National Research Journal of Business Economics
Volume No: 13, Issue No: 1, Year: 2026 (January-June)
PP: 30-40
ISSN: 2349-2015
Peer Reviewed & Refereed Journal (IF: 6.74)
Journal Website: www.nrjbe.in

FROM FREE TO FEE: THE DYNAMICS OF FREEMIUM MODELS IN MOBILE GAMING

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ABSTRACT –

The freemium model in games mainly focuses on user engagement and subscription attraction along with implementing various monetization strategies for the industry. It dominates the mobile gaming industry by providing fundamental game play for free and monetizing through in-app purchases and premium subscriptions. This study utilizes the available literature to gain insights on how freemium models influence spending behavior and derive user engagement. Research indicates that the success of freemium models depends upon its capacity to attract a wide range of users by reducing entry barriers and promoting network effects that increase the game appeal. Features such as micropayments, premium access and more promote progressive spending and enhance player retention, while also effectively balancing free and paid content. Furthermore, research suggests that monetization strategies, including subscription services and in-app purchases, add to revenue and user engagement by providing value-added experiences. The study concludes that the freemium model not only offers substantial opportunities for monetization, but it also presents challenges in keeping a balance between revenue generation and user satisfaction. This review focuses on the need of continuous innovations in the model to adapt to the changing needs of developers and players in the current scenario.

Keywords: Freemium model, mobile gaming, user engagement, monetization strategies, in-app purchases, subscription attraction.

INTRODUCTION

The gaming market in India being driven by the increasing number of smartphone users and the widespread availability of internet services all around the world is growing at a faster pace. The segment of mobile gaming has now become increasingly accessible to almost everyone around the world, irrespective of the demographics they belong to. This has been added to with easy availability of low-cost data plans, affordable devices, social media outreach and many more factors. It is not only prevalent among the younger generation, but also the older ones, who have enthusiastically adopted gaming applications as a source of entertainment. Also, the craze for gaming has been fuelled by social media and the emergence of gaming influencers and streamers across the globe recognizing its significance as a wholesome industry. The industry is not just flourishing domestically, but also establishing its place in the global market. As per a report by Statista (2024), the mobile gaming market is projected to generate US$98.74 billion in revenue worldwide in 2024. It is expected to grow at a compound annual growth rate (CAGR) of 6.39%, reaching US$118.90 billion by 2027. As per the report (2027), the projected number of users will reach 1.9 billion, with user penetration increasing from 22.1% in 2024 to 23.3%. In 2024, China is anticipated to generate the maximum revenue in the global market, which will amount to US$34.66 billion. As per the report, games such as Fortnite, Pokemon G, PubG contributed majorly to the growth of the sector.

ISSN: 2349-2015
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The "freemium" business model has gained popularity in mobile applications and also across a variety of digital platforms. This model attracts a wide user base by providing basic features for free and then gradually converts a portion of it into paying customers by charging them for advanced functionalities and services. The freemium model is widely being used in almost every industry, including cloud services, digital publications, gaming, music streaming, and many more, and aims to effectively engage users and generate revenue (Hamari, 2015; Mantymaki & Salo, 2013). Businesses utilize this freemium model as a means of increasing brand awareness and bringing in a sizable audience. They optimize revenue per customer by encouraging users to upgrade to premium versions over time (Heier, 2015).

The freemium model has become important in the gaming industry. Developers provide free access to their games in order to attract a large audience. These games are monetized through in-app purchases to customise the game as per gamers' interests, advertisements and other premium features. For instance, games may limit certain features or make them less available after a "trial period" in order to encourage purchases and subscriptions by employing strategies to encourage consumers to upgrade (Wagner et al., 2014). Also, some developers use "gamblification" techniques, such as mimicking betting to attract users to spend money (Macey & Hamari, 2019) and employing distracting ads (Jankowski, Hamari, & Watrobski, 2019).

These games also permit free access as per a subscription period and combine freemium with other pricing strategies, such as sub-freemium hybrids (Lescop & Lescop, 2014). Although in-app purchases are not obligatory for the completion of a game, they considerably improve the gaming experience by reducing frustration. Even though they make things appealing to users, the developers need to realize that maintaining transparency in features and price is crucial to maintaining customer satisfaction and confidence (Heier, 2015). According to Heier (2015), some developers use deceptive tactics to create fake trends which damage the app's reputation and affect user confidence. To sustain the user base and a steady revenue flow, firms need to maintain a balance between the features offered in the free edition and the subscription-based services.

This paper examines pricing strategies in mobile gaming applications, with special focus on the freemium model. On the basis of existing literature, it examines how game producers exploit the freemium model to attract consumers by offering games for free while smartly encouraging in-app purchases and premium subscriptions. The study also looks at monetization techniques that boost user engagement, loyalty and gradually convert free users into paid ones.

RESEARCH METHOD

Torraco's Integrative Literature Review methodology was followed in this study. Using a combination of keywords, such as "freemium models," "user engagement," "mobile gaming," "monetization," and "subscription strategies," a thorough search was carried out across several scholarly databases, including Google Scholar, Web of Science, Scopus, ScienceDirect, and Springer. Publication titles and abstracts were reviewed and then the chosen papers were thoroughly anlysed. No restrictions were placed during the inquiry. Each study's applicability to the relationship between freemium pricing and user behavior was evaluated, with a focus on how developers use monetization techniques like in-app purchases and subscription models to boost engagement and income. The chosen literature was then synthesized to obtain insights into new approaches to mobile gaming monetization by highlighting similar trends and identifying gaps.

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RESEARCH QUESTIONS

An analysis of the gaming industry's current paradigm puts forward its relevance in terms of pricing of mobiling applications. The paper uses available literature to address the needs of the industry. Primarily, understanding the freemium pricing model in mobile gaming apps and its effects on user acquisition, engagement, and retention and hence its practical impact on app success, the study examines psychological factors, game designing, in-game components, promotional offers, and advertising and may other revenue-generating tactics used by developers. The study also seeks to understand how it converts free users into subscribers or paying customers. The study will thereby examine mobile gaming application pricing formulation using all of these parameters.

DISCUSSIONS AND FINDINGS

The freemium business model has experienced a significant increase in prevalence over the past decade, resulting in a shift of a variety of sectors in the digital landscape (Hamari et al., 2020). As smartphones, tablets, and other mobile devices offer new platforms for delivering games to consumers, the mobile gaming industry is experiencing substantial growth. Mobile gaming businesses are generating billions in income, even with the assumption that online information is freely available in the realm of internet (Lescop & Lescop, 2014).

Developers in the gaming industry attract a vast audience by providing free access to their games, making them available at no cost. They monetize these games through in-game purchases, advertisements, and premium features (Hamari et al., 2020; Lescop & Lescop, 2014). Similar strategies are employed by music streaming platforms such as Apple Music and Spotify to entice users with free, ad-supported options, and subsequently convert them to paying subscribers for an improved experience. They also engage a broader audience, which in turn optimizes revenue per customer by incentivizing users to upgrade to premium versions with improved features, thereby contributing to converting free users into paid ones (Hamari et al., 2020; Heier, 2015). Digital periodicals, social networking sites, and cloud services also employ freemium strategies, which involve providing basic functionalities for free while generating revenue by charging for premium features and subscriptions (Hamari et al., 2020; Wolkenfelt & Situmeang, 2020,). Over time, the freemium model has improved its capacity to engage a wide range of users and progressively convert a portion of them into paying customers, thereby contributing to the growth and profitability of the digital world (Hamari, 2015; Mantymaki & Salo, 2013; Nieborg, 2015; Kumar, 2014).

Freemium models are based on the idea of encouraging recurring sales, such as different in-app purchases or subscriptions, which guarantee a consistent revenue stream. This continuous interaction with consumers promotes brand loyalty and provides opportunities for cross-marketing and upselling, thereby increasing profitability (Heier, 2015).

Both consumers and developers derive mutual benefits from providing games at no cost. It enables users to evaluate the game without making a financial commitment, thus deciding whether it is sufficiently engaging for justifying sustained engagement whereas on part of developers they are assured of the likelihood of downloading since it is available for free (Heier, 2015).

Nanda Kumar (2016) highlighted the three critical variables that are desirable for a freemium model to be so categorised which include the product's zero-cost entry that makes it to appear alluring and accessible to a broad audience, some users will not make use of the features that are not included in the free version and some may spend more on the product than they would

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if it had a fixed cost, especially the case where the product offers frequent or large purchasing opportunities.

Strategies enhancing User Engagement

Companies adopt strategies such as shifting between subscription to freemium models, offering free access for a limited time, and incorporating in-app purchases to improve the gaming experience. By providing these purchases, they aim to alleviate user frustration and impatience (Lescop & Lescop, 2014).

Freemium services, while providing fundamental features for free employ various strategies to motivate users to upgrade to additional features (Hamari et al., 2020). The model generates revenue through advertisements and in-game transactions to improve the gaming experience, while providing the primary games at no cost (Lescop & Lescop, 2014). As highlighted by research, the perceived premium value has been negatively impacted by the excessive use of intrusive advertisements (Jankowski, Hamari, & Watroski, 2019) whi ch might also lead to user drop-outs. Personalized trial experiences and well-timed upgrade prompts, which may also take the form of advertisements at nearly all stages or levels, not only increase frustration in the minds of the user, but also subsequently the probability of converting free users to paying customers (Mäntymäki et al., 2019) . Although the dropout rates are less comparatively to those converting, it acts as a challenge for the developers.

The freemium model game developers also employ up-selling and cross-selling strategies to enhance their client base. This includes the promotion of other games and the offering supplementary content, which serves to maintain users' engagement specifically within the developer's ecosystem and prevent them from trying competitor's products (Lescop & Lescop, 2014).

“Gamblification” is another trick employed in mobile gaming applications. This approach employs strategies such as treasure boxes, random rewards, and in-game currency generation to simulate gambling. These strategies induce a sense of eagerness, which encourages users to make subsequent purchases of premium content. These mechanisms target increasing user engagement, optimizing profits, and encouraging frequent microtransactions (Macey & Hamari, 2019; Hamari et al., 2020).

Yoo (2015) reported that the purchase of gamification items directly affected its frequency of gaming. As the value of game items increases, it results in increased user loyalty and improved purchasing behavior. Users look for psychological motivations, whereas developers use this for user acquisition, engagement, and retention. However, it is essential that developers effectively manage user engagement across different games, as mobile consumers frequently shift between different games at a rapid pace (Lescop & Lescop, 2014).

People are usually attracted to casual games because of their simplicity and ease of learning. Developers prefer casual games over traditional console games due to these reasons and low entrance fees, compared to the former's demanding quality criteria, high entry fees, and other licensing. The app's freemium features are further enhanced by the integration of game layout, social dynamism, and marketing tactics. Developers also concentrate on understanding player preferences and motivations for achieving desired engagement levels (Heier, 2015; Lescop & Lescop, 2014). A high intention to download is correlated with high perceptions of the overall grade of game content. Positive expectations, increased downloads, and overall user satisfaction are all facilitated by high-quality game experiences, including simplicity of use, engaging graphics, and understandability (Pappas et al., 2019).

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Research indicates that gaming applications frequently implement strategies such as restricting access or decreasing features after a trial period in order to facilitate revenue generation (Wagner et al., 2014; Koch & Benlian, 2017; Mäntymäki et al., 2019). Users initially experience unrestricted gameplay; however, upon the conclusion of the trial period, they are unable to access critical features such as higher levels, exclusive rewards, or any other in-game tools. Players are encouraged to purchase premium versions in order to regain full access and enjoy consistent gameplay experiences. A feeling of frustration or fear of missing out is created to target the ultimate user. This in turn assists in converting free users to paying ones.

Social networks are essential for the promotion of mobile games, as they allow developers to reach a broader audience (Lescop & Lescop, 2014). Features like on-screen gaming, multiplayer options, and leaderboards motivate users to invite their peers and establish viral loops. This effect on social media platforms, encourages the participants to share their accomplishments or challenges and attract new users. This peer-driven promotion helps firms expand the customer base, thereby driving downloads and increased engagement.

Mainly freemium models and integration of social media have been seen as strategic developer tactics to drive user engagement in mobile gaming. According to Gamesindustry(2024), 82% of gamers in the United States made in-game purchases in freemium titles highlighting their relevance. As per Businessofapps (2024), Subway Surfers in 2022 had 35 million daily and 150 million monthly active users, mainly as a result of TikTok promotions. The app also exhibits cross-platform accessibility, as the majority of participants almost 75% used it via Android and 22% utilized iOS.

In accordance with Statista (2024) in recent years, the mobile gaming industry has encountered rapid growth. The market is anticipated to reach $118.90 billion by 2027, with a compound annual growth rate (CAGR) of 6.39%, with a projected revenue of $98.74 billion in 2024. The United States is experiencing substantial growth, which is primarily due to the high penetration of smartphones, while China is the leader in revenue generation. The incoming of the gaming industry is yet to bring a revolution in the worldwide economy.

Research suggests that the perceived economic value i.e. the price and the quality of the game content are both significant factors in the decision of users to download mobile games. Pappas et al. (2019) emphasize that users who are pleased with the content of a game may disregard the high prices or negative sentiments related to game purchase and prioritize the quality of the content over cost concerns. However, price value becomes a critical factor in the purchasing decisions of casual users who engage for less than an hour. Likewise, serious and regular gamers are considerably more inclined to allocate their funds toward premium content, considering it an investment that is worthwhile. Mäntymäki et al. (2019) adds to this contributing that users are more inclined to transition from free to premium models when they find the game enjoyable and the pricing justifiable. Therefore developers need to balance the content quality and pricing strategies for the games to ensure long term engagement.

Monetisation and Revenue Generation

Although gaming applications employ various strategies to grab the interest of users, they keep in mind their profitability objective. They device methods to increase the value provided to the user and convert freemium users into paying customers in order to optimize their revenue over longer periods. The objective is to enhance the profitability of the business by increasing the rate of conversion of existing users, rather than simply increasing the number of registered users (Lescop & Lescop, 2014). Yoo (2015) contends that switching from the sale of games to the provision of them for free under the freemium model has been profitable

ISSN: 2349-2015
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in the current competitive era. The freemium model does not provide the game wholly for free; rather, it charges users based on the features of the application. These features are so deeply embedded in the application that they compel the user to either directly or indirectly transition to a payable model.

These strategies are incorporated into the product or the game design by the developers. Artificial constraints, such as the fear of losing progress or items or tools degrading over time, have become common in gaming applications (Hamari et al., 2020). They persuade a user to upgrade to a paid version and generate revenue by instilling frustration and wrath (Alha et al., 2014; Hamari & Järvinen, 2011; Hamari, 2015; Lin & Sun, 2011). The popularity of virtual items in the games has increased over time. They engage the user in a manner that encourages them to use real money to access the main or premium features of the applications (Yoo, 2015).

AppRadar (2024) reported that Subway Surfers was the most downloaded game of 2022 and the previous decade, with over 4 billion lifetime downloads. It was the first game to surpass 1 billion downloads on Android. Its ease in gameplay, effective control systems, and progressive levels of play for the game attracts the players. As they navigate subway tracks, players grab coins and power-ups, avoid obstacles and participate in missions, quests, and also social features such as leaderboards and AR tools. Providing both in-app purchases (IAPs) and advertisements, the game follows a hybrid monetization strategy. A player may collect soft currency (coins) by engaging in gameplay, purchasing premium currency, or viewing advertisements in exchange for rewards. The retention and engagement of players are enhanced by these factors and also a balance between free content and optional purchases is offered by the app. This strategy has resulted in Subway Surfers generating over $80 million in revenue from iOS alone, excluding in-game advertising, and $155 million in lifetime revenue (BusinessofApps,2024). Cross-promotion has also further enhanced engagement for new titles such as Subway Surfers Blast, keeping the users motivated. The success of games such as Subway Surfers has been attributed to tactics of advertising and in app purchases.

Yoo (2015) studied the impact of monetary value on the perceived utility from gaming applications and its impact on purchasing intentions. The research highlighted the fact that users assess both short-term and long-term costs when determining whether an application offers adequate value for the price paid. Users favor applications that are cost-effective, as long as the advantages correspond with the money spent. Their purchasing behavior may be altered if the perceived value does not meet their expectations, indicating that the cost-benefit balance has a substantial impact on their decisions. This relationship suggests that users keep in mind the amount they spend and the benefits that they receive, which affects their initial engagement with the app and their propensity to continue to invest in premium features.

Hsiao and Chen (2016) added on this by asserting that while monetary value is a critical factor in determining in-app purchasing intentions, it is not enough to build long-term loyalty to the game. Their research indicated that users are drawn to applications that offer a good value for their money; however, other factors, such as quality of gameplay, user experience, and engagement, are more important in fostering loyalty. Additionally, despite a favorable cost structure, users may be less inclined to remain loyal if a game fails to meet their expectations in these areas. However, gamers who are content with the overall experience are more likely to remain engaged in the game, regardless of the cost they pay to access it (Pappas et al., 2019). According to Lescop & Lescop (2014), a small number of gamers are classified as "whales," as they spend significant amounts on in-game purchases, sometimes even in thousands of dollars.

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The primary objective of gaming applications is to increase their visibility in the face of intense competition in the sector, leveraging the absence of any entry barriers to increase their likelihood of profitability and monetization. By employing a free-to-play strategy in the freemium model, users are encouraged to at least test the app once before discarding it if they no longer require it or are able to adapt to its features. Another strategy that is employed is a stress-relieving mechanism that encourages users to purchase in-game items or explore new features in the application.

According to Lescop and Lescop (2014) and Harviainen et al. (2018), the freemium pricing model enables developers to generate revenue by monetizing micro-transactions, selling virtual content, features, or level-based charge, utilizing subscription models, and leveraging non-paying users to promote the company's products. Nieborg (2015) asserts that freemium game designers commoditize their players to attract new players by engaging existing ones. Developers often use analytical tools and thorough matrices to monitor player behavior to understand the need for these models. According to consumer needs, they use different techniques at different stages (Lescop & Lescop, 2014).Cross-promotion and gamified ads direct users to similar or better games. The objective of these ads is to encourage users to upgrade to the paid app. Some ads are trial platforms that let people adjust and adapt to them. These ads are so attractive that users try them for the first time leading to greater chances of addiction.

Currently, the majority of free applications are available in their totality; however, microtransactions are necessary to advance and utilize all features. This can have a substantial effect on consumer interaction and is frequently evident in reviews (Wolkenfelt & Situmeang, 2020. The developers ensure that these strategies not only increase user engagement but also generate revenue from even the most minor features without the need for aggressive monetization at the initial stages (Hamari, 2015; Heimo et al., 2016; Harviainen et al., 2018). On the other hand, models that prioritize technology and profitability over user experience may prove unsuccessful when contrasted with those that enable users (Harviainen et al., 2018). These methods are mutually beneficial to both developers and consumers.

Challenges

Despite a broad user base, the retention of player engagement is an important hurdle in the mobile gaming sector. The challenge of sustaining user interest, underscored by previous research, has observed a substantial proportion of new participants disengaging after only a few sessions (Lescop & Lescop, 2014). One such reason is the oversaturation of mobile games in the market, which can result in increased competition and shorter focus spans. It has become common for players to look for immediate gratification, and if the game does not offer a rewarding experience or engaging content, they are likely to quickly lose interest. It is irrefutable that the freemium model attracts users by providing free content; however, the presence of paywalls and restricted features that do not require in-game purchases frustrates the non-paying players. Such freemium games with paid power-ups become intentionally challenging for gamers due to the constant pressure to spend money (Heier, 2015). Consequently, developers face the diligent task of creating games that are both engaging and have a balance between free and premium features. They must also provide sustained rewards to ensure that users remain invested in the game longer.

The freemium model has been the subject of criticism, despite its benefits. One significant concern is that it may result in an unbalanced gaming experience, where users who make in-app purchases have a greater advantage over those who do not, thereby establishing a "pay-

ISSN: 2349-2015
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to-win" environment. It restricts gameplay by restricting access to specific features or level progress until the user makes the purchase or waits for an app reset (Heier, 2015). Also in multiplayer games, this frequently contributes to a "pay-to-win" scenario, in which the most paying players are granted major advantages, resulting in an unfair dynamic that favors spenders over more experienced players (Heier, 2015). This can undermine the competitive nature of the game and discourage non-paying participants, thereby reducing fairness in the game.

Additionally, numerous freemium games restrict players' access to critical features or levels until they pay a fee, which may cause users who were initially drawn to the game's "free" nature to become dissatisfied. This also raises concerns about the integrity of the game, as developers design features and difficulty levels to capitalize on the success of freemium games and seek profits from it (Heier, 2015).These issues are further aggravated by excessive monetization and using extreme pricing strategies prioritizing them over consumer use (Harviainen et al., 2018).

Moreover, the model has been criticized for encouraging addictive spending habits, especially in younger or vulnerable players. Microtransactions, often framed as small, insignificant purchases, can accumulate rapidly, leading to excessive spending. The aggressive push for in-game purchases can degrade the overall user experience, as players feel pressured to buy additional content rather than enjoy a balanced, skill-based progression.

CONCLUSION

In the current age of internet and smartphones, freemium models work quite well for driving user engagement and maintaining user satisfaction, while constantly obtaining profits from mobile gaming applications. The tactics employed aim to address the psychological aspects of FOMO in order to encourage consumers to upgrade to premium versions (Mäntymäki et al., 2019). The possibility of switching from free to premium is greatly increased by active engagement in user communities and peer influence (Bapna & Umyarov, 2015; Mäntymäki et al., 2019). In addition, elements that promote player retention include game balance, learning curve accessibility, and low cost (Hamari, 2015; Heimo et al., 2016; Harviainen et al., 2018).

The freemium model is not like other pricing methods that collect payments on a regular basis, including subscription models or single product, single price models. In contrast to these business strategies, freemium creates value from both paying and non-paying users (Hamari et al., 2020). In the gaming business, where the freemium or free-to-play model has proven to be quite profitable, this dual-value generating is especially effective. For instance, while games like Clash of Clans and Fortnite can be downloaded and played for free, they also provide extra features or things that can be purchased, resulting in network effects that increase the popularity of the game (Hamari et al., 2020; Hamari & Järvinen, 2011; Wu et al., 2013).

As a result, research indicates that players commonly give up on games because they think the monetization tactics are too aggressive or unfair (Hamari, 2015; Hamari & Lehdonvirta, 2010; Harviainen et al., 2018). Thus, the success of the freemium model depends on the capacity to strike a balance between offering value in the free version and enticing users to upgrade without resorting to deceptive tactics (Harviainen et al., 2018).

Transparency is crucial in freemium models to maintain trust and user satisfaction. Apps that clearly distinguish between free and paid features without misleading practices, foster positive user experiences and loyalty. However, some developers use manipulative

ISSN: 2349-2015
Peer Reviewed & Refereed Journal (IF: 6.74)
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techniques, such as artificial scarcity, obscuring the true cost of in-app purchases, or creating gameplay that becomes frustrating without spending money (Heier, 2015, p. xx).Therefore, to succeed developers need to keep in mind all these tactics and update them in time, to fulfill the users need as well as their objective of maximizing revenue.

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