and location tagging data supplied by Mentionlytics. All Instagram posts will be examined as an "Instagram Index" to measure the overall Instagram issues mentioned.

2.1.2 Mainstream Newspapers

To compare Instagram posts to mainstream media content, we examine national newspapers from different political camps during 2023 Golden Year. Since Türkiye Volleyball Federation archives all the news about Türkiye's volleyball that appeared in the Turkish mainstream media on their official website, we collect the news from this archive (<https://tvf.org.tr/basinda-voleybol/>). In our analysis, the newspapers are examined as a "Newspaper Index" to measure the overall issue agenda in the mainstream press.

2.1.3 Content Analysis

The study focuses on analysing daily posts on Instagram, considering various elements such as captions, hashtags, and tags as the unit of observation. Similarly, for newspapers, the unit of observation will be the daily content related to the Turkish National Women's Volleyball team published in newspapers. Two project assistants are responsible for coding the newspaper articles as well as the Instagram captions, hashtags, and tags.

2.1.4 Codebook Construction and Coding Procedure

First, we conduct a preliminary analysis using an inductive approach to construct a codebook. Later, the emerging themes are placed as dyadic variables in the codebook and both news media and Instagram content are coded using the codebook consisting of dyadic variables. The research assistants code both the newspaper articles and Instagram content to determine frequencies of variables. Once the coding procedure is finished, the co-occurrences of these emergent themes will be determined, and data matrices will be created using the frequency of the co-occurrences of the variables for both media. To determine the NAS effect between media (outlets vs Instagram content), we conduct an analytical approach involving the implementation of the Quadratic Assignment Procedure (QAP) correlation and the Multiple Regression Quadratic Assignment Procedure (MRQAP) analysis. With this procedure we determine the network agenda of the media outlets and Instagram network agenda regarding which issues are linked together about the volleyball players and whether there is a significant association between these network agendas.

3. Originality of the Research

Our study makes notable contributions to the field of sports media research in three primary dimensions. Firstly, it addresses the critical gap in the scholarly literature by examining the portrayal of Turkish women athletes in news media, shedding light on their representation within the mainstream media. This investigation represents a pioneering effort to explore news coverage specific to women's volleyball in Turkey, which has been largely overlooked within the existing body of research. Additionally, our study extends the scope of intermedia agenda-setting by focusing on Instagram posts. This aspect assumes significance as Instagram has received limited attention in agenda-setting studies, thus offering an opportunity to enrich the literature and bridge the existing research gap.

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Framing the Fallout: AI-Generated Visual Disinformation and the Fukushima Wastewater Narrative on Chinese Social Media

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Abstract: This paper explores the intersection of artificial intelligence (AI), visual disinformation, and nationalist narratives through a case study of Fukushima wastewater-related imagery on China's social media. Using Rodriguez and Dimitrova's four-layer visual framing model, the study analyses AI-generated visuals from Xiaohongshu, revealing how these images shape public discourse. The findings highlight the nuanced interplay of denotative symbols, stylistic elements, connotative meanings, and ideological frames in reinforcing nationalist sentiment. This paper argues for a more comprehensive analytical approach to understanding AI-driven visual disinformation in digital ecosystems.

Keywords: AI-generated Visuals; Indexicality Manipulation; Digital Disinformation; Text-to-image Synthesis; Platform Algorithmic Influence; Visual Framing Analysis

1. Introduction

Advances in media technology have ushered in a new era of visual communication, where images increasingly dominate the dissemination of information. Social media platforms amplify this trend, fostering environments where visual disinformation can spread rapidly and influence public perception. While visual disinformation has drawn significant attention in Western contexts, its impact extends globally, shaping public discourse and fuelling tensions in diverse societies. In India, fake WhatsApp videos exacerbated communal violence (Banaji et al., 2019), while falsified images on Facebook in Myanmar incited ethnic conflicts (Young, Swammy, and Danks, 2018). Deepfake technologies featuring politicians have emerged in Russia (Samoilenko and Suvorova, 2023), and manipulated photos have targeted political opponents in Venezuela (De la Torre, 2017). Unlike textual misinformation, visual content often carries an aura of authenticity that can obscure its manipulative origins. In the context of China, AI-generated imagery has emerged as a significant medium for shaping nationalist discourse. This study focuses on the Fukushima wastewater controversy, where manipulated visuals proliferated on Xiaohongshu, a prominent Chinese social media platform. Employing Rodriguez and Dimitrova's four-layer visual framing model, the study dissects the semiotic mechanisms underlying these images. The findings contribute to our understanding of how AI-generated visuals function as tools of disinformation, particularly in politically charged contexts.

2. Background: Fukushima Wastewater Controversy

On August 24, 2023, Japan began releasing treated radioactive water from the Fukushima nuclear plant into the Pacific Ocean. While international organizations, including the United Nations, affirmed minimal environmental risks, the move provoked widespread outrage in China. The Chinese government and media framed the release as a selfish act of environmental sabotage, stoking anti-Japanese sentiment rooted in historical animosities. Social media platforms like Xiaohongshu became battlegrounds for public opinion, where AI-generated visuals played a pivotal role in amplifying nationalist narratives. These images, often surreal and emotionally charged, manipulated viewers' perceptions, reinforcing the ideological framing of Japan as an aggressor.

3. Theoretical Framework

3.1 Visual Disinformation

Unlike misinformation caused by inadvertent sharing or dissemination of false or inaccurate information without any intent to deceive (Tsfati et al., 2020), disinformation involves the deliberate spread of false or misleading information with the explicit intention to deceive, manipulate, or achieve specific objectives (Chadwick and Stanyer, 2022). This distinction is particularly pertinent in visual communication, as the construction of false or misleading visual content necessitates conscious actions and, in certain instances, specific skills (Weikmann and Lecheler, 2023). In this research, visual disinformation is defined as the purposeful creation, manipulation, or dissemination of deceptive or false visual content, encompassing images, videos, graphics, or animations, with the overarching goal of deceiving, misinforming, or exerting influence over individuals or the public. Such

disinformation employs visual elements to spread distorted information, often in a visually compelling manner that exploit the trust individuals place in media content.

3.2 Four-Layer Visual Framing Model

In Mary Angela Bock's conceptual framework encompassing the constructs of "selection" (re-contextualized image), "creation" (de-contextualized image), and "solution" (framing effect), the operationalization of "creation" centres on the message encapsulated within the image, a message guided by established conventions such as distance, angle, and composition (Bock, 2020). This study therefore adopts a similar approach by subjecting various forms of visual frames to analysis within the delineated discourse surrounding the Fukushima wastewater on China's social media platforms. Within this nuanced context, the research shifts its focus from the textual regulation applied to the visual and instead concentrates on the framing effect intrinsic to the visual medium itself. Rather than employing a "glut" inductive approach akin to quantitative content analysis, which involves the identification and quantification of frames (Bock, 2020), this study employs a qualitative frame analysis method designed to unveil the graphical representations that captures the essence of a given event.

Building upon Rodriguez and Dimitrova's framework (2011), this research seeks to conduct a comprehensive investigation of the semiotic mechanisms underlying visual framing, which can be categorized into four distinct levels: denotative systems, stylistic-semiotic systems, connotative systems, and ideological representations. In summary, 1) denotative meaning in visual framing pertains to the initial mental image constructed by the audience based on the primary and inherent subjects featured in the image; 2) stylistic-semiotic framing encompasses the social meaning embedded within the visual modalities and pictorial style variables, including considerations such as colour, poses, and camera angles; 3) connotative meaning of visuals delves into the symbolic values deeply rooted within specific cultural contexts that evoke strong emotional responses from viewers; 4) ideological representation aims to address questions concerning the unequal power dynamics underpinning the symbolic meaning of the graphic content. To exemplify this framework, Rodriguez and Dimitrova conducted an extensive analysis of a news photograph featuring displaced Sudanese women and their children in Darfur (2011). However, it is crucial to acknowledge that when examining AI-generated visuals, a fundamental difference from traditional photography is evident.

3.3 AI-Specific Dynamics

The concept of indexicality, central to semiotics, refers to the perceived direct causal link between an image and the reality it depicts, making traditional photographs powerful tools of authenticity and persuasion. With the rise of AI-generated images, this relationship has become increasingly malleable. AI technologies have transformed image production, allowing creators to simulate realism through computational algorithms. This shift is particularly significant in societal contexts where visual manipulation amplifies existing beliefs and social divides. Unlike traditional image-making, where human creativity dominates, the text becomes the driving force in AI visual production, guiding the creation and manipulation of imagery through detailed prompts. By translating natural language into visual representations, AI narrows the interpretive scope of both creators and audiences, confining their interaction within predefined semiotic contexts and raising ethical and communicative challenges. Algorithms play a pivotal role, translating textual prompts into visual representations while imposing aesthetic and cultural biases derived from data repositories, often rooted in Western-centric datasets. Algorithmic moderation and platform policies further regulate user-generated content, raising critical questions about censorship, freedom of expression, and authenticity. These intertwined layers of technology, language, and platform design demand an interdisciplinary analytical framework. This study incorporates these dimensions into frame analysis to dissect the semiotic and ideological significance of AI visuals, using the Fukushima nuclear wastewater discourse as a case study to explore the broader implications of visual misrepresentation in shaping public perception.

4. Methodology

4.1 Data Collection

This study analysed AI-generated visuals related to the Fukushima wastewater issue from Xiaohongshu. Using keywords such as "nuclear wastewater" and "AI," three high-engagement images as indicated in Table 1, were selected based on likes, comments, and user interactions. The three selected images illustrate recurring motifs in AI-generated visuals, such as exaggerated marine life symbolizing ecological devastation, juxtaposed with industrial backdrops to evoke blame toward Japan. These images were chosen for their high engagement metrics

and their alignment with prevalent nationalist narratives on Xiaohongshu, ensuring they are representative of broader trends on the platform.

Table 1: Information about the Three Visual Samples

1	Account: RUILYN CINEMAS Like: 3082 Comments: 564	2	Account: 异世界摄影_Potter Like: 2713 Comments: 588	3	Account: 不卖肉 Like: 5431 Comments: 1895
					
Prompt: "a men is standing next to a large fish on a beach in the style of otherworldly beings, Chinapunk, movie still, close-up, eye-catching, surrealistic dreams, porcelain, captivating documentary photos -- ar 43:64"		Prompt: "dead fish in the middle of a dirty river with factory in the backgournd, demonic photography, surreal landscape, photo-realistic hyperbole, misty atmosphere, industrial surrealism, apocalyptic visions shot on 70mm -- ar 61:64"		Prompt: "a women is holding an enormous sea creature, in the style of dystopian atmohsphere, Japanese-inspired imagery, atmospheric shots, exaggerated facial features, filthy sculptures, undefined anatomy -- ar 39:64"	

4.2 Analytical Approach

The selected images were analysed using Rodriguez and Dimitrova's four-layer framework. The study also employed Midjourney's reverse function to decode the relationship between textual prompts and visual outputs, offering insights into the interplay of language and imagery in AI-generated content.

5. Findings: Visual Framing of Fukushima Wastewater

5.1 Denotative Signs

Water serves as the primary symbol across all images, anchoring them to the Fukushima incident. The visuals depict exaggerated marine life—giant, mutated fish and oversized shrimp stranded on polluted shorelines. These elements immediately evoke associations with environmental catastrophe, reinforcing the narrative of a damaged ecosystem. Hashtags like "nuclear wastewater" further contextualize the images, ensuring their alignment with ongoing social media discourse. The stark juxtaposition of industrial backdrops and distorted marine creatures emphasizes the perceived consequences of the wastewater release.

5.2 Stylistic Variables

The images employ surreal and dystopian aesthetics, achieved through prompts like "apocalyptic" and "dystopian." A subdued colour palette dominated by greys and browns conveys a bleak, post-industrial landscape. Lighting effects mimic natural conditions, enhancing the realism of the scenes. Camera angles play a critical role in framing human figures as vulnerable and insignificant against the backdrop of environmental devastation. For instance: A wide shot features a lone figure dwarfed by a massive, stranded fish; A close-up portrays a woman cradling a grotesque sea creature, her expression reflecting fear and despair. These stylistic choices evoke emotional responses, ranging from awe to alarm, drawing viewers deeper into the narrative.

5.3 Connotative Meanings

The visuals construct a dystopian future marked by environmental collapse and human helplessness. Symbols like mutated marine life and polluted waters evoke themes of death and decay, critiquing industrial exploitation and ecological neglect. The portrayal of human figures fosters a sense of empathy and moral responsibility, while their proximity to grotesque sea creatures suggests an uneasy coexistence with a damaged natural world. These connotations resonate with broader societal fears about environmental degradation and human vulnerability.

5.4 Ideological Representations

The images subtly reinforce nationalist narratives, framing the Fukushima release as an act of aggression by Japan. By depicting East Asian features in human figures, the visuals embed the controversy within a Sino-Japanese historical and cultural context. The unsettling portrayal of marine life and polluted environments amplifies the ideological framing of Japan as a reckless polluter. This aligns with state-driven propaganda, which leverages such visuals to consolidate nationalist sentiment and direct public outrage outward.

6. Discussion

6.1 AI's Role in Shaping Visual Narratives

AI-generated images offer unprecedented flexibility in visual storytelling, enabling creators to craft hyper-realistic yet entirely fabricated scenes. The reliance on textual prompts introduces a unique dynamic where language shapes visual content. However, this process also raises ethical concerns about the intentionality and accountability behind disinformation.

6.2 Platform Amplification and Content Governance

Platforms like Xiaohongshu play a critical role in amplifying visual disinformation. By prioritizing Fukushima-related content and omitting disclaimers about AI origins, Xiaohongshu facilitated the dissemination of manipulated visuals. This selective amplification underscores the platform's complicity in shaping public discourse, often blurring the lines between user-generated content and state-sponsored narratives.

6.3 Emotional Resonance and Public Opinion

The emotional impact of these images is a key driver of their virality. By evoking fear, empathy, and outrage, the visuals bypass rational scrutiny and reinforce preexisting biases. This underscores the power of visual framing in shaping public opinion, particularly in politically charged contexts.

7. Conclusion

This study highlights the transformative impact of AI-generated visuals on public discourse, particularly in the realm of nationalist narratives and disinformation. Through the Fukushima wastewater case, we demonstrate how denotative, stylistic, connotative, and ideological frames converge to create potent visual messages that resonate with audiences. As AI technology continues to evolve, its role in shaping visual disinformation demands critical scrutiny. The findings underscore the transformative role of AI in visual storytelling, highlighting its potential to manipulate public perception. The ethical implications are significant, as platforms like Xiaohongshu facilitate the spread of such content without adequate disclaimers. Regulatory measures, such as algorithmic transparency and AI-content labelling, are essential to address platform liability and mitigate the impact of visual disinformation. Comparative studies across cultural and regional contexts would provide a more nuanced understanding of these challenges, enabling tailored policy responses. Future research could explore how cultural and platform-specific dynamics shape the use of such visuals in varying socio-political landscapes. Future research should explore comparative contexts, platform-specific dynamics, and audience reception to develop a more comprehensive understanding of this phenomenon.

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Late Submissions

A Discourse Analysis of AI Narratives in Spanish Speakers' Social Media Platforms

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Abstract: This study examines how international news outlets frame artificial intelligence (AI) discussions on social media in Spanish-speaking Latin America, highlighting social media's role in shaping perceptions and attitudes. Fuchs (2024:35) conceptualises social media as techno-social systems in which information and communication technologies enable and constrain human activities that create knowledge produced, distributed, and consumed in a dynamic and reflexive process that connects technological structures and human agency. The paper centres on how discourses in social media are communicated to audiences when content about AI is distributed on those platforms, looking at the narratives embedded in those posts. This exploratory research uses critical discourse analysis to analyse how selected regional outlets address AI outside the Global North. It focuses on how news stories are published on the X.com (formerly known as Twitter) accounts of CNN Español, BBC Mundo, Infobae, and Telesur, two outlets coming from the Global North and two outlets originating in the Global South. Despite the growing popularity of platforms like TikTok and Instagram, X.com still fulfils the role of the digital public sphere, where it remains a popular social media application in Latin America with 57.5 million users (Statista, 2024). Using Norman Fairclough's three-dimensional model of critical discourse analysis, textual analysis, discourse practice, and social practice, the initial results of over 300 tweets found that AI is often framed using metaphors of competition and transformation, portraying it as a geopolitical contest and an unstoppable societal force. AI is also personified with human-like qualities, which can obscure the human and corporate influences behind its development. In addition, the study highlights distinctive patterns in how AI content is produced and consumed across social media platforms, where it uses expert opinions to legitimise its content. Finally, it reflects on how the editorial approaches of the selected outlets demonstrate how institutional ideologies and power structures influence the framing of AI. These findings contribute to the knowledge about journalism discourses and AI from the perspective of the Global South.

Keywords: Artificial Intelligence, Social Media, News, Discourses, Critical Discourse Analysis, Media Framing, Geopolitics, X.com/Twitter

1. Introduction

Artificial Intelligence (AI) has emerged as one of our time's most significant technological transformations, comparable in its impact to historical advancements such as electricity or the Internet (Sheikh et al., 2023). Its development is attributed to the evolution of algorithms, the increase in processing capacity, and the access to ever-larger volumes of data (Franganillo, 2023). This phenomenon has captured the attention of global media, which have shown a growing interest in its implications across various social domains (Nguyen & Hekman, 2022).

Given this growing technological and social relevance, media coverage of AI plays a fundamental role in the public's understanding of this technology. As Nguyen (2023) points out, the media significantly contribute to advancing public knowledge of scientific developments by communicating the complex nature of AI, creating anticipation around emerging technologies, stimulating public interest, showcasing practical applications, and explaining its scientific foundations. In this regard, the media have a substantial impact on how topics are presented to the public (Chuan, 2019), and thus, public opinion and acceptance of AI are likely to be influenced by what the media say about it.

To better understand this media phenomenon, recent research on AI media coverage has addressed various contexts and regions. Researchers have explored the representation of AI in specific contexts, such as its application in the healthcare sector (Bunz & Braghieri, 2021), the dual perspectives of AI and its influence on public perception (Choi, 2024), its implementation in newsrooms (Moran & Shaikh, 2022), and the ethical concerns associated with its use (Ouchchy et al., 2020). Delving into specific aspects of these media analyses, recent studies have identified significant patterns. Ittefaq et al. (2025) looked at nine predominant frames in international media coverage of AI, including impacts on business, economy, and employment; transformations in education and research; national security and global alliances; disruptions in media and creative sectors; regulations, ethics, and data privacy. Their study revealed that approximately one-third of the content presented a positive frame, while 25% showed a negative focus. These findings align with those observed by Díaz Monsalvo and López Vidales (2025), who found that positive content (32.83%) outweighed specifically harmful content (25.31%) in Spanish television media coverage of AI. Longitudinal analyses complement this distribution

between positive and negative approaches. Nguyen and Hekman (2022) have documented how media discourse on AI has become progressively more critical over the past decade, specifically examining coverage in *The New York Times*, *The Guardian*, *Wired*, and *Gizmodo*. This trend reflects a maturation in the informational treatment of the technology, where social implications and potential risks receive greater attention than in previous years.

According to Brennen et al. (2018), digital platforms that allow concise communication formats, such as microblogging, have proven particularly useful for disseminating scientific information. The paper analysed how these spaces facilitate the distribution of specialised content while allowing links to more detailed information and real-time updates on technological developments. The listed research in this paper has established foundations for understanding how traditional media approach AI and how digital platforms transform the dissemination of this knowledge. However, there is a significant gap in analysing international Spanish-speaking media and their representation of AI on microblogging platforms. Considering the global relevance of AI and the cultural particularities that may influence its media representation, our study aims to expand this knowledge by analysing how four leading international media outlets—CNN Español, BBC Mundo, Infobae, and Telesur—cover news related to Artificial Intelligence through their official accounts on X.com (formerly known as Twitter). The analysis includes posts made between September 2024 and January 2025, during which significant developments and debates around AI occurred globally, thus contributing to our findings on the trends identified by previous studies while exploring the particularities of the Spanish-speaking context.

2. Conceptual Framework

The contemporary news media ecosystem has diversified the channels through which information is disseminated (Shearer & Mitchell, 2021). While traditional studies of media coverage have primarily focused on traditional media, digital platforms and social media have gained special relevance in constructing public discourse on emerging technologies (Brossard, 2013; Pentina & Tarafdar, 2014). In this regard, social media platforms have become fundamental channels for disseminating information about AI, with microblogging platforms like X.com, serving as crucial spaces for international news media to share content and frame narratives about emerging technologies. The research by Stroud et al. (2020) reveals interesting participation patterns on these platforms, where approximately 14% of American adults actively comment on news, while 35% limit themselves to reading comments without directly participating. This dynamic generates different levels of involvement in constructing public discourse on complex technologies such as AI. Brossard (2013) has documented how these platforms facilitate access to scientific information and provide a social context through comments, "likes," and shared content. His findings suggest that the civility of interactions in these digital spaces can significantly influence public perceptions of emerging technologies, even affecting how users evaluate the objectivity of the information presented.

The social media logic, based on programming, popularity, connectivity, and datafication (Van Dijck & Poell, 2013), has led to the hybridisation between the logic of traditional media and that of their social network channels (Tsuruel et al., 2021). This fusion implies interdependence between them (Chadwick et al., 2015; Hjarvard, 2018) and the integration of cultural and institutional practices that were previously kept separate (Delmastro & Splendore, 2021). In this hybridisation, social media recommendation algorithms have become gatekeepers (Shoemaker, 2020), offering citizens news based on audience metrics (Klinger & Svensson, 2018) and their monetisation (Villi & Picard, 2019; Törnberg & Uitermark, 2022). In that regard, established news media platforms are best placed to disseminate their content through social media due to their high visibility. Fuchs (2024, p. 35) conceptualises social media as techno-social systems in which information and communication technologies enable and constrain human activities. These activities create knowledge that is produced, distributed, and consumed with the aid of technologies in a dynamic and reflexive process, connecting technological structures with human agency. The author also stresses that these technologies enable three modes of sociality: cognition, communication, and cooperation. Social media platforms facilitate the convergence of these modes as individuals create multimedia content that impacts cognition while allowing comments and other forms of interaction at the communication level. This process facilitates the sharing, manipulation, and remixing of content multiple times by various authors, thereby promoting cooperation (Fuchs, 2024, pp. 46-47)

The context of the social media influences how languages and ideas are disseminated on social platforms, which, according to Mellado and Hermida (2021, p. 2), are guided by individual motivations that can impact what constitutes the public interest in information. In this way, news media outlets repurpose their content to adapt it to the platform's requirements to increase impact, reach, and visibility. Regardless of the platform, news media discourse mediates between high-level social structures and everyday social events, reproducing the meanings in the news reported, written and distributed on social media platforms, reflecting and reinforcing particular

narratives. As Richardson argues, "news is never a value-free reflection of 'facts'" (2007, p. 13). This observation becomes particularly relevant when examining how news media present their news stories through platforms prioritising brevity and engagement. Still, as he points out, 'journalism plays a crucial role in reproducing (or challenging) social norms' (2007, p. 77)', making it essential to look at the content they publish on social media platforms as these increasingly permeate society, shaping public understanding despite the ecosystem used as "Power in discourse has to do with powerful participants controlling and constraining the contributions of non-powerful participants" (Fairclough, 1989, p. 46). By analysing how the social media platforms of the selected news outlets present AI to a Spanish-speaking audience, it can be better understood how particular AI discourses become normalised or contested.

3. Methodology

This study used a qualitative discourse analysis approach to explore how Spanish-language media with a Latin American reach frame AI in their posts on X.com. This platform was chosen because of its centrality in the digital circulation of contemporary discourses, especially on technological topics. Various studies have indicated that X.com, due to its public, fast-paced, and reactive nature, has established itself as a privileged space for agenda-setting, the expression of ideological positions, and the shaping of social representations (Kaiser, 2017). Additionally, the brief format and algorithmic logic of amplifying certain content reinforce the tendency towards using highly coded messages with strong rhetorical or emotional content, making it a fertile space for linguistic and discursive analysis (Boyd, Golder & Lotan, 2010). X.com is actively used by media outlets, journalists (Armijos et al., 2022), political actors, and technology sector companies to disseminate news, establish positions, and contest meanings around emerging phenomena such as AI, reinforcing its relevance as a subject of study within digital communication studies.

Regarding sample selection, a geopolitical criterion was established for the choice of media, integrating both news media based in the Global North with Latin American reach (CNN Español and BBC Mundo) and those directly based in Latin America (Infobae and Telesur). This selection aims to contrast differences in discursive frameworks according to each medium's origin and geopolitical positioning. While BBC Mundo has 5 million followers, CNN en Español has 22.5 million. By contrast, Telesur has two million while Infobae has 1.3 million, which shows the limitation of the outlets produced in Latin America. The analysed sample spans five months, from 1 September 2024 to 31 January 2025, a stage characterised by significant developments and debates around AI at a global level, such as the emergence of DeepSeek. For data collection, a scraping technique was implemented using a Python code executed in a Docker environment, which allowed for the systematic and exhaustive extraction of posts. The selection criterion was based on the explicit presence of the term "artificial intelligence" in Spanish language tweets issued by the official accounts of the four media outlets during the established period. The results comprise a total of 300 posts, distributed as follows: 8 tweets from BBC Mundo, 32 from CNN en Español, 25 from Telesur, and 235 from Infobae, highlighting a notable disparity in the frequency with which each medium addresses the topic, an aspect considered in the analysis because of the sources selection and voices represented in the content, issues discussed by the categories used in this study.

Moreover, the analysis is framed within Critical Discourse Analysis (CDA), particularly the approach developed by Norman Fairclough (1989, 1995, 2003), who conceives discourse as a form of social practice embedded in power relations and ideological processes. From this perspective, discourses on AI are not merely informative or descriptive but actively construct social representations, collective identities, and relations of domination. Fairclough proposes a three-dimensional model for discourse analysis, guiding this research at three interrelated levels: (1) text analysis, focusing on linguistic aspects such as lexicon, metaphors, modality, and syntactic structures; (2) analysis of discursive practices, considering how discourse is produced, distributed, and consumed in specific media contexts like X.com; and (3) analysis of sociocultural practices, referring to the ideological, institutional, and technological contexts that condition discursive production. As a result, the data was manually coded in Spanish using the Google spreadsheet package, where the posts were classified in the categories listed in the table below.

Table 1- Categories of Analysis

Lexicon and vocabulary	▪ Dominant semantic fields ▪ Using hashtags and tags ▪ Jargon or specialized language ▪ Metaphors and figures of speech
Grammar and Syntax	▪ Sentence structures ▪ Modality (must, may, could) ▪ Transitivity (active/passive) ▪ Pronouns used (we/they)
Multimodal elements	▪ Use of emojis and their function ▪ Attached images ▪ Shared links ▪ Memes or visual content
Text production: production context	▪ Reply to other tweets ▪ Part of a thread or conversation ▪ Related events ▪ References to other texts
Intertextuality	▪ Quotes or retweets ▪ Mentions to other users ▪ Established dialogues ▪ Number of retweets
Distribution and consumption	▪ Likes and responses ▪ Profile of those who interact ▪ Virality of content ▪ Author's position – sources
Power relations	▪ Hierarchies involved ▪ Authority and legitimacy ▪ Voices represented/silenced ▪ Promoted values
Ideological aspects: dominant discourses	▪ Presuppositions ▪ Naturalisations ▪ Reinforced/challenged hegemonies

The research aims to analyse how the media frame AI in their brief and highly coded posts on X.com, identifying discursive patterns contributing to its representation as a threat, solution, progress, or uncertainty. As recent studies have shown, in digital social networks, discourse polarisation occurs more often due to discursive frameworks rather than the topics addressed (Demszky et al., 2019), which underscores the relevance of attending to the rhetorical, semantic, and structural resources used by the media to represent AI. Additionally, the interactive dimension of digital discourse is incorporated: X.com allows for observing what the media publish and how these contents are appropriated, debated, or resisted by audiences through retweets, replies, and mentions. This discursive circulation and re-signification dynamic aligns with Fairclough's (2003) dialogic discourse conception, emphasising its open, conflictive, and constantly negotiated nature.

Finally, X.com is considered a privileged observatory for identifying key actors, hegemonic discourses, and symbolic disputes around AI. Previous studies have demonstrated that platforms like this allow mapping in which voices gain greater visibility and legitimacy in the public debate on technology (Chaves-Montero et al., 2020; Johnson et al., 2017). Through this methodological approach, the aim is to contribute to a critical understanding of the role of the media in the symbolic configuration of artificial intelligence, considering both its textual forms and its conditions of production, circulation, and interpretation.

4. Initial Results

Our initial findings of over 300 tweets about the AI mainly focus on the text, discourse, and social practices. At the textual level, we found that journalists often use competition metaphors like "race," "challenge," and "battle," as well as transformation hyperboles such as "revolution" and "disruption." This language frames AI development as a geopolitical contest and an unstoppable force changing society. These choices are far from neutral; they reflect the power dynamics in technological development. Notably, AI is often personified with terms like "thinks," "learns," and "rebels," giving it human-like qualities. This can obscure the human and corporate influences behind AI, making it seem like AI has its own agency. As Richardson (2007, p. 49) notes, "lexical choices convey connotations and denotations that facilitate the construction of discourse topics."

Personification creates a discourse where AI possesses autonomous capabilities, potentially obscuring the human actors and corporate interests behind its development.

Table 2- Textual Analysis

Dominant semantic fields	
BBC Mundo	"...denounced the dangers of artificial intelligence for humanity..."
CNN Español	"Elon Musk lashes out at artificial intelligence project..."
Telesur	"#DeepSeek burst onto the global tech scene..."
Infobae	"... concerns about the emergence of a Chinese artificial intelligence company..."
Jargon or specialized language	
BBC Mundo	"...This is how the new Chinese chatbot that is revolutionising the market is presented..."
CNN Español	"DeepSeek, the new Chinese chatbot ..."
Telesur	"...uses an artificial intelligence-modified messenger ribonucleic acid (mRNA) molecule ."
Infobae	"Celebrities' challenge to deepfakes ..."
Metaphors and figures of speech	
BBC Mundo	"...breakthrough that marked a before and after in the history of technology"
CNN Español	"...that shocked the tech world"
Telesur	"...technological breakthrough that surprises mankind "
Infobae	"DeepSeek: the ' Trojan horse ' of Chinese artificial intelligence..."

From the discursive practice perspective, the findings reveal distinctive patterns in how AI content is produced and consumed across these platforms. The prevalent use of predictive constructions and ranking formats reflects what Fairclough would identify as "marketised discourse practices" adapted for social media consumption. Considering Fuchs' three models of sociability discussed previously, these activities are shaped by platform architectures that privilege certain content forms over others. The findings demonstrate how different outlets adapt their discursive practices to X.com's constraints. For instance, Infobae's hybridisation of genres—from alarmist headlines to practical advice—exemplifies what Fuchs (2010) describes as the "prosumer" model of social media communication, where content must simultaneously inform and engage in generating interaction. Consequently, AI has been utilised as a news source to enhance audience engagement with various topics, leading to a significant number of posts included in this study's methodology compared to the other three news outlets. The heavy reliance on celebrity opinions (e.g. Elon Musk, Geoffrey Hinton) as legitimising voices further illustrates "relations of access structure journalism" (Richardson, 2007, p. 87), with certain privileged voices dominating the discursive space, which reflects the sources selection that traditional journalism used in their news reporting (Manning, 2000).

Table 3- Discourse Practice

Text Production: production context → Related events	
BBC Mundo	"The woman who lost US\$850,000 cheated by an artificial intelligence-created Brad Pitt" (context: AI-enabled fraud cases, dating scams)
CNN Español	"Juan Iván Cueva says that if he becomes president of Ecuador, he will seek to use artificial intelligence." (context: Ecuador electoral campaign)
Telesur	"The #China Foreign Ministry spokesperson [...] mentioned that the Asian giant strongly opposes #US restrictions on AI exports." (context: China-US tech war)
Infobae	"Donald Trump announces USD 500 billion investment in Artificial Intelligence with Softbank, OpenAI and Oracle" (context: Trump administration's tech policy announcements, Stargate Project launch)
Distribution and Consumption → Author's position – sources	
BBC Mundo	"Geoffrey Hinton, the Nobel Laureate in Physics" (academic/scientific source)
CNN Español	"says UN adviser" (international institutional source)
Telesur	"#LIVE: President of #Venezuela, #NicolásMaduro" (direct political source, live transmission)
Infobae	"according to artificial intelligence" (AI as consulted source)

At the broader level of social practice, the findings reveal how AI discourse reflects and constructs power relations in Latin America. The differentiated editorial approaches—from Telesur's anti-imperialist framing to CNN en Español's business-oriented coverage—demonstrate what Fairclough calls "orders of discourse" that reflect institutional ideologies and power structures. Telesur's uncritical presentation of Maduro's technological initiatives exemplifies "the naturalisation of power relations through discursive practices" (Richardson, 2007, p. 13). The emphasis on geopolitical competition, particularly regarding China's emergence in AI development, reflects broader social anxieties and power struggles and the securitisation of the topic.

Table 4 - Power Relations and Ideological Aspects of the Dominant Discourses

BBC Mundo	"5 ways criminal groups in Latin America use Artificial Intelligence to commit crimes..." (security and surveillance)
CNN Español	"Federal authorities uncovered US\$1 billion worth of fraud in one year thanks to artificial intelligence" (state surveillance and financial crime)
Telesur	"...Nicolás Maduro: Imperialism uses Artificial Intelligence to attack countries" (imperial power and national sovereignty)
Infobae	"US imposed restrictions on trade in artificial intelligence chips with China" (US- China economic power and global competition)

Social media platforms do not merely transmit these narratives but actively shape them through algorithmic prioritisation that privileges specific emotional responses, explaining the prevalence of fear-based narratives around job displacement and existential risks (Fuch, 2024). Therefore, X.com functions as a "techno-social system" where discourses about AI are not merely disseminated but actively shaped through platform affordances and constraints. The selected news outlets construct AI through frames that reflect their ideological positions while adapting to social media logic that privileges emotional engagement over nuanced analysis. This variety of discursive constructions of AI across these outlets shapes public understanding of technological change and its implications for Latin American societies, demonstrating how technology discourse becomes a site of ideological contestation.

5. Conclusions

This research has examined how four major Spanish-language news outlets frame artificial intelligence on their X.com accounts, revealing several significant patterns in how AI narratives are constructed and disseminated to Latin American audiences. The analysis reveals the prevalence of distinct discursive strategies across media outlets, with notable differences between Global North-based organisations (BBC Mundo and CNN en Español) and their Latin American counterparts (Infobae and Telesur). These differences manifest in content frequency, with Infobae's remarkable 235 posts dominating the sample and framing approaches. While CNN en Español prioritises business-oriented content by emphasising technological innovation, Telesur presents AI through geopolitical resistance frames that challenge Western technological hegemony. These divergent approaches illuminate what Fairclough (1989) identifies as "orders of discourse" that reflect institutional ideologies and power structures within the media landscape.

The predominance of specific linguistic patterns—competition metaphors, transformation hyperboles, and technological personification—demonstrates how language choices function as ideological instruments in constructing AI narratives. These rhetorical choices systematically emphasise specific meanings while obscuring others, particularly the human actors and corporate interests behind AI development. The heavy reliance on business, political, and scientific voices as legitimising authorities further reinforces existing power structures in technological discourse. The findings of this paper align with previous research regarding the evolution of AI coverage toward more critical perspectives. They also support the identification of geopolitical, employment, and ethical frames as dominant in global AI coverage. However, this study reveals distinctive patterns in Spanish-language contexts, particularly regarding adapting AI discourses to Latin American socio-political realities and concerns. As AI technologies continue to advance and integrate into various aspects of society, understanding how media outlets frame these developments for Spanish-speaking audiences remains crucial for fostering informed public discussion about the challenges and opportunities presented by artificial intelligence in Latin American contexts.

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Ethical declaration

The University of Derby gave ethical clearance to develop this research. The authors used the GDPR in the UK and Chile to retrieve and secure the data. No private data was included in this paper, as all the information was publicly available.

The author(s) declared no potential conflicts of interest concerning this article's research, authorship, and/or publication.

AI declaration

AI tools contained in Grammarly were used to check the grammar and spelling of this paper. Google Translate was used to translate some sections written in Spanish by the coauthor of this paper.

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Language Management Theory: A Device to Control Social Media effects on Language Usage- A South African Context

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Abstract: Language Management refers to any specific efforts made to modify or influence language practice (Nekvapil & Sherman, 2015). Language management takes place when a language deviation has been noted. The main purpose of language management is to enforce the correct and sound use of a language, according to the standards of a given context. Language could be managed by a Macro structure (government and private institutions) or Microstructure (individual activists or general citizenry). In the educational setting – a Microstructure, it is the responsibility of language teachers to influence good language practice, by ensuring that school learners use language correctly. Teachers are duty-bound to guard against any language deviations in accordance with the requirements of language subject curriculum. With the growing usage of social media and its widespread accessibility to school learners, teachers in South Africa constantly deal with language deviations caused by social media. This is in response to school learners' use of social media writing style in the classroom. Although, it is not wrong for learners to deviate from the norms when writing on social media, teachers bemoan school learners' tendency of transferring social media writing style to the classroom. The contamination of classroom language by social media language necessitates language management. This paper spotlights Nekvapil' Language Management Theory (LMT) as an effective tool to control language deviations influenced by social media. It bridges a gap between theory and practice by demonstrating how South African teachers manage language use in schools. This is qualitative research and uses interpretivism worldview to understand language management through educator's lenses. Open-ended interviews were done with 20 teachers from South Africa, Limpopo to get their experiences on how they ensure good language practice in the school. The collected data demonstrated that teachers have put various measures in place to management language.

Keywords: Language Management; social media; Social media influence; Macro language management; Micro language management

1. Introduction

The Curriculum Assessment Policy Statement (CAPS) of South Africa places language conventions at the heart of the language syllabus. It emphasises mastering essential language elements such as grammar rules and punctuation. Consequently, teachers prioritise sentence construction, punctuation, and spelling when assessing learners' language activities. This rigorous assessment framework is designed to ensure that learners adhere to standard language conventions.

However, numerous factors still contribute to learners' deviation from these norms, with social media emerging as a key influencer. Shaku (2024) describes social media as a significant distraction for school learners, profoundly impacting language dynamics in the classroom. Through engagement with South African secondary school learners, Shaku (2024:391) observes, "learners are affected by their imitation of social media language in the classroom. This imitation results from extensive use of textism (ungrammatical language on social media), which leads to the reproduction of similar language in the classroom." Similarly, studies by Odey, Essoh, and Endong (2014), as well as Shaku (2022), reveal trends of language deviation stemming from social media. These include abbreviations, acronyms, word contractions, vowel omissions, capitalisation inconsistencies, spelling, and punctuation errors.

In response, language teachers are compelled to function as stewards of language management, striving to mitigate the influence of external factors like social media and promote the correct use of language in the classroom. This paper examines Language Management Theory (LMT) as a framework for addressing and controlling linguistic deviations linked to social media.

Language Management Theory, first introduced by Neustupný and Jernudd (1987), offers a comprehensive model for understanding and addressing linguistic behaviour. Language management is defined as "any specific efforts to modify or influence language practice" (Nekvapil & Sherman, 2015). Mwaniki (2011:253) extends this definition, highlighting LMT as a synthesis of decision-making theory, sociolinguistic theory, modernisation theory, systems theory, and human development theory, aimed at explaining the dynamic interplay between language and society.

According to Neustupný and Jernudd (1987), LMT operates on both micro (individual) and macro (institutional) levels, addressing language as a system and as a mode of communication. This dual approach encompasses interventions ranging from individual actions to institutional policies. In the context of this paper, LMT would

provide a guiding framework for teachers to design strategies and interventions that help learners navigate and manage their language use within the classroom.

1.1 Language management procedure

According to Filozofická Fakulta (2013), Language Management Theory (LMT) provides a structured approach to understanding how speakers manage deviations from linguistic norms during communication. LMT assumes that when a communicative act occurs, the speaker identifies instances where the discourse deviates from expected norms. This process is guided by a systematic evaluation and adjustment cycle, as outlined in Figure 1.

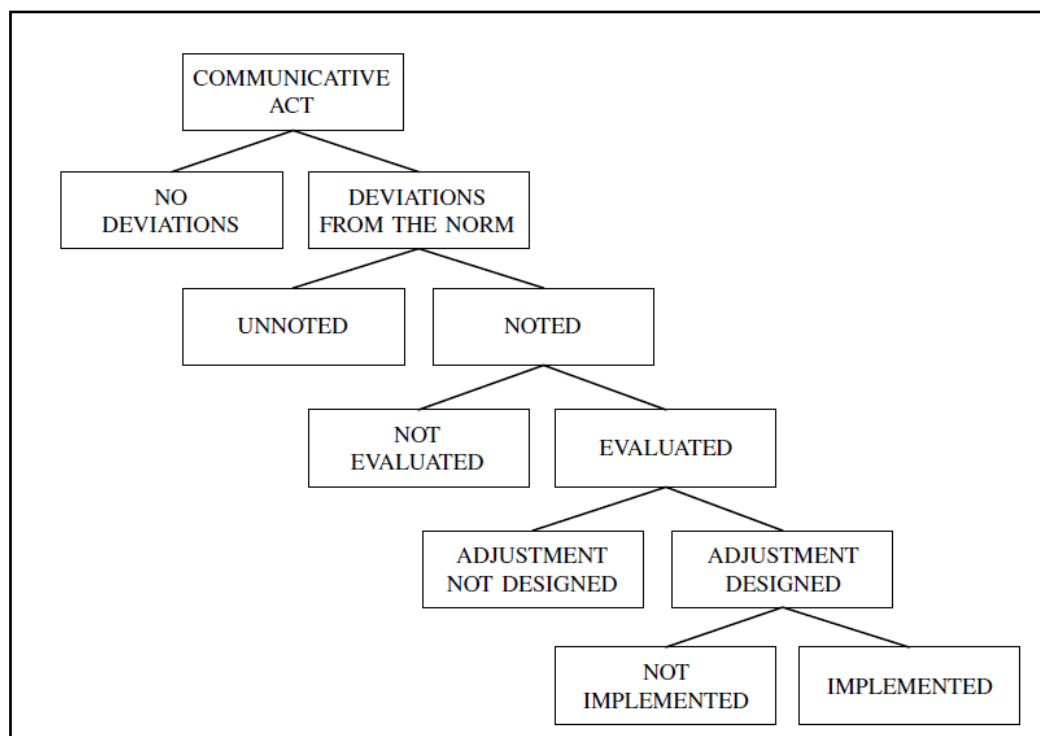


Figure 1: Language management procedure (Nekvapil, 2012)

The language management process begins with *noting*, where the speaker recognises a deviation from the norm. Once noted, the deviation is subject to *evaluation*, which can be positive, negative, or neutral depending on the context. Following this, the speaker may proceed to *adjustment planning*, where an intervention is designed to address the deviation. Finally, the adjustment proceeds to the *implementation* stage, ensuring corrective actions are applied to align with the desired linguistic norms.

The above figure illustrates two distinct paths in a communicative act: one where no deviations occur and another where deviations from the norm are identified. For deviations, the process may vary, as some deviations go unnoticed, while others are actively managed. Only through evaluation and deliberate planning can adjustments be designed and implemented effectively.

This structured approach highlights the dynamic nature of language management, emphasising that the way speakers handle deviations is not only reactive but also intentional and iterative. By mapping out these stages, LMT provides a clear framework for understanding how linguistic behaviours are influenced and controlled.

Kimura and Fairbrother (2020:1) highlight the importance of the language management procedure, emphasising that “in recent years there has been increased interest in examining the treatment of language problems at different levels of society, including, but not limited to, institutional language policy and how it actually plays out in individual interactions”. This perspective underscores the need for a collaborative approach to language management, involving all dimensions of society to ensure its effectiveness.

In the age of social media dominance, where language is constantly evolving, the role of language management has become even more critical. Maintaining respect for standard languages and their correct usage is essential, especially in formal contexts. In this paper, particular attention is given to secondary school learners, who form a sizeable portion of social media users while simultaneously being taught to master proper language use in academic and professional settings. This demographic is especially vulnerable to language deviations influenced

by their extensive engagement with social media. The next section explores specific examples of these deviations and their implications for language management.

2. An overview of language deviations

2.1 Language deviation in English Language

This section explores how language deviations manifest when social media users communicate in English, a language that holds global prominence as both a medium of communication and a dominant language in media across many countries.

Singh, Gupta, and Tuteja (2015) conducted research to investigate a link between social media and language deviations and its potential impact on teenagers' literacy development. The research focused on how text messaging influences writing skills and identified various challenges arising from its frequent use. Their findings revealed that while many teenagers were aware that excessive texting negatively affected their literacy, some disagreed, denying any harmful impact. The study noted that teenagers often committed language deviation by shortening words and spelling incorrectly in their messages. Most participants preferred abbreviations over complete words in their SMS texts, a habit that carried over into academic writing.

Singh et al. (2015:17) observed that "teenagers get lazy and use short words rather than complete words, which get stored in their brains and hence become a habit that later on affects them when writing examinations and in communication." Over time, teenagers became so accustomed to these shortcuts that they unconsciously incorporated them into formal writing, such as exams, demonstrating the pervasive influence of textism and its role in language deviations.

Similarly, Tayebinik and Puteh (2012) expanded on language deviations, arguing that students unconsciously use abbreviations and informal grammar in formal writing and exams. Although learners acknowledge that textism is unsuitable for formal contexts, the study revealed that frequent use of texting abbreviations results in the unintended transfer of these habits to academic writing. Many participants admitted that unconventional grammar, including misspellings and abbreviations, found its way into their formal writing, as their reliance on texting shortcuts had become ingrained.

These studies shed light on how the habitual use of textism shapes language behaviour, particularly among the youth, often blurring the lines between informal and formal language usage. The following example gives context:

2.1.1 Example 1:

1. a. **Speaker A:** Usually I use 'n' for 'and' or '2' for 'to' in my assignments or examination automatically.
2. b. **Speaker B:** Sometimes I use signs instead of words in my assignments without thinking (e.g @ for 'at').

Example 1 aligns with Tayebinik and Puteh's (2012) observations about the pervasive influence of textspeak on learners' informal and formal writing. However, De Jonge and Kemp (2015) challenge this perspective, arguing that while textspeak may intrude on learners' writing, there is no solid basis to measure writing competence solely on this phenomenon or the frequency of unconventional language usage. Instead, Grace, Kemp, Martin, and Parrila (2013) advocate for a more nuanced approach, suggesting that literacy development should be studied independently to establish whether textspeak truly reflects a decline in literacy skills, particularly in writing. Maryam and Marlia (2012) provide a structured analysis of textspeak's impact, categorising its effects into four fundamental areas:

- **Formal Writing:** Textspeak significantly influences how students write assignments, often resulting in a less formal style.
- **Speaking Skills:** The way students speak is increasingly shaped by their use of textspeak, introducing informal elements into everyday conversations.
- **Grammar:** Textspeak erodes grammatical skills, leading to omissions and incomplete sentence structures.
- **Spelling:** Overuse of abbreviations and short words negatively impacts spelling abilities and creates confusion in vocabulary usage.

Maryam and Marlia (2012:104) highlight these challenges, stating: "Textism has affected their formal writing, speaking, grammatical skills and spelling aptitudes. Moreover, overuse of short words has affected students' formal writing style. They also use abbreviations when engaging in normal conversation. Nevertheless, the

adoption of unstructured sentences in CMC has also shaped their grammatical skills in a negative manner and caused them confusion in their vocabulary.”

Further emphasising these language deviation concerns, Abbasova (2016) conducted a study on writing challenges and observed that CMC (Computer-Mediated Communication) has a more pronounced negative influence on writing skills than on other literacy areas such as vocabulary, listening, and speaking. The study revealed that students often incorporate internet abbreviations into their schoolwork, opting for shorter, less structured sentences over longer, more formal constructions. Abbasova (2016:7) captures these effects in the following table, illustrating the impact of textspeak on reading and writing.

Table 1: The impact of textspeak on reading and writing

	Strongly		Slightly	Don't	
I tend to read and understand	17 (f)	48 (f) 46.15 %	33 (f) 31.73 %	6 (f) 5.57 %	-
I get used to going through the text quickly.	17 (f)	41 (f) 39.42%	35 (f) 33.65%	9 (f) 8.65%	2 (f)
I try to avoid long sentences, using shorter expressions instead.	21(f)	48 (f) 46.15%	24 (f) 23.08 %	10 (f) 9.62 %	-
Using internet abbreviations sometimes affects my academic writing in a negative way.	18 (f) 17.31 %	22 (f) 21.15%	33 (f) 31.73 %	29 (f) 27.88%	1 (f)
After using social network: I tend to make spelling mistakes	6 (f) 5.57%	38 (f) 36.54%	25 (f) 24.04%	34 (f) 32.9 %	-

Table 1 illustrates the pervasive influence of a deviated writing style that emerges when students engage on CMC platforms like social media. Many students admit to struggling with conventional writing due to their frequent use of social media language. This habitual use often leads to recurring writing mistakes, blurring the lines between informal and formal writing norms.

Marwa and Sabrina (2017) further support this notion, noting that despite debates among scholars about the negative impact of language deviations on students’ writing quality, students themselves acknowledge its harm. They admit that reliance on textspeak sometimes causes them to forget standard writing conventions, defaulting instead to social media-inspired styles.

Table 1 further highlights the way students transfer textspeak features, such as abbreviations, grammar errors, and spelling mistakes, into their examination papers. This highlights the deep integration of social media language in their writing.

Marwa and Sabrina (2017) highlight that grammar and spelling mistakes are the most prevalent language deviations dominating students’ writing. They elaborate that common grammatical errors include omitting the ‘s’ in third-person singular verbs, such as writing ‘*change*’ instead of ‘*changes*’, and neglecting plural forms, like saying ‘*two person*’ instead of ‘*two persons*’. Additionally, conjugation errors are widespread, with examples like ‘*children is*’ instead of ‘*children are*’ or ‘*he have*’ instead of ‘*he has*’. Spelling mistakes also abound, including instances of students substituting English words with similar-sounding French words, such as ‘*probleme*’ for ‘*problem*’, or writing phonetically, such as ‘*board*’ for ‘*bored*’ and ‘*possibal*’ for ‘*possible*’. This tendency even extends to unintentional errors such as ‘*different*’ instead of ‘*different*’ and ‘*obset*’ instead of ‘*upset*’.

Mittal (2015) underscores that texting harms literacy skills, emphasising the need to address this issue due to its negative impact on academic performance. According to Mittal, students frequently fail to differentiate between formal and informal writing styles, and texting habits seep into their academic work. Examples from Mittal’s study illustrate the pervasive use of textspeak, such as:

- *Thx 4 reading* (thanks for reading)
- *SWYP* (so what’s your problem)
- *TTYL* (talk to you later)

- *Diz iz ma lyf n I liv it by ma rulezz* (this is my life, and I live it by my rules).

This casual disregard for conventional grammar often infiltrates students' formal writing, sometimes unconsciously. Mittal suggests that teachers play a crucial role in mitigating the risks associated with texting language, advocating for the reinforcement of grammatical conventions in classroom instruction.

2.2 Language deviations within south African context

Teachers in South Africa also express concerns about the negative impact of textspeak on learners' written language. They recognise it as a pervasive phenomenon that diminishes learners' knowledge of correct Standard English. Teachers have observed notable shifts in the quality of learners' written work, attributing these changes to the influence of textspeak (Geertsema, Hyman & Deventer, 2011; Freudenberg, 2009).

Thubakgale and Chaka (2016:237) report that learners frequently incorporate text message features in their writing, struggle to differentiate between formal and informal styles, and often fail to construct complete sentences. These challenges inevitably hinder learners' language skills and spelling abilities. Moreover, after analysing learners' written work, Freudenberg identified recurring issues such as spelling errors, omission of punctuation, and excessive use of abbreviations. This pattern suggests that the unconventional language habits of high school learners, fuelled by their heavy reliance on textspeak, regularly manifest in their formal writing.

3. Methodology

This qualitative study adopts an interpretivist worldview to explore language management from the perspective of teachers. The data collected reveal that teachers have implemented various strategies to manage language effectively. According to Crossman (2020), qualitative research produces descriptive data, which researchers analyse through rigorous and systematic methods, including transcription, coding, and the identification of trends and themes. McCusker and Gunaydin (2015:1) further emphasise that "qualitative research is characterised by its aims, which relate to understanding some aspects of social life, and its methods, which (in general) generate words rather than numbers as data for analysis."

3.1 Research Setting

Data was collected from 20 teachers in Limpopo province, South Africa, to understand their experiences in managing language use in the classroom. These participants were Sepedi language teachers from Grades 10 and 11, all of whom confirmed using a marking rubric as one of the key tools to regulate language usage.

3.2 Instruments

Semi-structured interviews were conducted to collect data from the teachers. This interview method was chosen for its flexibility and natural flow. For convenience, telephonic interviews were used, as the teachers lived far apart, making in-person interviews challenging. Nonetheless, this approach benefited the participants by providing anonymity, allowing them to speak freely, openly, and honestly (Given, 2008).

3.3 Data analysis

Thematic analysis was used to analyse the data collected from the interviews, aiding in the identification of themes and patterns (Ahmed & Du Plessis, 2020). To understand the impact of social media on Sepedi writing, the researcher unpacked and thoroughly analysed the data. Through this process, the data were grouped into main categories and subcategories. These themes were generated based on similarities in participants' responses, document analysis, and recurring linguistic elements observed in digital materials.

4. Findings and Discussions

4.1 Language deviation diagnosis in South Africa

One of the key findings of this paper is that when teachers assess learners' Sepedi writing in the classroom, they focus on the correctness of syntax (sentence structure), spelling, and punctuation. Upon identifying errors in learners' written work, teachers employ various strategies to address ungrammatical language. These strategies include providing constructive comments, marking errors with short descriptive notes, engaging in one-on-one discussions with struggling learners, and using a marking rubric to clarify expectations. Therefore, learners' use of ungrammatical language cannot be attributed to a lack of knowledge or support. Instead, the findings highlight the proactive role of teachers in managing language use and the strategies thereof.

4.2 LMT Strategies applied in South African

Teachers in South Africa implement various language management strategies to promote quality writing in schools. These methods aim to help learners enhance their writing skills and maintain an acceptable standard of writing in the classroom. This section examines language management by exploring how South African

teachers support and assess learners' written work. Shaku (2021) highlights that teachers utilise marking rubrics and feedback sessions as key strategies to reinforce correct language use in the classroom. This discussion further explores how marking rubric functions as a language management tool.

4.2.1 Marking rubric

Table 2: Language marking rubric

MARKING RUBRIC	
Criterion	Checklist
1. Essay Structure	Correct essay structure followed
2. Essay Content	Content links well with the topic
3. Grammar	All aspects of grammar are observed and applied rightfully
4. Spelling	Correct spelling used
5. Syntax	Correct construction of sentences observed
6. Orthography	Correct orthography used
7. The use of punctuations	The correct use of punctuation marks
8. Handwriting	Letters are written as expected
9. Vocabulary	Correct choice and use of words

In South Africa, a marking rubric is a tool prescribed by the Department of Basic Education (CAPS, 2011) for assessing essay-type questions in language subjects such as Sepedi language. It plays a crucial role in enabling teachers to conduct objective assessments by evaluating learners' language structures and conventions. According to CAPS (2011), Grade 10 and 11 learners should be familiar with the basics of grammar, including parts of speech (word classes), rules of concord, use of tense, auxiliaries and modals, and sentence structures.

The marking rubric aligns with Nekvapil and Sherman's (2015) concept of 'micro-level' language management, which emphasises the role of institutions in shaping language practices through deliberate efforts to modify or influence usage. In the classroom, teachers use marking rubrics as a language management tool to identify writing deviations, evaluate them, and recommend necessary adjustments (Nekvapil, 2012). Additionally, the rubric provides learners with a clear understanding of their teachers' expectations, guiding them toward improved writing performance.

On the exploration of how Sepedi language teachers use a marking rubric, Shaku (2021) argues that marking rubrics are effective in shaping learners' writing, guiding them to write appropriately. Moreover, a marking rubric is accompanied by comments, as teachers leave comments on learners' written work. Furthermore, the rubric and comments are meant to guide learners about the dos and don'ts of formal writing.

4.3 The application of Language Management Theory

In the exploration of social media effects of the writing of Sepedi and how LMT is used as a framework to deal with language deviations, the following procedure apply:

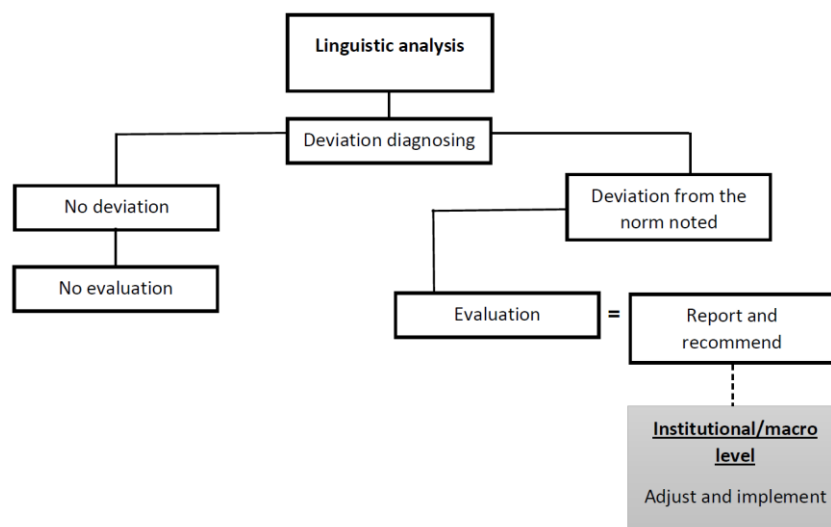


Figure 2: The application of LMT (Shaku, 2021)

Within the scope of this paper, the Language Management Theory (LMT) framework was used to determine whether language deviations occur in the formal writing of Sepedi learners. As illustrated in Figure 2, identifying language deviations is central to the language management process—if no deviation is detected, further evaluation is unnecessary. However, if a deviation is identified, an evaluation must follow to describe the nature of the problem. Following the evaluation stage, a report would be generated, and recommendations be provided to relevant government structures overseeing education, particularly those responsible for planning the language syllabus. The grey area in Figure 2 indicates that the processes of adjustment and implementation fall within the domain of institutional or organized management. The grey area is an optional phase; therefore, schoolteachers often assist learners to fix the identified language deviations at the school level or report it to the governing structures if the problem has a greater potential of language distraction.

The use of LMT can be instrumental in enhancing the understanding of language deviations in formal writing among Sepedi learners. As Shaku (2021) research highlights that the pervasive use of social media introduces informal linguistic features into students' academic writing, such as abbreviations, acronyms, and non-standard spelling. These elements contribute to language deviations that the Language Management Theory (LMT) process would make easy to identify and address. By applying the LMT framework, teachers can systematically diagnose these deviations, evaluate their impact, and implement strategies to mitigate the influence of social media on formal writing. This approach could ensure that recommendations are tailored to address the specific challenges posed by digital communication platforms, thereby maintaining the integrity of formal Sepedi writing in educational contexts. The outputs of LMT could also inform educational institutions on language syllabus structure.

5. Conclusions and Limitations

This study highlights the crucial role of teachers in language management within South African classrooms, particularly in response to the growing influence of social media on learners' writing. Language management, as defined by Nekvapil and Sherman (2015), involves intentional efforts to regulate language practices, ensuring adherence to linguistic standards. While social media provides an informal space for language evolution, its impact on classroom writing has raised concerns among teachers. The findings reveal that teachers actively implement various strategies to mitigate language deviations and uphold proper language use in alignment with curriculum requirements. Nekvapil's Language Management Theory (LMT) proves to be a valuable framework in addressing these challenges, bridging the gap between theoretical understanding and practical application. Through qualitative research and an interpretivist approach, this study provides insight into the experiences of 20 teachers from Limpopo province, South Africa, who navigate language management daily. Ultimately, this research underscores the need for continuous efforts in language regulation, particularly as digital communication evolves. Future studies could further explore the long-term effects of social media on academic writing and assess the effectiveness of various language management strategies in educational settings. This paper has methodological limitations: it presents data from a single country (South Africa), its small sample size (due to COVID-19) limits generalizability, and it focuses solely on Sepedi teachers in Grades 10 and 11.

Ethical declaration

In considering ethical issues, prior to the collection of data, the researcher obtained approval from relevant authorities in South Africa: (1) The University of South Africa (UNISA) and (2) The Limpopo Provincial Department of Education, which gave me access to teachers at Senior Schools in Capricorn and Sekhukhune Districts.

AI declaration

This paper is an output of my PhD research accessible at <https://uir.unisa.ac.za/handle/10500/29176>. Therefore, declare that the information contained in this paper was generated from the mentioned source by me as the author and not by AI.

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