

Users' Adoption of Social Media Platforms for Government Services: The Role of Perceived Privacy, Perceived Security, Trust, and Social Influence

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Abstract: The rapid integration of social media platforms in government service delivery marks a transformative trend in the digital era. This study investigates the critical factors influencing user adoption of social media for accessing government services, focusing on perceived privacy, perceived security, trust, and social influence. Drawing upon theoretical frameworks of the Unified Theory of Acceptance and Use of Technology (UTAUT), and the Trust-Privacy-Identity (TPI) framework, the research offers a comprehensive understanding of how users perceive and interact with government services on social media platforms. The study emphasises the importance of users' confidence in privacy and security measures, examining how these perceptions shape their willingness to engage with government services online. A key finding of this research is the significant role of Perceived Security and Privacy (PSP) in influencing users' trusting intentions. At the same time, Social Influence (SI) predominantly affects their intention to use these platforms. Additionally, Trusting Intention (TI) is found to be a crucial determinant of users' Intention to Use (IU). Contrary to expectations, the study reveals that Social Influence (SI) does not significantly impact users' trusting intention, and gender does not appear to play a significant role in determining the intention to use or trust intention. The study has important implications for both research and practice. For policymakers and government agencies, understanding that trust and perceived security are central to user adoption. This knowledge is vital for enhancing the effectiveness of government service delivery via social media, ensuring that these platforms are not only accessible but also trusted by the public.

Keywords: S-Government, Social government, Social media, Trusting intention, Behavioural intention

1. Introduction

In the rapidly evolving digital age, integrating social media platforms into government service delivery represents a significant shift, offering new avenues for public engagement and service accessibility. Platforms like Facebook, Twitter, and WhatsApp are increasingly employed by governments worldwide to enhance e-government services, marking a notable trend in digital governance (Khan et al., 2020). This integration, however, brings forth both opportunities and challenges. While social media facilitates greater citizen engagement and transparency, there is a notable gap in empirical research, particularly regarding trust factors and addressing citizens' concerns in this emerging context (Khan et al., 2020).

A critical aspect of this integration is the assurance of data privacy and security. Users' concerns about the handling and protection of their personal information highlight the importance of perceived privacy safeguards (Cho et al., 2019). The apprehension that unauthorised entities might misuse, or access personal data necessitates the establishment of digital trust, achieved through transparent data practices and clear communication about privacy measures (Khan et al., 2021).

The influence of societal norms and peer expectations also significantly shapes user behaviour towards these platforms. The normalization of social media use for government interactions within specific social groups can lead to alignment in user behaviour with community-driven norms (Zubir et al., 2023). This underscores the need to understand the broader social context and its impact on adoption decisions.

Moreover, robust cybersecurity measures are essential in assuring users about their data security. Effective encryption, secure login processes, and vigilant monitoring for threats are crucial in protecting information from unauthorised access and cyber-attacks, fostering a safe environment for user engagement with social media platforms (Khan et al., 2021).

This research aims to comprehensively understand the factors influencing user adoption of social media for government services, focusing on perceived security, privacy, trust, and social influence. This understanding is vital for policymakers, government agencies, and researchers in developing strategies that effectively engage citizens and foster widespread adoption of these digital platforms. Governments' increasing reliance on social media for service delivery underscores the urgency of comprehensively understanding the elements that impact user adoption in this evolving digital landscape.

2. Literature Review

2.1 Related Work

User adoption of government services through social media platforms is a dynamic and multifaceted field, significantly influenced by perceived privacy, security, trust, and social influence. The critical role of these determinants in shaping citizens' willingness to engage with e-government services via social media is evident across various studies. Concerns about the privacy of personal information and the security of online transactions are significant barriers to adoption. Research by Al (2020), Capistrano (2020), and Li (2021) highlights the impact of perceived risk on user decisions, emphasising the need for robust security measures, transparent data handling policies, and effective communication to foster user confidence.

Trust is a cornerstone in the willingness of citizens to use government services through social media. Studies by Al (2020), Madyatmadja et al. (2019), and Méndez-Rivera et al. (2023) consistently point out the critical influence of trust in shaping user attitudes and intentions. This trust encompasses confidence in the government, the social media platforms, and the overall online environment, influenced by information reliability, government process transparency, and personal data security.

User-friendly interfaces and intuitive features are also crucial in building trust for e-government services. Research by Méndez-Rivera et al. (2023) and Mensah (2019) underscores the need for a seamless user experience on social media platforms. Well-designed interfaces that are transparent and easy to navigate can significantly enhance user trust, addressing concerns about complexity and usability. Governments should focus on user-centric design, conduct usability testing, and continuously refine these platforms based on user feedback. The role of social networks in influencing user behaviour is profound. Studies by Capistrano (2020), Khan et al. (2021), and Zubir et al. (2023) demonstrate the significant impact of social influence on the adoption of e-government services through social media. Peer recommendations, family endorsements, and social group norms play a substantial role in accepting these services.

The interconnectedness of trust, security, perceived privacy, and social dynamics in the user adoption process is highlighted in studies by Cho et al. (2019), Kumar et al. (2018), and Sachan et al. (2018). This complex interplay suggests that interventions and strategies to enhance adoption should be comprehensive and multifaceted. Educating users about the benefits, security measures, and privacy controls of e-government services is essential.

However, the existing literature reveals gaps that need addressing. These include the need for broader perspectives, especially concerning marginalised populations (Sachan et al., 2018), exploration of diverse channels beyond traditional websites (Méndez-Rivera et al., 2023), and consideration of gender differences (Li, 2019). Further investigation into the impact of government rules and policies on trust (Madyatmadja et al., 2019) and the influence of emerging technologies on e-government adoption (Madyatmadja et al., 2019) is also necessary.

In conclusion, enhancing user adoption of social media platforms for government services requires a holistic approach. Policymakers and service providers must prioritise factors like perceived privacy, security, trust-building, and leveraging social influence. Future research should explore emerging trends, diverse user segments, and the evolving e-government landscape to develop strategies that resonate with citizens and encourage widespread adoption.

2.2 Conceptual Model and Hypotheses

Figure 1 conceptualises the users' adoption of Social Media platforms for government services. It includes a set of factors such as Social Influence (SI), Perceived Security and Privacy (PSP), Perceived Trust (PT), and Intention to Use (IU). It also assumes that Gender mediates the relationship between Perceived Trust (PT) and Intention to Use (IU). The following paragraphs explain the model in more detail.

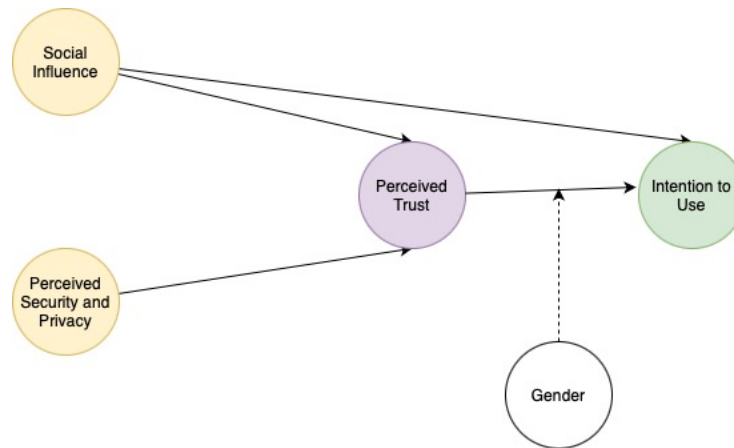


Figure 1: Conceptual Model of Users' Adoption of Social Media Platforms for Government Services

Social influence plays a crucial role in shaping individuals' trusting intentions and intention to use various technologies, products, or services. This phenomenon is particularly evident in information systems, marketing, and organisational behaviour, where those around them often influence the perceptions and behaviours of individuals. In this context, social influence refers to how individuals perceive that essential others believe they should use a new system or technology.

Highlighting the relevance of social influence, Alryalat et al. (2013) conducted a comprehensive study that expanded the Technology Acceptance Model (TAM). They incorporated social influence along with perceived usefulness and perceived ease of use in their model. The study focused on unraveling the factors influencing the intention of Jordanian citizens to adopt e-Government services. The findings revealed a significant outcome, emphasizing that social influence is a substantial factor positively affecting both the perceived usefulness and the intention to use e-government services. This underscores the interconnected nature of social influence in shaping attitudes and behaviors toward technology adoption in various contexts, including e-government services in Jordan.

The Unified Theory of Acceptance and Use of Technology (UTAUT) posits that social influence, performance, and effort expectancy are critical to technology acceptance. This model underscores the significance of social norms and peer influence in shaping an individual's decision-making process regarding technology adoption. Cheung and Lee (2010) highlight how peer pressure and community expectations can significantly sway users' engagement and participation behaviours in digital platforms, emphasising the complex interplay of social dynamics in virtual environments.

In e-commerce and organisational behaviour, the role of social influence is further accentuated. Pavlou and Gefen (2004) emphasise the integral role of social mechanisms like feedback systems and community norms in cultivating user trust. This has been recently confirmed in social commerce in Al-kfairy and Shuhaiber (2022) and Al-kfairy et al. (2023, 2024). In another research, Chang et al. (2017) underscore that trust in social networking services is shaped by the opinions and recommendations of friends, colleagues, and family members. The information and advice shared within social communities have a significant impact on a user's trust in social network services. Thus, we hypothesise the following:

H1a: Social Influence impacts users' intention to use social media for government services.

H1b: Social Influence impacts users' trusting intention (perceived trust) of social media for government services.

The intersection of perceived security and privacy with trusting intentions, particularly in social media usage for government services, is a critical area of study in the digital era. Data security and privacy concerns significantly influence public trust in government-provided services, mainly when these services are accessed through social media platforms. Alkrajji and Ameen (2022) explore these phenomena. They emphasise that the perception of robust security and stringent privacy measures is fundamental in fostering user trust. This trust is particularly pertinent in government services, where the sensitivity of information exchanged heightens privacy concerns. The authors argue that perceived security and privacy act as critical determinants of trust, suggesting that when users believe their data is secure and their privacy is protected, their willingness to engage with government services via social media.

Moreover, Li et al. (2022) investigate the importance of understanding how cultural and generational factors shape privacy concerns. Parallely, Kanaan et al. (2023) emphasize in their study that security and privacy play pivotal roles in shaping trust when utilizing e-government services. Governments that provide elevated levels of security and safeguard users' privacy are more likely to attract a larger user base for their services. The study highlights that the perception of privacy and security is not uniform across demographics, indicating that government agencies must tailor their social media strategies to effectively address these varying perceptions. These studies collectively underscore the importance of perceived security and privacy in shaping public trust, particularly in the context of utilising social media for accessing government services, and suggest that addressing these perceptions is crucial for successfully implementing and accepting such digital initiatives. Thus, our second hypothesis is:

H2: Perceived Security and Privacy impacts the Trusting Intention of the users in social media platforms for government services.

Trust is a fundamental factor influencing citizens' willingness to engage with government services through social media platforms. Khan et al. (2021) examine this link, highlighting that trust in the government's ability to manage information and protect privacy securely significantly boosts citizens' intentions to use e-government services, including those offered via social media. The study underscores the notion that trust is a precursor to usage intention, suggesting that when citizens trust the government's competence and integrity in handling digital services, they are more likely to utilise these services for various civic engagements. Additionally, Zahid et al. (2022) emphasize that a crucial determinant in the adoption of any technology is trust. When users believe that the government providing services has a legalized website, exhibits credibility, and upholds ethical standards to safeguard their privacy, it enhances trust. Consequently, trust has a substantial impact on users' intentions to utilize e-government services.

Expanding on this theme, Shareef et al. (2019) explore how trust influences the effectiveness of social media as a tool for government-citizen interaction. The study finds that higher levels of trust increase the likelihood of using social media to access government services and enhance the quality of engagement between citizens and government entities. This research indicates that building and maintaining trust is essential for governments to effectively leverage social media platforms. Similarly, researchers like Khan et al. (2018) have indicated trust as a significant factor with a robust impact on shaping citizens' inclination to utilize e-government services through social media platforms. These studies collectively demonstrate the crucial role of trusting intention in shaping the intention to use social media for government services, highlighting the need for governments to foster trust to enhance citizen engagement and participation in digital governance initiatives. Therefore, our last hypothesis is:

H3: Trusting intention impacts users' intention to use social media platforms for government services.

3. Methodology

This study employs a descriptive research design, utilising a survey methodology to gather quantitative data. The primary objective is to understand the role of social influence, perceived security and privacy, and trusting intention in users' adoption of social media platforms for government services.

The target population for this survey is Generation Z, who has experience using social media platforms to communicate with government agencies. A sample size of 103 participants responded to the survey using Google Forms, applying "stratified sampling" to ensure the representativeness of the larger population.

The collected data was analysed using SmartPLS 4. Descriptive statistics was used to summarise the demographic data and the responses to survey items. Inferential statistical analyses, including structural equation modelling, were used to examine the relationships between the different constructs. The level of significance set at $p < 0.05$.

For testing theories on complex relationships between observable and latent variables in conceptual models, structural equation modelling, or SEM, is a flexible statistical technique that is extensively employed in many different fields. Its flexibility in managing complex multivariate interactions, compensating for measurement error, and integrating latent variables to accommodate unobservable notions is what makes it so popular. As a result, it provides a thorough method for empirically evaluating research hypotheses and is a priceless instrument for validating theoretical models and understanding the complex interactions between constructs.

4. Results

Table 1 shows the demographic distribution of the respondents. It shows that the majority of the respondents are female and around the age of 18-22.

Table 1: Demographic Description of the Data

Description	Count	Percentage
Female	72	70%
Male	31	30%
Age (18-22)	83	80.5%
Age (23-26)	18	17.5%
Age (27-30)	2	2%

Moreover, the model reliability and validity test shows that all the cut-off tests were met, indicating that the constructs are consistently accurate and measure what it is intended to measure (Table 2).

Table 2: Constructs Reliability and Validity Tests

Construct	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
IU (Intention to Use)	0.921	0.924	0.921	0.701
PSP (Perceived Security and Privacy)	0.831	0.831	0.831	0.711
SI (Social Influence)	0.747	0.759	0.752	0.604
TI (Trusting Intention)	0.891	0.901	0.893	0.628

The path means standard deviations, t-statistics and p-values are presented in Table 3. It shows that the Perceived Security and Privacy (PSP) impacts users' trusting intention, Social Influence (SI) impacts intention to use, and Trusting intention (TI) impacts users' Intention to Use (IU). However, Social Influence (SI) does not impact users' trusting intention, and users' genders do not impact intention to use or trusting intention.

Table 3: Hypothesis Testing

	Sample mean (M)	Standard deviation (STDEV)	T-statistics (O/STDEV)	P-values
PSP -> TI	0.729	0.177	4.062	0
SI -> IU	0.357	0.168	2.008	0.045
SI -> TI	0.172	0.189	0.969	0.333
TI -> IU	0.675	0.153	4.499	0
Gender -> IU	0.009	0.052	0.171	0.864
Gender x TI -> IU	-0.088	0.063	1.352	0.177

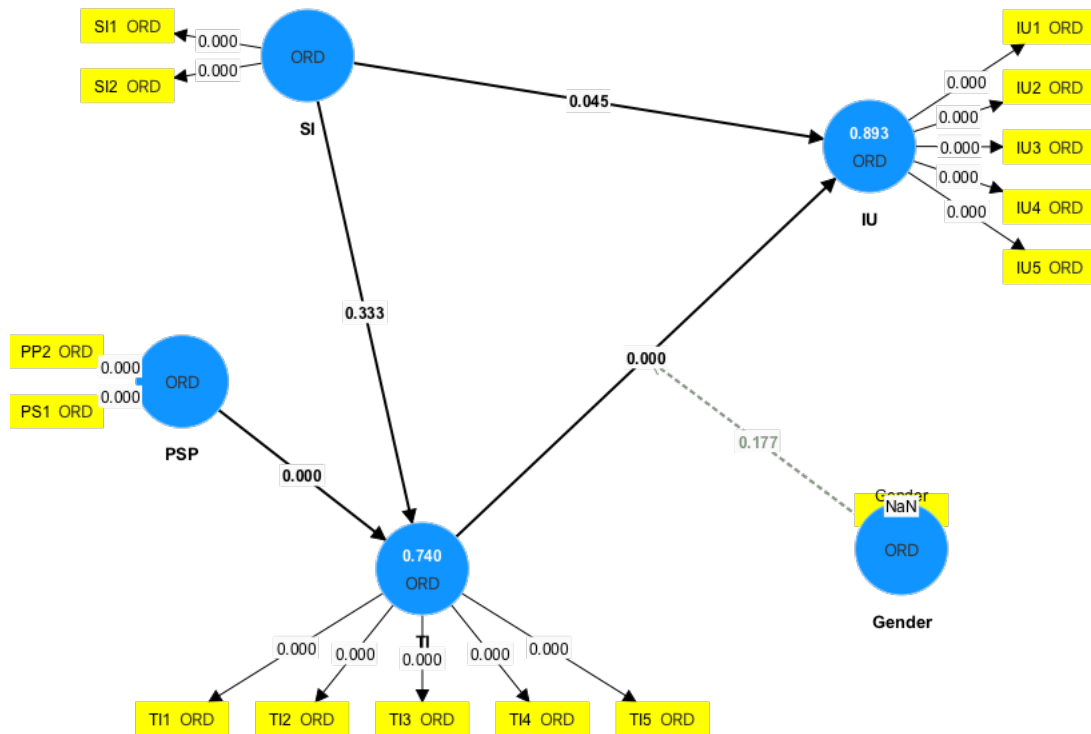


Figure 2: Model Results Representation

5. Discussion of the Results

The relationship between perceived privacy, security, and trusting intention in using social media platforms for government services is a critical area of investigation in today's digital landscape. Research has consistently shown that perceived privacy and security significantly influence users' trusting intentions. Perceived privacy relates to users' beliefs about how their personal information is protected on social media platforms, encompassing concerns of data collection, sharing, and storage. Meanwhile, perceived security entails confidence in the technical and procedural measures aimed to prevent unauthorized access, data breaches, and other cyber threats. These perceptions are fundamental in shaping users' attitudes and intentions towards engaging with government services via social media.

Trust is crucial in adopting technology, particularly in contexts involving sensitive information like government services. When users perceive that a social media platform upholds high levels of privacy and security, their trust in both the platform and the associated government agency increases. This trust is crucial not only for the initial adoption of the service but also for its sustained use. A robust perception of privacy and security reduces the perceived risks associated with using social media for government services, leading to greater user trust and engagement.

The statistically supported relationship between perceived privacy, security, and trusting intention underscores the need for government agencies to prioritise these aspects on their social media platforms. Effective implementation of robust privacy and security measures, coupled with clear communication to the public, is essential for building user trust, a key factor for the successful adoption and effective use of these platforms in delivering government services.

In terms of design, social media interfaces for government services should integrate features that enhance privacy and security, such as secure login processes, encryption, clear privacy policies, and regular security audits. Educating users about the privacy and security measures in place can further enhance their trust. Awareness campaigns or informational content about data protection practices are crucial in this regard.

The relationship between social influence and user behavior in the context of social media for government services is nuanced. While social influence significantly affects the intention to use social media for government services, its impact on trusting intention is more limited. Trust in government services delivered through social media is primarily built on factors such as perceived credibility, security, privacy, and the quality of past interactions with the government. Trusting intention is more deeply rooted in personal experiences and the direct relationship between the citizen and the government, reflecting an individual's own interactions and

perceptions of the government's digital competence. On the other hand, the intention to use social media for government services is heavily prompted by social influence. This can be attributed to observational learning and normative pressures often present in social media environments. As Kaplan and Haenlein (2010) describe, social media platforms are inherently social spaces where the actions and opinions of others influence users. Observing others engage with government services via social media can encourage individuals to do the same, as they perceive a normative pressure or benefit in following suit. This phenomenon aligns with the Social Learning Theory, which posits that people learn from one another through observation, imitation, and modelling. Therefore, while trust in the government's digital services might be a personal and direct assessment, the decision to use these services can be heavily influenced by the observed behaviours and endorsements of peers and influential figures within one's social network.

Trust plays a pivotal role in shaping the intention to use social media for government services. In a digital environment where issues like data breaches and misinformation are prevalent, trust acts as a mitigating factor that encourages usage. This is supported by the findings of Welch et al. (2005), who argue that trust in e-government is closely linked to the satisfaction with and subsequent usage of these services. In the context of social media, this implies that when citizens trust the government's ability to deliver services effectively and securely through these platforms, their satisfaction increases, thereby boosting their intention to use them.

Finally, the relationship between trusting intention and intention to use, as well as social influence and intention to use, is generally not mediated by gender. Trusting intention, which reflects confidence in the reliability and integrity of technology, is a fundamental aspect influencing user behaviour, irrespective of gender. Similarly, social influence, the degree to which individuals perceive that essential others believe they should use a new technology, operates independently of gender differences. This is because the mechanisms through which trust and social influence affect technology acceptance are rooted in psychological and social factors that are largely uniform across genders. While there may be variations in the levels of trust or the susceptibility to social influence, these variations are more likely attributed to individual differences, cultural backgrounds, or specific situational factors rather than being inherently tied to gender. Thus, in the context of technology adoption, the core determinants of usage intention – trust and social influence – exert their effects across gender lines, making gender a less significant mediator in this relationship.

6. Conclusion, Future Research and Research Limitations

This study provides insightful conclusions into user adoption of social media platforms for government services, particularly among Generation Z. The findings underscore the pivotal roles of perceived privacy, security, and trust in shaping users' trusting intentions and subsequent willingness to engage with these platforms. It is evident that when users perceive high levels of privacy and security, their trust in both the platform and the government agency increases, enhancing their intention to use the service. Additionally, the study reveals the significant influence of social norms and peer recommendations on the intention to use these services, although this influence does not extend to trusting intentions. Interestingly, the study also highlights that gender does not significantly mediate the relationship between these factors and the intention to use or trust in social media for government services. These insights are crucial for government agencies and policymakers, emphasising the need for robust privacy and security measures and the importance of leveraging social influence to enhance the adoption of e-government services via social media.

The study, while comprehensive, presents avenues for future research and acknowledges certain limitations. One of the primary limitations is the focus on Generation Z, which may not fully represent the broader population's attitudes and behaviours. Future research could expand the demographic scope to include a more diverse range of age groups, cultural backgrounds, and socio-economic statuses to understand user adoption patterns better. Additionally, the study's reliance on self-reported data could introduce biases, suggesting the need for more objective measures or mixed-method approaches in future research. Exploring the impact of emerging technologies like artificial intelligence and blockchain on users' trust and privacy perceptions could also provide valuable insights. Furthermore, investigating the long-term effects of trust and social influence on the continued use of these platforms would be beneficial. Understanding these dynamics can guide the development of more tailored and effective strategies for engaging citizens through social media in government services.

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