Exploring the Impact: Influence of Social Media Application Indicators on Consumer Behavior

Martin Kuchta[1] – Simona Balaščáková[2] – Lukáš Piatra[3] – Peter Drábik[4]
ORCID iD: 0000-0001-5546-7773[1], 0009-0002-3553-382X[2], -[3], 0000-0002-2740-4756[4]
martin.kuchta@euba.sk, simona.balascakova@euba.sk, lukas.piatra@euba.sk, peter.drabik@euba.sk
University of Economics in Bratislava, Faculty of Commerce,
Department of Marketing,
Bratislava, Slovakia

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Abstract: Evolution of the internet developed new digital channels, including social media, on which consumers create virtual identities and dedicate them significant amount of time. Phenomena of social media along with rising popularity of smartphones creates pressure on social media providers, marketers and also policymakers, to adjust technical, marketing and regulation processes to leverage and direct potential of social media. The main aim of the article is to investigate influence of social media smartphone applications indicators on consumer behavior and advise technical, marketing and regulation optimization to increase usage and safety of these applications. App store data about the most popular social media applications were collected, analyzed, visualized and interpreted. Research outputs revealed apps capacity and age restrictions limitations, which might serve as decelerator of more extended usage of the researched applications.

Keywords: digital marketing, mobile application, SAAS, social media

JEL Classification codes: M31

INTRODUCTION

In today's dynamic digital world, the ways users consume media and interact with technology are constantly evolving. The rapid advancement of technology and shifting consumer preferences are triggering significant changes in media consumption patterns, with social media platforms becoming increasingly central to our daily lives. This transformation affects how people communicate, access information, and entertain themselves.

As the number of social media users continues to grow, companies and content creators must adapt to remain relevant. This requires a deep understanding of consumer behaviors and content preferences, as well as the ability to leverage new technologies and platforms. These trends in social media usage reflect broader changes in digital engagement, necessitating ongoing reassessment of strategies for content delivery and audience interaction.

The impact of these shifts extends across various sectors, influencing news dissemination, brand marketing, and more. The decline in traditional referral patterns from social networks to news websites highlights the need for adaptive strategies in media and marketing. As new social media platforms emerge and existing ones innovate, it is crucial to stay ahead of these trends to effectively capture and retain audience attention. Following literature review aims to

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document and analyze these dynamic changes, providing insights into the current landscape of media consumption and the technological influences driving these trends.

1 LITERATURE REVIEW

The changing preferences of consumers regarding content and the rapid advancement of technology are driving an increasing trend in media consumption. According to Kemp (2023), the number of social media users is expected to continue growing at a faster rate than in previous years. Keipos' online analytics support this observation, showing a 1.6 percent increase in active social media users over the past three months. To put this into perspective, this increase translates to an average of 9.6 new users adopting social media every second over the 90-day period. Additionally, Keipos' analysis indicates a further acceleration in user growth during the third quarter of the year (Keipos, 2023).

The expected continuation of this upward trend in media consumption highlights the importance for companies to understand consumer behaviors and content preferences (Čvirik, 2020; Kita et al., 2023; Nazarov et al., 2020). It is worth noting within this context that metrics related to active user identities do not always represent distinct individuals. Important factors to consider include the potential inaccuracies in data about social media users due to factors like duplicate or fake accounts, errors in recording users' ages, and differences between census data and actual population numbers (Goyal et al., 2023).

According to insights from Simon Kemp's online analytics tool Dataportal, the average time spent by social media users on social platforms is approximately 2.5 hours per day. While there has been a slight decrease in the average time spent on social media over the past year, data shows that working-age internet users still dedicate more than a third (35.9 percent) of their overall online activity to social media activities. Moreover, users continue to use a variety of social platforms, averaging 6.7 platforms per user per month. However, recent months have seen noticeable shifts in social networking site usage patterns (Kemp, 2023).

In recent discussions, considerable attention has been paid to an investigation by Similarweb, which highlighted a decrease in traffic from social networks to news-focused websites. The study's findings show varying levels of impact across different news channels, but overall, Similarweb's analysis indicates a significant decrease in referrals from social networks, with premier news outlets experiencing a reduction of over 60 percent. Reports suggest that changes in algorithms and policies implemented by Facebook and X (formerly Twitter) are the main reasons behind the decline in social network referrals, partly due to these platforms' significant role in distributing news content and driving traffic compared to other social networks (Similarweb, 2024).

The impact of this trend on news-oriented websites, compared to its effects on other industries, requires careful analysis. Providing a definitive answer to this question is difficult due to the diverse nature of trends across different geographic regions and industrial sectors. However, in an attempt to understand these dynamics better, Kepios examined web traffic patterns for over 100 prominent global consumer brands, using data provided by Semrush. The overall analysis indicates a noticeable decrease in referrals from organic social media posts within the consumer brand sector over the past year (Kepios, 2023). Currently, major social media platforms such as Facebook, Instagram, or Twitter are almost universally present. However, there is also a growing number of emerging social networks catering to specialized markets or niche domains that may not have gained widespread attention yet (Evans et al., 2023).

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Social media has become the world's most effective means of communication in a short span of time due to the ability to share, network, and the power and capability of mass publishing (Civelek, 2019). According to Tuten (2023), there are three factors known to influence how thoughts spread among people in a society. The first is the ease of spreading the message. In this, the internet and social media play a significant role. The second factor is to make the message/idea understandable. The third factor is the repetition of the message or thought over a longer period of time in a polyphonic manner. Social networks play a significant role in this. Especially the use of the # "hashtag" on Twitter and Instagram, which allows messages to spread to thousands of people.

The contemporary landscape of the social networking industry is characterized by the emergence of new trends and the introduction of recently expanded platforms that show a noticeable increase in download rates (Jhaver et al., 2023).

Threads, a new social media platform, hit the market in mid-2023, providing a strong alternative to Twitter, which is now called X. Developed by Meta Platforms, Threads quickly gained a lot of users, positioning itself as a text-based communication platform like Instagram. Currently, Threads has about 160 million active users, with Selena Gomez being the most followed person on the platform (Li et al., 2023).

Since the start of the COVID-19 pandemic in 2020, employers have been facing increasing difficulties in finding people with the right skills needed for today's economy. At the same time, both baby boomers and Generation Z individuals worry about their skills becoming outdated in the current job market. In response to these challenges, Quest App, developed by Quest Alliance, a nonprofit organization focused on empowering youth, has emerged as a digital learning platform aimed at teaching users the skills needed to succeed in the 21st-century job market. Importantly, the platform provides extensive support through a large community of students and trainers. With the United States seeing a record number of job openings, totaling 11.5 million—an unprecedented number—it is clear that both employers and potential employees can benefit grately from using the Quest app (Howarth, 2024).

ByteDance, the company behind the popular social media platform TikTok, is promoting its new photo-sharing feature in the United States. At the same time, Lemon8, a well-known platform in Japan and Thailand, has seen a significant increase in online searches since the beginning of 2022 (Howarth, 2024).

Given the way people consume content online, it's important to understand consumer preferences and adapt the technical infrastructure for content distribution accordingly (Kuchta & Miklošík, 2016). Currently, the choice of devices used for content consumption greatly influences how content is delivered, including smartphones, computers, and tablets. According to data from Similarweb, a tool for online analytics, visits to websites in August were mainly from smartphones (65.67%), followed by computers (32.89%), and tablets (1.44%) (Similarweb, n.d.).

Gradually, social networks are diversifying the functionalities that users utilize during their visit to a social network. Among the most frequently used activities on social networks, we can include the following (Buchanan, 2021):

- "liking" other users' posts,

- sharing audiovisual formats,

- watching videos,

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- using communication applications,

- commenting on posts,

- reading online media articles.

To create user interaction with content on a social network, it is essential that the social network has content (Tuten, 2023). This is added to the social network by the users or companies themselves.

In today's digital world, having a responsive website is incredibly important. It not only helps attract new visitors however also ensures that existing ones stay engaged (Vosylius & Lapin, 2015). This is especially true given the influence of social networks (Kuchta & Stanková, 2019), which emphasize the need for websites to be responsive to user interactions.

The importance of responsiveness has become a standard practice, even among big players in the tech industry whose platforms drive a significant amount of website traffic. A prime example is Google, the search engine giant, which penalizes non-responsive websites by lowering their rankings in search results (Agrawal, 2017).

Organic reach refers to the number of people who see a post on a social media platform. It is the number of people who see a post on a social media platform without using paid promotion or advertising (Huang et al. 2009). It is determined by the platform's algorithm and can be influenced by a variety of factors. Social media platforms often have their own algorithm that decides which posts are displayed to users. However, organic reach is decreasing every year. Social networks are only seemingly a platform that is free. Social networks' primary earnings are from advertising, so their goal is to prevent companies from relying solely on organic reach. Based on socialinsider.io, organic reach averaged 2% in 2023. Usually, each social network has its own advertising interface through which a paid engagement can be created. There are exceptions such as social networks that have been acquired by another social network, to which the owning company has combined the advertising interface. An example is Meta, which owns both Facebook and Instagram (Kuchta, 2023).

2 METHODOLOGY

The main aim of the article is to investigate the influence of social media smartphone application indicators on consumer behavior and to provide technical and marketing optimization advice to increase the usage of these applications. To achieve the main aim of the paper, comprehensive research of theoretical sources was performed in the first step of the research, with a focus on journals, proceedings, and internet sources written by authors relevant to the topics of social media and smartphone usage. The research identified some crucial indicators for social media mobile application popularity, downloads, and active usage. Theoretical research developed the knowledge base necessary for further empirical research.

The empirical research was conducted by identifying 40 relevant social media smartphone applications and by collecting disposable information about them. Source of all collected information was App store application available on iPhone smartphone device with iOS software. Researched social media applications were identified on base of two sources:

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1) *the first source* was category "Popular social media apps" in the App store, which contained 30 social media applications in the time of research, and
2) *the second source* of social media application was the comprehensive article of Buffer (2024), which contained 23 most popular social media applications for brands.

The two sources offered 53 relevant social media apps in total, however after duplicities removal 40 social media apps were analyzed. All apps were categorized into two sections, which were:

1) social media,
2) communicator.

App store destination of each social media app was visited, and following information were noted: (1) initial fee for app download, (2) charges while using the app, (3) amount of ratings, (4) ratings, (5) age, (6) category, (7) number of languages, (8) primary language, and (9) data size. Information was collected and noted in MS Excel sheet. Basic mathematic and statistical processes were applied to the data. Final number outputs were visualized in graph form for better interpretation.

Based on the study of final data and graphs using basic logical procedures, several recommendations were unveiled. The authors collectively advise on the process of technical and marketing optimization for social media applications to increase the downloads and usage of these applications. The paper utilizes the methodology of a recently conducted research paper named "Current Stage of the Particular Segment of Augmented Reality Mobile Applications" by authors Martin Kuchta, Simona Balaščáková, and Peter Drábik, exploring augmented reality apps in the App store within the iOS operating system (Kuchta, Balaščáková, & Drábik, 2023).

3 RESULTS AND DISCUSSION

A total of 40 apps that were available in the App store on an iPhone running iOS operating system at the time of the research were examined. The first observed available information was whether the app required initial payment for the app download. Initial "n" in the following graph means no, initial "y" means yes.

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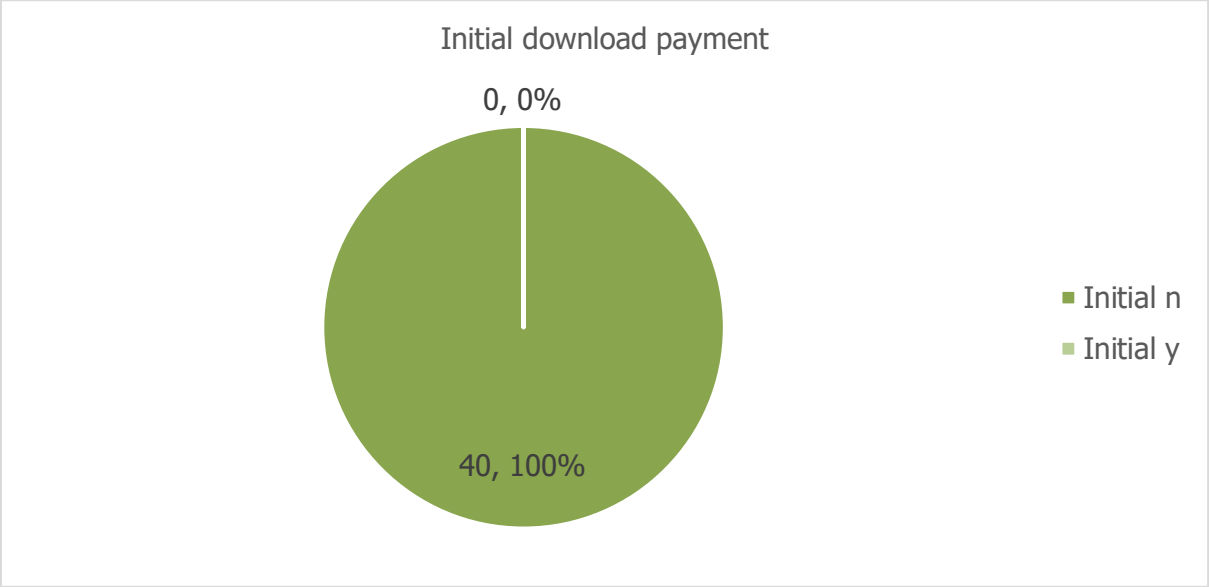
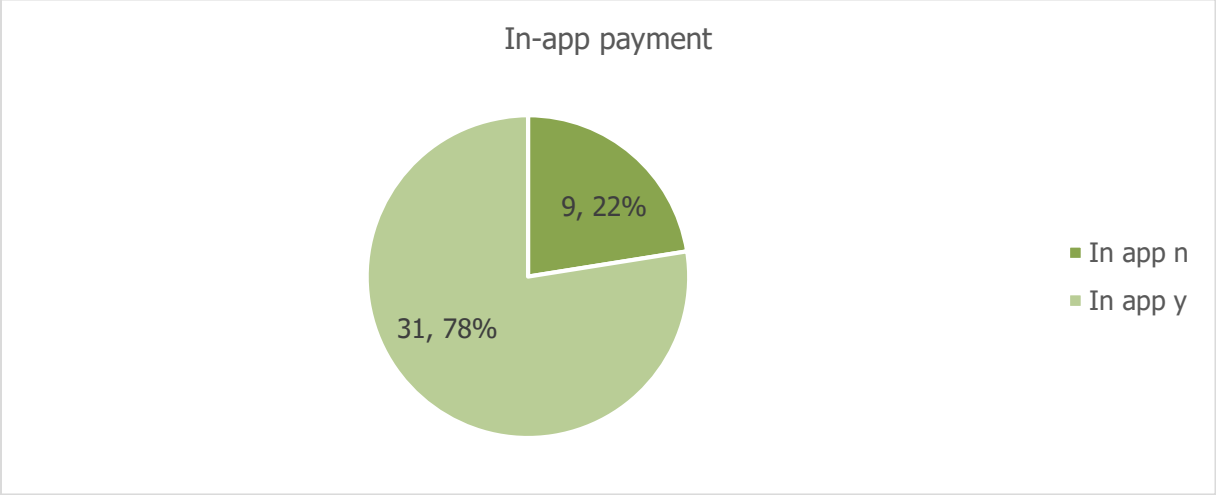
Fig. 1 Initial download payment



Source: own processing, 2023

100% of examined social media apps do not have an entry fee as a condition for downloading the app as shown in figure 1. Another chart (Figure 2) examined the option or necessity for additional in-app payments. In app "n" in the following chart means no, in app "y" in the following chart means yes.

Fig. 2 In-app payment



Source: own processing, 2023

22% of all examined social media apps do not allow additional payments to access or extend the use of the app. The remaining 76% of the examined apps include the necessity or possibility of payments during the use of the app. The results of the two Figure 1 and 2 above naturally shows in almost all cases social media apps are meant to be free in an initial purchase as it is showcasing the character of social media as it will be explained more in detail in findings. In the following chart (figure 3) we look at the possible combination of initial payments and in app payments and how it can work together.

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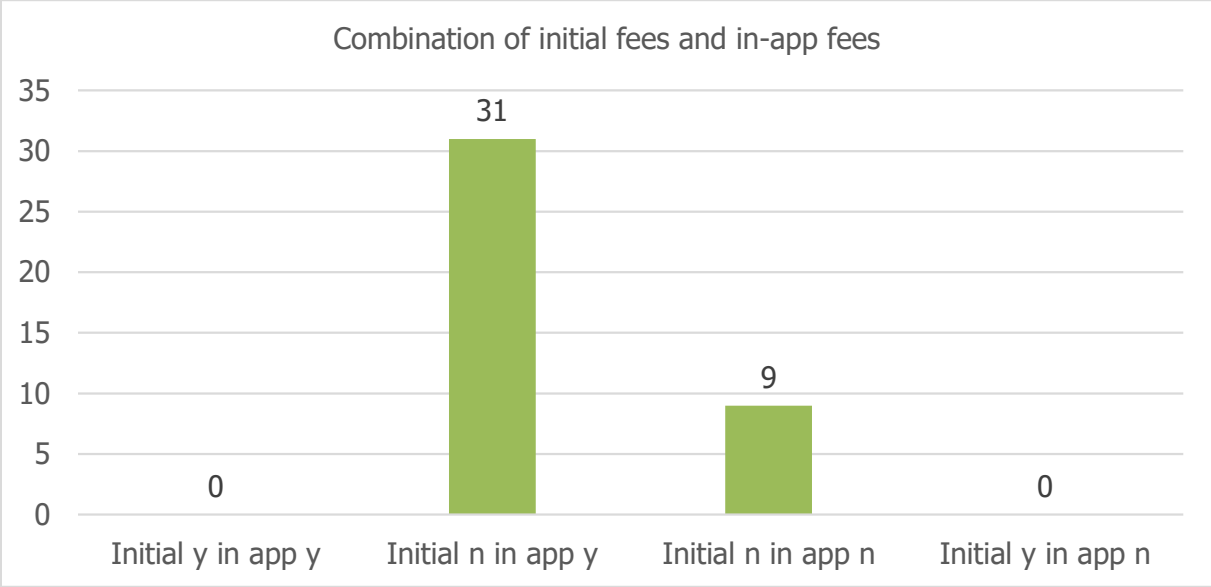
Fig. 3 Combination of initial fees and in-app fees



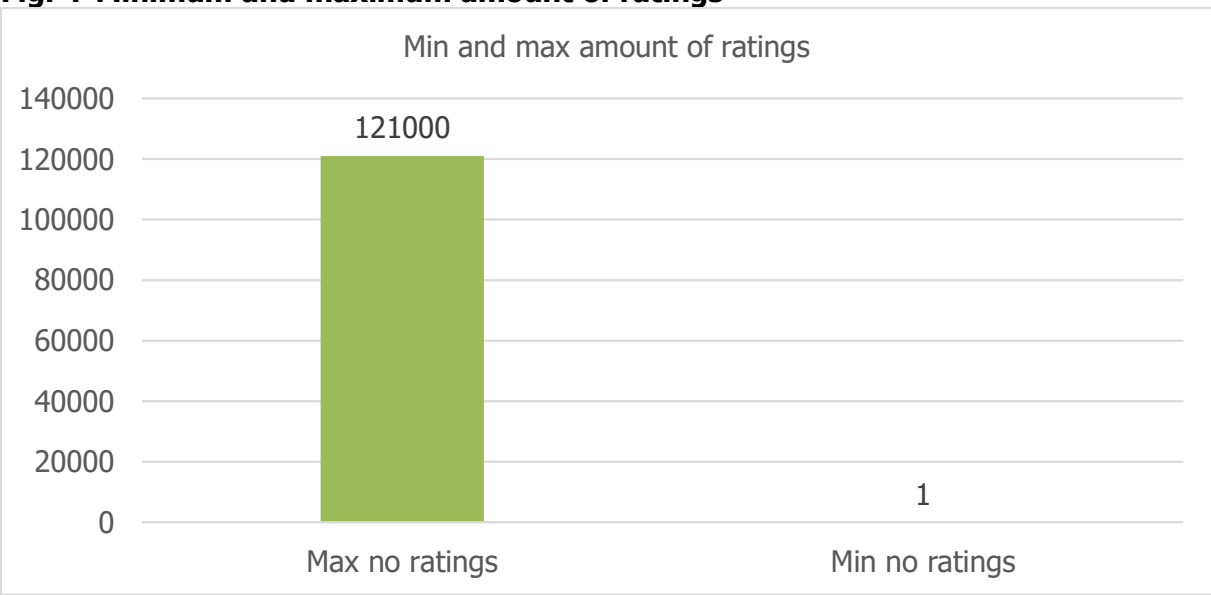
Source: own processing, 2023

After examinations the chart is showing these scenarios:

- initial payment within app payment – none of the apps required the initial payment within app payments,
- no initial payment within app payment – 31 cases of examined apps offer in app payments with the combination of no initial payment required,
- no initial payment with no in app payments – 9 cases of examined apps do not require initial payments and there are no in app payments,
- initial payment with no in app payments – none of the apps required the initial payment and have no in apps payment possibility.

All of the social media apps examined rely on monetization fees during app use.

Fig. 4 Minimum and maximum amount of ratings



Source: own processing, 2023

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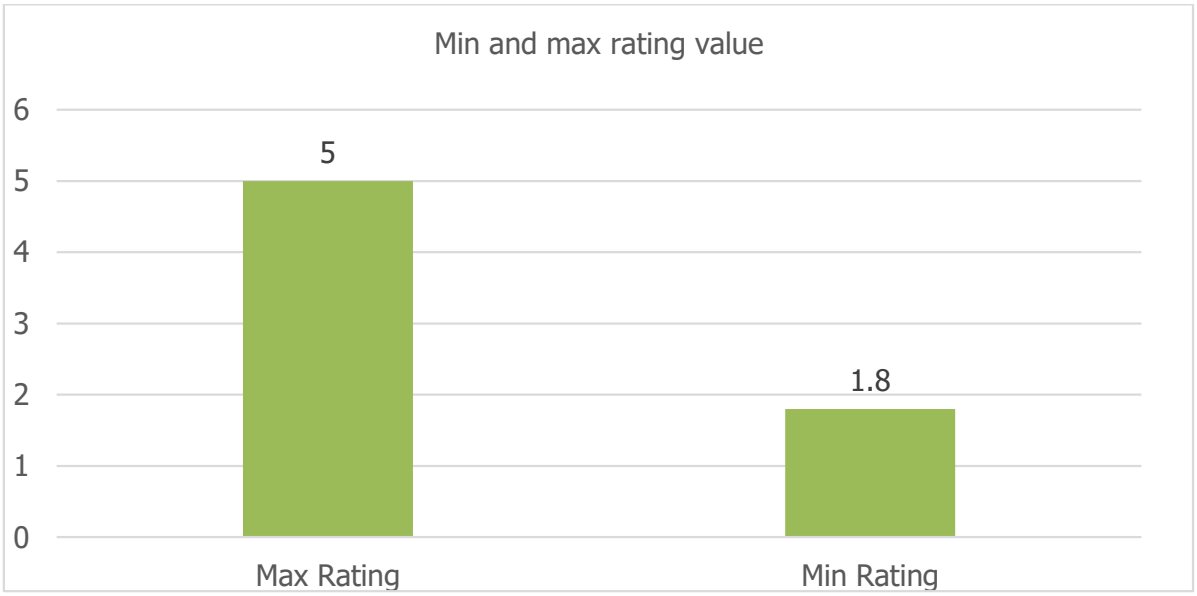
Figure 4 above researched number of ratings given by users. The maximum number of ratings of the examined social media app is 121,000. The minimum number of ratings is 1. The average number of ratings of the examined social media applications was 12064.

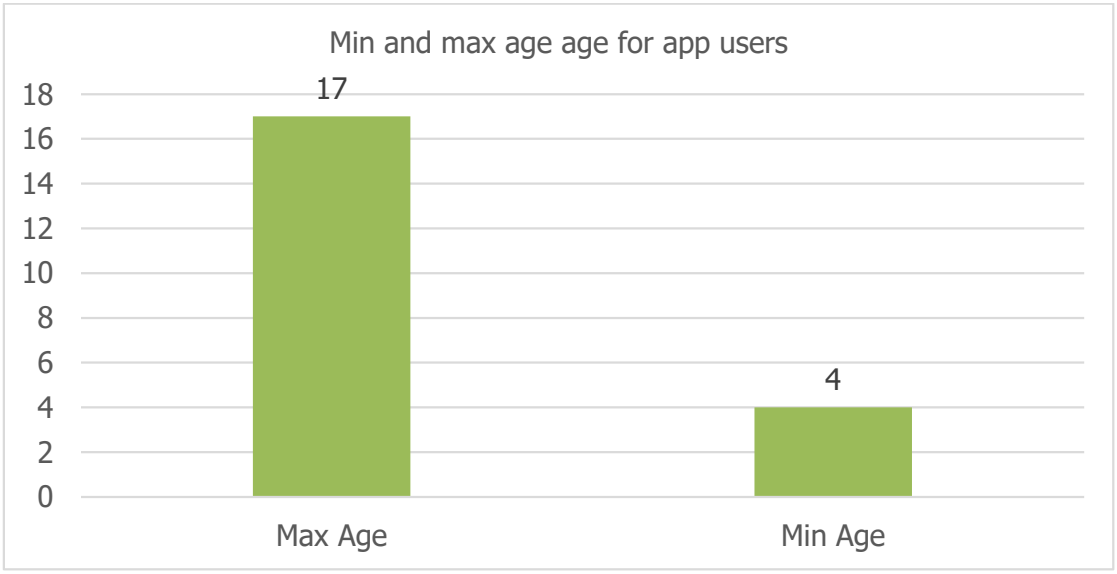
Fig. 5 Minimum and maximum rating value



Source: own processing, 2023

Figure 5 above examined the maximum and minimum value of the ratings. The maximum rate value of the examined apps reached number 5 (the maximum is 5) and the minimum rate value reached 1 (the available minimum is 1).

Fig. 6 Minimum and maximum age for app users



Source: own processing, 2023

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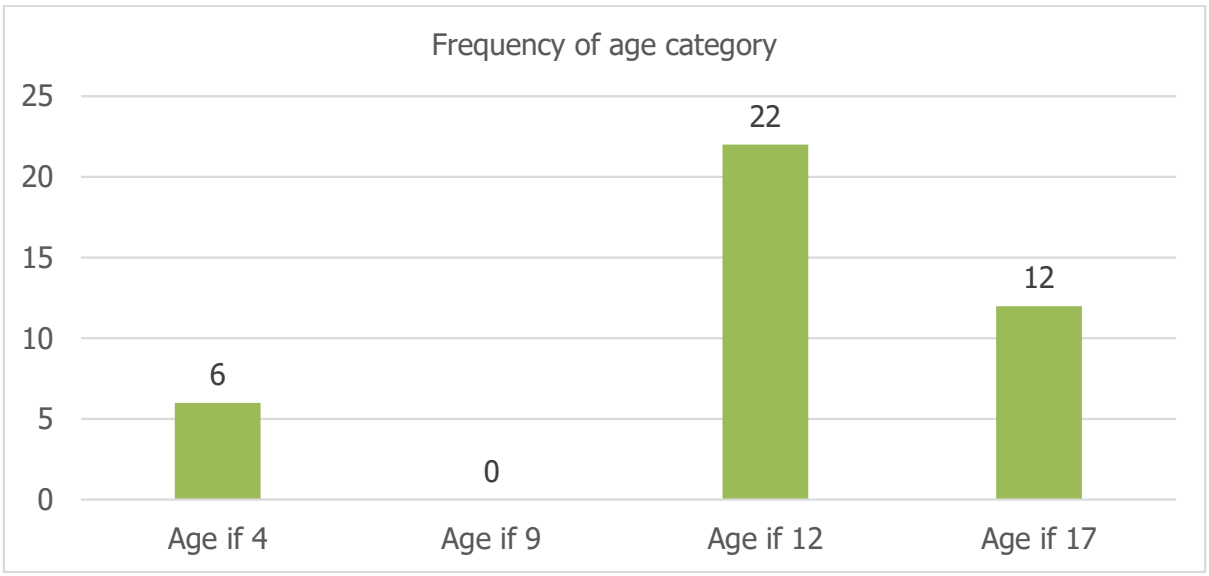
Figure 6 above examined recommended age for social media download. The highest minimum age for the examined apps downloads and use was 17 years. The lowest minimum age was 4 years. The average minimum age was 12.3 years. The most common minimum age requirement for social media app. was 12 years.

The following figure 7 examined abundance of age categories. The most common recommended minimum age was age 12 utilized by 22 of the examined apps, the second most common was age 17 utilized by 12 of the examined apps, followed by age 4 utilized by 6 apps, and none of the examined app utilized age from 9 years.

Fig. 7 Frequency of age category



Source: own processing, 2023

The following figure 8 examined minimum and maximum available languages. The maximum number of language mutations utilized by the examined applications is 73 and the minimum number of language mutations utilized by the examined applications is 1. 87% of the examined applications use English as their primary language. On average, the examined applications have 23 language mutations.

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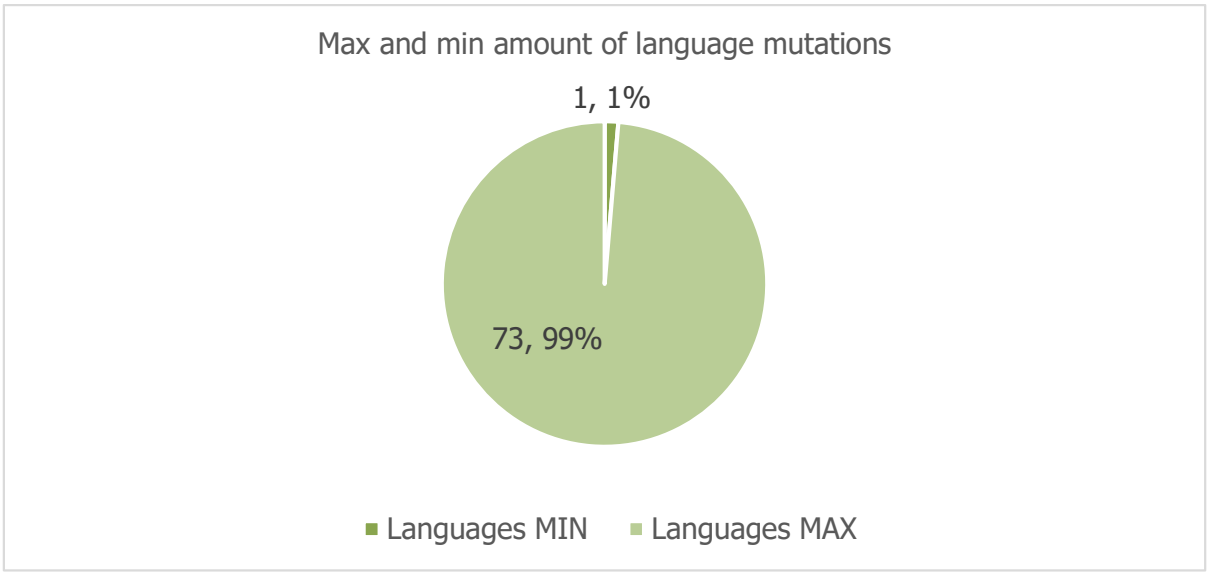
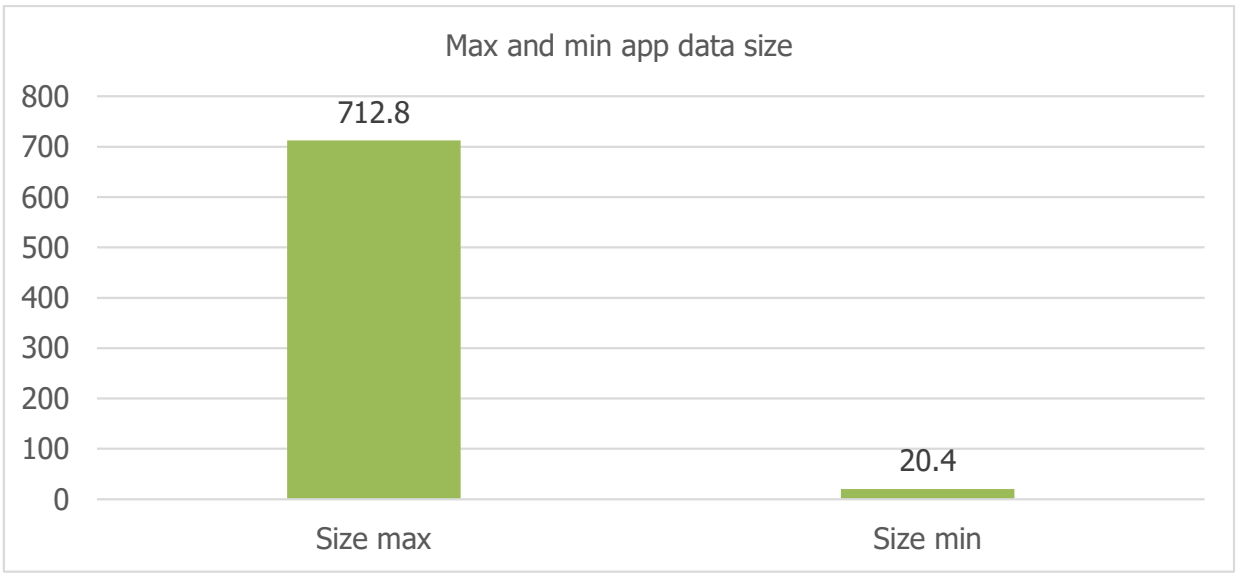
Fig. 8 Maximum and minimum amount of language mutations



Source: own processing, 2023

The last figure 9 examined data requirements for app download. The maximum data size of the examined applications was almost 712,8mb and the minimum size was 20.4mb. The average data size of all the examined applications is 213.83mb

Fig. 9 Maximum and minimum app data size



Source: own processing, 2023

CONCLUSION

In conclusion, the analysis of 40 social media apps available on the iOS platform offers significant insights into the dynamics of app pricing, payment models, user engagement, age recommendations, language availability, and data requirements. From the conducted research, it is evident that most social media apps do not charge users for initial downloads, aligning with the prevalent expectation of users of free access to these platforms. Some of the apps integrate in-app payments, confirming the prevalent freemium model in the industry. This combination of no initial payment with in-app purchases is a common strategy adopted by

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developers to attract users while monetizing through additional features or paid content. Ratings of the apps vary widely among the researched apps. While some apps have thousands of ratings, indicating popularity and user satisfaction, others have minimal feedback. Age recommendations for app download showcase diversity, with the most common minimum age requirement being 12 years old. This aligns with concerns regarding age-appropriate content and privacy regulations for younger users. Language availability is another crucial aspect, with most apps supporting multiple languages to reach a global audience. English language remains the dominant language across the majority of the apps. The data requirements for app downloads vary significantly, with app sizes ranging from a few megabytes to hundreds of megabytes. This underscores the importance of considering data usage, especially for users with limited data available in the device or slower internet connections.

Based on the research, several recommendations can be made for marketers, app developers, and policymakers. *Marketers* should focus on user engagement and satisfaction to improve app ratings, as these metrics have a crucial role in attracting inexperienced users within app stores. They should also prepare and implement marketing strategies to attract diverse age groups, considering the varying age recommendations for app downloads. *App developers* should leverage the freemium model by offering in-app purchases that enhance user experience while ensuring free availability of the core app functionalities, prioritize optimizing app performance and reducing data size to accommodate users with limited data space availability or slower internet connections and invest in language localization to support the engagement of local users. Policymakers should implement age verification mechanisms, strengthen privacy regulations to ensure compliance with age-appropriate content, and consider the implementation of guidelines or regulations to ensure transparency and fairness of in in-app purchases.

The research and recommendations of the paper provide valuable insights into the landscape of social media apps, highlighting pricing strategies, user engagement metrics, particular demographic indicators, and some technical requirements. As the digital environment continues to evolve, understanding these trends will be crucial for developers, marketers, and regulators to follow the continuously changing landscape of social media technology.

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