The Impact of Mobile Gacha Games on Generation Z Users in China

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Abstract: This study investigates the impact of mobile gacha games on Generation Z users in China, with a focus on user engagement and motivations. The research highlights the growing prevalence of gacha games within China's gaming market, which relies heavily on lottery-like mechanics that encourage time or monetary investment for the acquisition of rare in-game items. Through the analysis of quantitative data, the study highlights the factors contributing to user engagement, such as character attachment, aesthetic resonance, and social interactions, while also exploring the psychological triggers that drive player engagement. The findings reveal that Generation Z players maintain a long-term connection with gacha games due to the excitement of acquiring rare items, character attachment, and cultural resonance. However, the study also identifies that emotional needs, such as alleviating loneliness or seeking social validation, are secondary to the enjoyment derived from gameplay mechanics. These insights offer a comprehensive understanding of the consumer psychology behind mobile gacha games, emphasising the distinct behaviour of Chinese Gen Z players and the impact of mobile gacha games on their gaming experience.

Keywords: Mobile Gacha Game, Generation Z, Player Engagement, Consumer Psychology.

1. Introduction

The mobile game market has become increasingly popular among Chinese consumers, especially with a significant growth in mobile game users during the Covid. By 2021, the number of Chinese players had reached 666 million, and the market's actual sales amounted to 296.513 billion yuan. Mobile games generated revenue of 225.538 billion yuan, accounting for 76.06% of the total revenue [1]. Most of these games primarily use the "gacha" model as their main game mode.

Gacha games originated in Japan around 2010 as a type of mobile and online game. These games rely on a lottery-like mechanism, where players use in-game currency or real money to obtain items, characters, or other rewards. The concept is derived from a Japanese vending machine called "gachapon," where users insert coins and receive a random toy encased in a capsule. This element of randomness is the core appeal of gacha games, where players draw for rare items, though success is not guaranteed. Players use in-game currency (which can be earned or purchased) to "pull" these items. Additionally, these games typically have Gacha pools categorised by rarity, with the chances of obtaining rare items deliberately set low to heighten the excitement of acquiring them. In this case, game companies profit by converting real money into in-game currency. Players can either complete

tasks to earn currency or spend real money to speed up the process. Gacha games often operate under a free-to-play (FTP) model, allowing players to access the game for free while encouraging them to spend money to increase their chances of obtaining rare items [2].

Currently, the primary consumer group playing gacha games is Generation Z, defined as those born after 1990-1995 [3]. By 2021, the 18-34 age group in East Asian countries, including China, Japan, and South Korea, had become the dominant demographic for gacha games [4]. Additionally, the profitability of gacha games is undeniable. For example, Genshin Impact, one of the most iconic gacha games, became the fastest game to reach $5 billion in global sales by 2024 [5]. Mobile games now hold a 50% market share, contributing to 91.8% of the gaming industry's total revenue [6, 7]. Given this substantial influence, it is crucial to examine the role gacha game mechanics play not only in mobile gaming but also within the broader gaming industry. Understanding these mechanics can provide insights into both their widespread appeal and their impact on consumer behaviour.

Given the substantial influence, it is essential to examine the role of gacha game mechanics within mobile gaming and the broader gaming industry. Understanding why players sustain enthusiasm for these games can provide insights into both their widespread appeal and the effects on consumer behaviour.

Before exploring the factors that attract players to gacha games, it is important to distinguish between player engagement and the initial motivation to start playing. Unlike the motivations that attract and decide an individual to try the game, this study focuses on the potential drivers that sustain long-term participation in gacha games, which essentially is the level of ongoing involvement in the game. This aspect is distinctly addressed in other research as well. Player engagement in both existing literature and this study is considered to be driven by a continuation desire, manifesting a sustained enthusiasm for the game, both initially and over extended periods [8]. These characteristics will serve as the basis for conducting surveys aimed at identifying the triggers and components of player engagement.

2.   Literature Review

Although gacha games have faced widespread controversy due to their resemblance to gambling and have been subject to stricter regulations, they are fundamentally different from traditional forms of gambling. In gambling, players seek potential financial rewards, whereas in gacha games, loot boxes offer virtual items, skins, or characters with no monetary value. From this perspective, the motivations driving players to invest in gacha games may be more complex and varied [9].

Gacha game users often display common psychological behaviours when making purchases, including cognitive biases linked to lottery-style mechanics, such as the sunk cost fallacy and self-rationalization. By creating a sense of scarcity, these games make users perceive virtual items as more valuable, prompting them to spend money to avoid missing out on limited-time events. Additionally, players frequently gain social respect and a sense of superiority within specific communities by collecting rare items, motivating them to continue spending in order to complete their collections [10].

One perspective is that gacha games integrate elements of Japanese anime and manga culture, allowing fans of these areas to deeply resonate with the game. This 'cultural embedding' enables players to form emotional connections with various aspects of the game, particularly the characters, which in turn helps them rationalise their in-game behaviour and spending strategies. Consequently, players' spending in the game goes beyond reacting to the gacha mechanics and becomes an expression of cultural and aesthetic appreciation. The emotional bonds players develop with the characters can even surpass the act of playing the gacha game itself [9]. This motivation to form deeper connections with characters as a driving force for continued gameplay is also discussed in another research [11]. Players often strive to obtain all items related to a character they are fond of, even if doing so requires paying or engaging in gacha mechanics. This significantly sustains their

enthusiasm for the game. Therefore, resonating with certain aspects of the game—such as aesthetics, cultural background, or characters—may be a key reason why players choose to continue playing gacha games.

Social interaction is an essential part of many games. Beyond allowing players to engage in competition or cooperation within the game, external online communities also serve as important platforms for fulfilling players' social needs. Some games that incorporate internet technologies also provide players with in-game platforms for communication and collaboration, such as guild chat channels, allowing them to explore more social interactions [12]. In gacha games, the social elements of cooperation and competition evolve into using friends' characters or units to support battles and other gameplay. This encourages players to form friendships with those who are stronger or share a fondness for the same characters [13].

However, some studies highlight the connection between feelings of loneliness, lack of social interaction, and gaming addiction. Adolescents who experience limited social engagement in the real world often turn to virtual games as a substitute for meeting their social needs [14]. According to Social Displacement Theory, excessive immersion in online or virtual environments, such as video games, replaces time that would otherwise be spent nurturing real-world social relationships. Gacha games, compared to other types of games, are particularly influential for players seeking social connection due to their strong online community engagement and unique gameplay mechanics. Many gacha games foster active online communities where players can interact and show off in-game achievements. This sense of community not only provides players with a feeling of belonging but also enhances their status and sense of superiority within the group [15]. Therefore, it combined with the appeal of collecting rare items, makes gacha games especially compelling for players seeking validation and connection. Therefore, the desire to either avoid social interaction or fulfill social needs may simultaneously influence the gaming motivation of gacha players.

In addition, the reward mechanics in gacha games play a crucial role in enhancing consumer retention. As the research shows [2], many gacha games have implemented a "pity system" to reduce players' frustration from repeated unsuccessful attempts to obtain rare items. This system guarantees that after a certain number of failed attempts, the player will eventually receive a rare item. This mechanism creates a reinforcing cycle in which players often spend more money than initially intended, rationalising their actions with thoughts such as, "I'm close to obtaining the rare item." Furthermore, the gacha system is intentionally designed around psychological triggers that enhance player engagement and spending, particularly through the unpredictability of rewards. This unpredictability stimulates dopamine release—mirroring the effects observed in gambling—which fuels player excitement. Consequently, players are repeatedly drawn back into the game, hoping that their next attempt will finally yield the desired item.

One study identifies another intriguing behavioural pattern among players influenced by gacha mechanics: rather than engaging in monetary investment, some players, while highly motivated by the rewards, try to convert this desire into a time investment [16]. This implies that gacha players often exhibit long-term engagement, as they can accumulate in-game resources through persistent grinding, offering them the possibility of obtaining virtual items in the future. This temporal delay in obtaining rewards reinforces the value of these items, while players sustain their commitment until the rewards are eventually acquired.

Although extensive research has explored why gacha games maintain their lasting appeal, whether these attraction factors apply to young Chinese consumers still requires further investigation. As consumers become more familiar with gacha game mechanics, this research aims to bridge the gap in understanding how their perceptions have evolved as the gacha game market in China reaches a more mature stage. This study is particularly important in examining how Gen Z Chinese gamers

perceive these attraction factors and whether their engagement with gacha games differs from global trends, providing insight into the unique dynamics of the Chinese gaming market.

3.   Methodology

This research has utilised an online survey as the single method to collect quantitative data, thereby providing a comprehensive view of the research topic. The online survey has gathered quantitative data through multiple-choice questions based on participants' personal experiences. Since individual opinions could be influenced by various factors, using a survey to ascertain the views of a larger population can enhance the accuracy of the research.

This survey has been completed online by randomly selected participants who were born after 1990 and have played and possess some understanding of gacha games. The criteria for invalid surveys included responses where all options were the same and patterns in answers were evident. The survey was distributed via social media and online platforms from late September to early October 2024 and ultimately collected 66 responses 10 of which were deemed invalid.

During the analysis phase, the quantitative data was systematically analysed using the SPSS tool, applying T-tests and Chi-square tests to verify the accuracy of the results. However, there are potential experimental flaws to consider. Firstly, the sample size of 56 valid responses may not provide sufficiently accurate results in some analyses. Secondly, the diversity of gacha game types means that players of different games may have varying opinions, which could skew the results. Furthermore, the subjective interpretation of survey questions by respondents might differ from the intentions of the survey designers, potentially leading to biases in the survey outcomes.

4.   Results

4.1.   Characteristics of respondents

In this research, all 56 respondents are members of Generation Z, comprising 25 males and 31 females. Within this demographic, individuals aged 18-25 represent the majority, accounting for 69.64%. The distribution of experience that playing mobile gacha games among these respondents is relatively even, as 5.36% have been playing for more than 8 years, while 10.71% have played for less than a year. It is noteworthy that 76.79% of respondents log into their games daily, yet there is substantial variation in the average weekly gaming duration. Specifically, 17.86% play less than one hour per week, and 16.7% play more than 10 hours, a variance that could stem from the diverse types of gacha games the respondents engage with.

4.2.   Respondents' Attitudes towards Gacha Games and Mechanisms

Regardless of their length of gaming experience, the survey respondents consistently express positive attitudes towards the gacha games they are currently playing. Descriptive data reveals that 83.93% of players are inclined to continue engaging with the gacha games they are involved in, demonstrating sustained loyalty among the user base. Additionally, chi-square analysis results indicate a significant correlation between players' experience with gacha games and their retention rates ($p=0.003$). Specifically, 84.62% of respondents who have been playing for 5-8 years continue to engage with at least one gacha game and 66.67% of those with over 8 years of gaming experience. This data suggests that the more familiar players become with gacha games, the longer they are likely to continue playing. Therefore, it is evident that gacha games hold a long-term and positive appeal for Generation Z players.

Despite the findings, there is no significant relationship between the length of players' gaming experience and their affection for the games ($p=0.35$), suggesting that players' preference for gacha

games is not influenced by whether they are new or experienced. This lack of correlation may be attributed to insufficient data collection. On the other hand, research results analysed through T-tests reveal that players' attitudes towards gacha game mechanics positively correlate with their overall sentiments about the games. Specifically, users who enjoy the gacha mechanics are more likely to continue playing, whereas those who are indifferent or dislike these mechanics are more likely to discontinue playing. This indicates that gacha mechanisms play a crucial role in both attracting and maintaining players' engagement in these games.

4.3. Impact of Characters, Artistic Design, and Worldview on User Engagement

According to the descriptive data, favoured characters, worldview, artistic and character design, and gameplay mechanics are the most recognized reasons for players to continue playing gacha games, with respective proportions of 78.57%, 64.26%, and 42.86%. Moreover, research findings show a significant positive correlation between players' affection for game characters and their willingness to spend money in gacha games (p=0.002). These results are consistent with the literature review, which highlights the importance of forming a deeper connection with flavoured characters and satisfying personal aesthetic preferences as key factors for sustained interest in gacha games. Notably, 26.79% of players cite the money already spent in the game as a reason for their continued engagement, indicating a reluctance to abandon their investment. While the chi-square test does not reveal a significant relationship between expenditure on favoured characters and discontinuation due to sunk costs—potentially due to insufficient sample size—this suggests a potential link between financial investment in favoured characters and increased user engagement.

4.4. Influence of Loneliness and Social Interaction on User Engagement

In terms of emotions and social interactions, 69.64% of players believe that gacha games help alleviate negative emotions such as guilt, anxiety, helplessness, and depression. Besides that, only 37.5% report feeling anxious or lost when they are unable to play. T-test analysis reveals that while gacha games are effective at relieving negative emotions, they do not significantly influence sustained user retention (p=0.9). Notably, a strong correlation (p=0.019) exists between the frequency of game logins and the emergence of anxiety. The research suggests that players who experience anxiety when unable to access the game are more likely to log in daily.

Social factors appear to play a minor role in the ongoing engagement of gacha game players. Descriptive data reveals that only 7.14% of players consider social needs as a motivation for playing gacha games. In addition, when queried about spending money to gain recognition from other community players, over half of the respondents disagreed (mean value=2.3), indicating that interactions within the online community are not a major factor in their decision to play. Furthermore, when asked about potential reasons for discontinuing a gacha game, 57.14% of players identified excessive time and effort as significant deterrents. However, Chi-square test results did not show any significant correlation between players abandoning games for this reason and their overall engagement.

5. Discussion

Overall, the research results indicate that there are multiple factors contributing to user engagement in gacha games.

An intuitive result is that players' attitudes toward gacha games and their mechanics significantly impact retention rates. The research corroborates the literature review by demonstrating that the gacha mechanisms indeed boost player retention. Specifically, the excitement of obtaining rare items obviously enhances player engagement. Additionally, the gacha system's pity mechanism may

encourage players to continue participating, as it allows them to accumulate enough currency for pulls, ensuring they can secure their desired rewards within a specific timeframe. Moreover, the relationship between users' experiences with gacha games and their retention illustrates that as players become more acquainted with gacha mechanics, their loyalty to these games tends to stabilise. This increased familiarity and consistent engagement may lead to playing mobile gacha games becoming a habitual activity. This shows a nuanced understanding of how game design and player psychology interact to foster ongoing engagement and loyalty among gamers.

Interestingly, players who consistently engage with gacha games do not always explicitly express a strong desire to continue playing, which might be attributed to the 'daily grind'. The term is explained as a mechanism used in many mobile games to artificially extend players' game duration. This is reflected in the requirement for players to spend significant time each day completing tasks in order to receive upgrades or rewards. Meanwhile, gacha games often feature paid items like monthly passes that encourage daily logins to earn pulling currency, along with game mechanics that reward small amounts of this currency for completing daily tasks. These aspects likely lead players to log in regularly not only for the direct thrill of winning rare items but also for the indirect benefit of accumulating necessary currency through the gacha mechanisms [17].

Moreover, the extremely low probability of winning in these games becomes more apparent as the number of pulls increases, and without spending, players are likely unable to consistently secure their desired rewards within a certain time-frame. As players become more accustomed to the gacha game market, the initial thrill of acquiring rare items may diminish. Consequently, the method by which gacha games cultivate user engagement seems to rely more on fostering habits such as regularly logging into the game and accumulating currency for pulls. The core strategy continues to leverage players' desire for scarce rewards, motivating them to either spend money or play frequently. This approach ensures that some users remain engaged with gacha games, continually playing in anticipation of winning from the next 'banner' (prize pool).

According to the survey results, having favoured characters in the game is clearly a key factor in maintaining user engagement in gacha games. This finding aligns with the literature review, which indicates that many users are motivated to continue playing gacha games because they are attached to certain characters and are willing to spend money to acquire these characters. As the main rewards in gacha games, these characters meet consumer demands effectively, particularly among Generation Z, who show an increasing willingness to pay for products and services that enrich their experience. As mentioned in other studies on game engagement, forming a deeper connection with characters is a key reason for players to increase their involvement and curiosity. Among these connections, developing romantic relationships is particularly appealing to players [18]. Many mobile gacha games today emphasise the development of interactions between game characters and the protagonist (typically controlled by the player), as well as with other characters within the game. Therefore, this approach not only deepens players' connections with the characters but also enhances their immersion in the game world. In some instances, this even includes elements of companionship and romantic experiences. By integrating character development with continuous online operations, mobile games deliver substantial satisfaction to consumers who pull characters through the gacha system. As a result, this anticipation for ongoing game experiences further fosters player loyalty to the game.

On the other hand, engaging worldview, artistic design, and gameplay mechanics also motivate a large number of respondents, indicating that the quality of the game itself is still a critical consideration for players. The gacha mechanism is not the sole feature attracting players to gacha games while it is evidently significant. When rich game content captures users' attention, players would still develop loyalty to the product. However, the current findings do not definitively conclude whether the gacha mechanism positively influences this segment of players' interest. Therefore, gathering more qualitative data could clarify the relationship between the gacha mechanism, game

content, and its contextual background, enhancing our understanding of what drives player engagement.

Alleviating negative emotions is also a significant motivator for respondents to continue playing gacha games, with a majority acknowledging that these games help mitigate feelings of loneliness. The rapid expansion of the mobile gaming market during the COVID-19 pandemic, driven by lockdowns and a shift to online socialisation, suggests that mobile gacha games served as a key means to alleviate loneliness. However, as post-pandemic restrictions lift and offline entertainment options become available again, the allure of the positive experiences provided by gacha games may diminish compared to during the pandemic.

It is noteworthy that respondents' views diverge from those found in the literature review concerning whether gacha games deteriorate or facilitate personal social interaction. Most participants do not agree with their engagement with gacha games as driven by a need to fulfill or escape social needs. This discrepancy may be the result of limited sample size or the variety of gacha games played by the respondents. Additionally, the degree of social need may also be a contributing factor. Many gacha game communities exhibit some level of activity, but the game mechanics do not necessarily incorporate social features. This scenario allows some players to enjoy the games independently of the game community, suggesting that for players of certain game types, a sense of community belonging and recognition from other players is not crucial. As the study stated, the intrinsic motivation for players to participate in game community discussions is perceived enjoyment [19]. In other words, if respondents do not perceive participation in the community as enjoyable, their user engagement is unlikely to be influenced by social interactions within the game community. Therefore, the analytic results highlight that while gacha games can provide solitary comfort, their effectiveness in fostering high-demand social connections is limited.

Furthermore, the research findings indicate that gacha games do influence player addiction, as some players report feeling anxious when unable to play. This anxiety manifests in their daily logins, likely tied to the game design that incorporates daily tasks into the gameplay. Once players have invested both money and time, the sunk cost effect intensifies their fear of missing out and the sense of loss if they do not complete these tasks and check-ins. This compulsion ultimately drives players to maintain high login frequencies, highlighting the addictive nature of these game mechanics. Therefore, this research would suggest that while the gacha game player base does not have a strong need for identity belonging, superiority, or recognition from other players, using these games as a way to alleviate loneliness and other negative emotions is recognized by most players. Yet is not sufficient to lead to substantial user engagement. Not only that, the addictive nature of gacha games has been reconfirmed. It is necessary to identify the impact of this addiction on escapism and social challenges in further research to understand the connections and implications between them better.

6.   Conclusion

In conclusion, the factors contributing to user engagement among gacha game players are multifaceted, involving not only the gacha mechanisms but also the emotional needs of users during gameplay and their resonance with game characters. This research further explores the reasons behind user engagement among Generation Z consumers in China in the context of gacha games, building upon existing research in the field. It notes that as mobile gacha games become more usual in the gaming market, the reasons players engage with these games have evolved into a dynamic process. The study suggests that under the current development of mobile gacha games in China, players have gained a richer experience with this scope, leading to a more defined attitude towards gacha mechanisms and higher expectations for the quality of the games, including character and worldview designing. Furthermore, although consumers in the Chinese market acknowledge that gaming provides positive emotional experiences, their needs for avoidance or seeking social interaction do

not directly correlate with these positive gaming experiences, which differs from descriptions in other literature reviews. Therefore, future research should collect more data to explore the relationship between the gaming community ecology and player motivations in the Chinese market for gacha games.

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