

Instagram as Part of SMM Innovation in Educational Institutions

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Abstract: The use of Instagram as a social media marketing tool in educational institutions is gaining more and more attention. This article explores the relationship between school size and a school's Instagram presence, activity, and engagement. Specifically, the investigation focuses on answering the question of whether larger schools are more likely to have an Instagram account, post more frequently, and generate higher levels of interaction. The paper examines the role of Instagram in social media marketing within educational institutions, focusing on the relationship between school size and a school's presence, activity and engagement on Instagram. The research addresses three main hypotheses. Namely, that schools that have higher pupil numbers are more likely to have an Instagram account, schools with higher pupil numbers are more likely to post on Instagram, and schools with higher pupil numbers experience higher overall interaction (in the form of likes and comments) on their Instagram posts. An empirical quantitative research method was used. Statistical validation was carried out using Pearson's correlation coefficient and data from 444 schools were analysed. The results confirmed significant correlations between the number of pupils and the likelihood of having an Instagram account, frequency of posts and overall interaction. The paper further explores the effect of post frequency on follower numbers, finding a relationship that the more posts the higher the engagement, this does not necessarily lead to higher follower numbers. In addition, the study examines the link between the number of followers and the number of posts published by Reels, revealing a correlation. This suggests that a larger number of followers predicts a larger number of posts by Reels. Nevertheless, this highlights the need for a balanced content strategy. The above findings provide important insights into effective social media marketing strategies for educational institutions. The value of this study lies in its practical implications for school administrators and marketing professionals aiming to strengthen their institution's social media presence. The study concludes by highlighting the key role of Instagram in educational marketing and offering evidence-based recommendations for optimizing social media strategies to achieve better engagement and visibility.

Keywords: Educational institutions, Social media marketing innovation, Instagram innovation, Innovation strategies, Educational institutions marketing

1. Home

In today's digital environment, where social media plays a key role in the complexity of marketing communications, Instagram is emerging as an essential tool for commercial businesses. Private educational institutions are facing escalating competition and increased expectations from both students and their parents, requiring a rethinking and adaptation of marketing communication strategies. Particularly in digital marketing, where there is constant innovative progress. Instagram, as a platform predominantly defined by visual content, offers educational institutions the opportunity of diverse content options. Successful communication through SMM and especially Instagram requires not only the creation of quality and consistent content, but also the implementation of follow-up analytics and continuous evaluation of success. Subsequently, it is possible to adjust marketing strategies in line with the preferences and behaviours exhibited by the target audience. The aforementioned adaptability of the entity responding to changes in a highly competitive digital environment is crucial for the success of entities, especially if they are private educational institutions.

2. Social Media Marketing (SMM)

In general, the use of social media in contemporary marketing communications involves a diverse interplay of advantageous opportunities and challenges, requiring a sophisticated and differentiated approach to differentiate oneself from the competition. In an ever-evolving landscape of algorithmic change and content saturation, marketing managers must maintain a state of readiness to adapt to diverse conditions (Khan et al., 2023). Marketing managers must create compelling content while maintaining user trust in business entities and moral principles. Leveraging real-time engagement, the capacity for viral content distribution, and the precision of targeting specific audiences present significant opportunities for extensive brand reach and active engagement, facilitating improved community relationships across market segments. Authors Vinayaka and Manik (2017) examined how Instagram influences marketing strategies. Their findings define that Instagram enables brands to establish and maintain communication with their target audience through engaging visual media. The authors further found that Instagram has a large target audience of users in which businesses can

find their supporters and create communities. Alhabash and Ma (2017) ranked Instagram first in terms of duration and intensity of app usage in their investigation, surpassing competitors such as Snapchat, Facebook, and X. One of the challenges facing marketers today relates to the widespread problem of content oversaturation. The proliferation of content creation across the population has led to an overwhelming influx of information that inundates consumers on a regular basis. The proliferation of posts, images and videos on social media platforms necessitates gaining a competitive advantage and creating content that effectively engages the target audience. To effectively address this challenge, according to the authors, marketers are required to not only deliver compelling and tailored content, but also demonstrate a deep understanding of the preferences, behaviors, and cultural propositions that define their respective target audience cohorts (Khan et al., 2023). Instagram, which serves as a social media platform, functions as a channel that facilitates the dissemination of personal information across public networks while also serving as a tool to promote business growth. The platform is expected to soon reach 3 million posts in a single day, highlighting its significant advertising market capacity estimated at US\$350 billion (Siregar & Puspasari, 2023). One of the options that can be published on Instagram are the so-called reels, which are short videos produced on the platform, their main proposition being to grab attention as quickly as possible and to provide quick and engaging content. The target group of learners often watch said reels to pass the time or to relax, as these brief formats can instantly fulfill their quest for entertainment (Menon, 2022). Instagram itself offers various features for users, such as the ability to upload photos and videos, create short videos up to one minute long, use the "@" symbol to connect with other users by tagging their Instagram accounts, provide photo captions and captions for context, geotag posts to show location, use hashtags to facilitate content discovery and association, and use the "like" feature to acknowledge posts on the platform (Iva Fikrani Deslia et al, 2022, Krajčovič, 2024). Instagram allows to reach a wide audience in different locations without time or space constraints. The costs are reasonable compared to television advertising. Instagram can quickly spread messages and influence users and spread from one person to another. It influences behavior in personal satisfaction, usability, socialization, product awareness, and entertainment. There are risks to using Instagram for marketing, such as the rapid spread of negative messages. The high interactivity of social media, similar to comments, can pose challenges in marketing through Instagram (Deslia et al., 2022, Hudakova, 2023). Consumer engagement on Instagram is context-specific, with "likes" indicating engagement with brand posts. "Likes" are considered as a new indicator of user engagement with branded content, not just as a metric. The number of "likes" on a brand's Instagram page reflects its popularity among users. Studies show that "likes" can indicate consumer engagement behavior. The authors consider "likes" as acts of approval and sharing. Encouraging "likes" and sharing may maximize consumer engagement. This may lead to discovery of branded content in newsletters and continued "liking" of brand pages (Kim et al., 2021). Anagnostopoulos et al. (2018) have highlighted the role of Instagram in user interactions in marketing campaigns and enhancing an organisation's reputation through engagement, particularly likes and comments. They found that product-related engagement attributes were more significant than non-product-related attributes. According to the authors, Instagram is defined as an important social media platform offering unique visual experiences (Budge 2020; Özdemir and Çelebi 2017). Image platforms are valuable for communication and promotion on social media due to their ability to easily create visually appealing content (Rodríguez-Vera et al. 2024; Čábyová, Galera Matúšová, and Kubovics 2024).

2.1 SMM in Educational Institutions

Social media marketing has become an integral part of the marketing strategies of educational institutions and significantly influences the direction of that segment. The use of social media platforms such as Instagram, Facebook, and X allows educational institutions to communicate with a wider target audience, including younger age cohorts or international audiences, which can potentially improve brand perception and attract potential students (Barus, 2023). The integration of social media into education is not limited to promotional activities, but also extends to and connects with educational content. Project-based learning (PBL) methodologies in marketing education have shown that social media can be effectively used to build influencer brands, thereby increasing student motivation and engagement (Demirci et al., 2023). According to Wang's (2023) investigation, social media platforms such as TikTok have also demonstrated significant potential in marketing communications in terms of the content and interactions produced by educational institutions. Moreover, when used appropriately, they also offer social impact or competitive advantage to the entity. The content on social media should match the focus of the educational institution, which led to interaction with users according to the research of Sari and Muhammad (2024). Variety of content has been shown to be very useful in online marketing communication as it allows the engagement of a diverse target group, thus promoting user interaction and community development (Maryani et al., 2023). Diverse social media platforms highlight the multifaceted opportunity for their use in educational institutions, ranging from objectives such as increasing brand awareness

to empowering individuals in the form of employees through targeted campaigns and content. The authors of the studies conclude that social media marketing of educational institutions is a communication tool that can increase engagement, create and strengthen community as well as the overall image of the institution. The findings confirm that larger educational institutions tend to be more engaged on social media platforms due to their larger student populations, leading to increased user demand for information and communication activities. Specifically, the study by Weiss et al. (2018) highlights various characteristics of school size and structure that may indicate higher levels of engagement on social media in the form of platforms such as Instagram. Based on the findings of the Pew Research Center (2022), we add to the findings that larger educational institutions tend to exhibit higher levels of engagement on social media platforms in order to foster more effective communication with larger audiences comprised of students and their parents. Research further shows that adolescents in the 15-17 age group are more likely to use smartphones and interact on social media, potentially leading to increased activity by the institution on social media platforms such as Instagram (Massarat, 2022). The authors define that media users on Instagram are predominantly high school age. That demographic represents a relatively elevated age group, with a significant portion using the popular social media platform Instagram. When examining this phenomenon, it is evident that categorizing individuals into distinct generational groups presents a challenge. Based on defining characteristics, generational cohorts are typically divided into six categories: veteran generation (1925-1946), baby boomers (1946-1960), generation X (1960-1980), generation Y (1980-1995), generation Z (1995-2010), and generation alpha (2010-present) (Amanda et al., 2024). Individuals belonging to Generation X were born during a pivotal era marked by rapid technological and informational advances. Conversely, Generation Alpha, who were born in an era characterized by ubiquitous digital technologies, exhibit a strong affinity for such tools.

3. Methods

The aim of the present study was to investigate how different factors related to the number of students and activity on schools' Instagram accounts affect the level of user engagement. The literature review involved a comprehensive search and a thorough critical analysis of existing academic sources to elucidate the key concepts of SMM with emphasis on the private educational institutions segment, to recognize current trends and to explore their linkages in the said segment. This was accompanied by a careful selection of mainly highly relevant database (Web of Science and Scopus) sources, their analysis and subsequent synthesis of the identified information. Scientific sources were used as secondary sources, which included peer-reviewed articles, academic publications, monographs, empirical studies and statistical databases. For the purpose of our scholarly study, we conducted quantitative research, focusing our attention on engagement rates in relation to the number of pupils, the number of posts and the number of followers on the schools' Instagram accounts. Using Zoomsphere, an analytics tool that provided us with comprehensive user interaction data, we examined 444 profiles of private educational institutions and collected information about their interactions on different types of posts. We collected data from the profiles over a period of one year from March 2023 to March 2024. We obtained the database of schools from the Statistical Office of the Slovak Republic. We created a list of educational institutions indicating their type (kindergarten, primary school, secondary school), number of employees and number of students. For the purpose of this research we used only data on the number of pupils and the type of educational institutions. We hypothesised that schools with larger numbers of pupils would have more active Instagram accounts.

We formulated the following hypotheses:

H1a: A school with more students is more likely to have an Instagram account. (Weiss et al., 2018), (Massarat, 2022)

H1b: A school with more pupils will have a higher number of posts on its Instagram account. (Dennen et al., 2020)

H1c: A school with more students will have a higher overall number of interactions (likes, comments) on its Instagram account. (Jiang & Monica, 2018)

H2: More posts on a profile lead to more followers (Ull et al., 2024).

H3: A larger number of followers on a profile leads to a higher number of Reels posts (Davaasuren et al., 2024).

Variables used:

- Number of pupils (numerical value) - cardinal variable

- Instagram account - possible yes/no answers (values were transcoded to 1 and 0), nominal variable
- Number of posts on Instagram profile - (numerical value) cardinal variable
- Number of interactions on Instagram profile included - (numerical value) cardinal variable

Statistical processing of the results was performed using SPSS 29 and MS Excel. Statistical methods were used, namely sum and mean were used in descriptive characteristics. The normality according to the values of the variables was verified by histogram and Gaussian curve fitting. Based on the results, Pearson's correlation coefficient was selected and used to verify the relationships because the nature of the variables was nominal and cardinal. The Pearson correlation coefficient uses the following verbal reasoning for the variable p: 0 - 0.1 - none - trivial relationship, 0.1 - 0.3 - weak relationship, 0.3 - 0.5 - moderate relationship, 0.5 - 0.7 - strong relationship, 0.7 - 0.9 - very strong relationship, 0.9 - 1 - perfect relationship - the variables are identical (Utheim Grønvik et al., 2016).

4. Results

The following section provides detailed results of our research findings. The results are systematically arranged and presented in a clear form to make them as easy to understand as possible. For better orientation and interpretation of the data, we have prepared a visualization, which is shown in Table 1. The first hypothesis was tested through Pearson's correlation coefficient. The value of Pearson correlation coefficient is $p = 0.337$ and $Sig = 0.000$. This is a positive (positive) moderate relationship, which means that there is a direct proportionality between the variables. The more students a school has the more likely it is to have an Instagram account. As the score of one variable increases, the other variable also increases. We accept the hypothesis H1a. The second hypothesis was equally tested through Pearson's correlation coefficient. The value of the Pearson correlation coefficient in testing hypothesis H1b was 0.224 and $Sig = 0.005$. The result indicates a positive (positive), weak relationship which means that there is a direct proportionality between the variables. As the school has a larger number of students the frequency of Instagram posts increases. As the frequency of one variable increases, the other variable also increases. H2b hypothesis by income. The third hypothesis was tested using Pearson's correlation coefficient. The value of Pearson's correlation coefficient was 0.271 and $Sig = 0.003$ in testing hypothesis H1c. From the result, a positive (positive), weak relationship can be concluded, which means that there is a direct proportionality between the variables. As the school has a larger number of students the total number of Instagram interactions increases. As the frequency of one variable increases, the other variable also increases, we accept the hypothesis H1c.

Table 1: Impact of pupil numbers on the Instagram component of schools' SMM activities

		Do they have Instagram?	Number of contributions	Total number of interactions
Number of pupils	Pearson Correlation	0.337**	0.224**	0.271**
	Sig. (2-tailed)	0.000	0.005	0.003
	n	444	157	122
**. Correlation is significant at the 0.01 level (2-tailed).				
b. Cannot be computed because at least one of the variables is constant.				

The fourth hypothesis defines that the greater the number of posts on a profile the greater the frequency of followers on the profile. Verification was done through Pearson's correlation coefficient. The value reached the level of 0.271 and $Sig = 0.01$. The result indicates a positive (positive), weak relationship, which means that there is a direct proportionality between the variables. The more posts on the profile the greater the number of followers. As the frequency of one variable increases, the frequency of the other variable also increases. We accept the hypothesis H2.

Table 2: Impact of number of posts per profile and number of followers per profile

		Number of followers per profile	Number of contributions
Number of followers per profile	Pearson Correlation	1	0.205*
	Sig. (2-tailed)		0.010
	n	168	157
Number of contributions	Pearson Correlation	0.205*	1

		Number of followers per profile	Number of contributions
	Sig. (2-tailed)	0.010	
	N	157	157
*. Correlation is significant at the 0.05 level (2-tailed).			

The fifth hypothesis defines that the higher the number of Reels posts the higher the number of followers on the profile. The verification of the chosen hypothesis was done through Pearson's correlation coefficient where the p-value reached 0.231 and Sig = 0.012. The result indicates a positive (positive), weak relationship, which means that there is a direct proportionality between the variables. The greater the number of Reels type posts, the greater the number of followers per profile. As the frequency of one variable increases, the frequency of the other variable also increases. We accept the hypothesis H3.

Table 3: Impact of the number of Reels posts on the number of followers per profile.

		Number of followers per profile	Post Type - Reels
Number of followers per profile	Pearson Correlation	1	0.231*
	Sig. (2-tailed)		0.012
	n	168	117
Post Type - Reels	Pearson Correlation	0.231*	1
	Sig. (2-tailed)	0.012	
	N	117	117
*. Correlation is significant at the 0.05 level (2-tailed).			

5. Discussion

The results of the investigation reveal interesting insights regarding the use of Instagram in SMM of educational institutions. The analysis of the study provides empirical evidence that substantiates the defined hypotheses and as a result introduces new perspectives into the current trends of social media marketing of educational institutions. We tested the relationship between student enrollment and an educational institution's Instagram presence (H1a) and our results indicate a moderate positive correlation between student enrollment and the likelihood of a school having an Instagram account. The evidence we find suggests that larger schools exhibit higher Instagram activity. The result is consistent with sources analyzed that suggest larger educational institutions may have more resources to manage social media, which increases their ability to communicate effectively with their target audiences (Foroughi et al., 2022). Hypothesis H1b, a school with a larger number of pupils will have a higher number of posts on its Instagram account achieved a confirmatory positive result in the evidence, albeit a weak relationship between pupil numbers and frequency of Instagram posts. The weaker correlation implies that while the number of pupils influences Instagram activity, there are other factors such as the right content strategy or proper targeting that can influence the frequency of posts (Dennen et al., 2020). The number of students and the number of interactions in the relationship mediated the testing of hypothesis H2c. The analysis suggests a positive, weak correlation between the number of students and total interactions on the Instagram accounts of educational institutions. The result is consistent with previous research that finds that larger schools may receive more interactions due to the higher number of active students and parents on these platforms (Jiang & Monica, 2018). Another significant finding under Hypothesis H2 is that a higher number of profile posts correlates with an increased number of followers. The result complements and supports the claim that other factors such as a consistent strategy and content quality within content posting, which may ultimately increase engagement and expand profile visibility, are also at work (Li et al., 2021). Hypothesis H3 a larger number of followers on a profile leads to a higher number of Reels posts. The data analysis revealed a true statement that there is a positive weak correlation between the number of Reels posts and the number of profile followers. The finding suggests that interactive and visually appealing content such as Reels can help in increasing the number of followers in line with the importance of visual content in digital marketing communication (Hancerliogullari & Ceylanoglu, 2023; Wang, 2021). The analysis of the above sources shows that Reels with educational content are currently quite widespread. They offer attractive and entertaining content for the target audience. In the context of innovation, content in the form of Reels is one of the options for educational institutions. In doing so, it represents a way to reach the target group of learners on platforms where they spend a considerable amount of time. Our research defines the innovation potential in publishing Reels

mainly because they offer educational institutions the opportunity to present, for example, their unique culture, achievements and values in a way that is attractive to the target group. A limitation of the above study is its exclusive focus on private educational institutions. Subsequent research could expand the scope to public schools for a more comprehensive understanding of the use of social media in various educational sectors. In addition, the study's reliance on one platform (Instagram) presents a limitation that could bias the results. Future investigations should include different platforms such as Facebook, X, or TikTok, which could build on Krajčovič and Madleňák's (2024) research. Despite these limitations, the study provides valuable insights into the associations between student numbers, social media engagement and levels of user interaction, offering practical lessons for educational institution profile managers and digital marketing professionals.

6. Conclusion

The investigation provided valuable perspectives on the correlation between the amount of students and activity on the Instagram profiles of private educational institutions and their impact on user engagement rates. The results suggest that larger educational institutions are more likely to have an Instagram profile along with a higher number of posts and interactions. Equally, the findings suggest that a higher number of publications results in an increased number of followers and that Reels-style publications have a positive impact on expanding profile followers. These findings are consistent with previous findings and offer to add to the theoretical apparatus, as well as having potential implications for the practical realm in SMM educational institutions seeking to increase their social media presence and engagement. Despite the limitations of this study, it offers significant perspectives for educational institution profile managers and digital marketing practitioners and initiates opportunities for further exploration in this area.

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