

# Exploring the Impact of Digital Literacy on Microtransaction Decisions in Online Gaming Among University Students

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## ABSTRACT

This qualitative study explores the influence of digital literacy on microtransaction decision-making among university students engaged in online gaming. This demographic is significant as they exhibit varying levels of digital literacy and are key consumers in the gaming market. Through in-depth interviews with three purposively selected participants who have been active gamers for over five years, we analyze how digital literacy impacts behaviors related to virtual items. The findings indicate that students with higher digital literacy are better equipped to make informed purchasing decisions. In contrast, those with lower digital literacy struggle to discern reliable information, leading to impulsive buying behaviors and financial regret. The study highlights the important role of social influences and emotional engagement in spending decisions. Peer pressure and the desire for social acceptance often drive participants to make purchases that align with their friends' behaviors, while emotional connections to games increase susceptibility to impulse buying. In conclusion, this research emphasizes the need to enhance digital literacy among gamers to empower informed financial decisions. By promoting digital skills, stakeholders can foster a healthier gaming environment that encourages responsible spending practices. Targeted educational initiatives are recommended to equip players with the tools necessary to navigate the complexities of microtransactions effectively, ultimately fostering more sustainable gaming habits.

## 1. INTRODUCTION

The rapid evolution of digital technology has significantly transformed various aspects of daily life, particularly in the realms of entertainment and leisure activities. Among these transformations, online gaming has emerged as a predominant form of entertainment, particularly among university students who belong to the digital-native. This demographic is characterized by its high engagement with digital platforms and a pronounced inclination towards participating in microtransactions—small purchases made within games designed to enhance the overall gaming experience. The integration of microtransactions into gaming ecosystems has raised critical concerns regarding their impact on players' financial behaviour and decision-making processes.

Despite the increasing prevalence of microtransactions within the gaming industry, a substantial gap remains in understanding how digital literacy influences university students' decisions to engage in these transactions. Digital literacy encompasses the competencies required to navigate, evaluate, and create information using digital technologies. It plays a pivotal role in shaping individuals' perceptions and behaviours related to online purchases. Prior research indicates that factors such as perceived value, social influence, and emotional engagement significantly affect players' willingness to spend money on microtransactions (Hamari et al., 2017; Evers et al., 2015). However, the specific role of digital literacy as a moderating factor in these dynamics remains underexplored.

The phenomenon of microtransactions has gained prominence as the online gaming landscape continues to expand and evolve. With the rise of free-to-play models, developers increasingly rely on microtransactions as a primary revenue source. This shift has not only altered the economic dynamics within the gaming industry but has also transformed players' expectations regarding game content and value. Players often navigate complex pricing structures and promotional offers that can lead to impulsive spending behaviours (Costes & Bonnaire, 2022). Furthermore, the gamification of purchasing decisions—wherein spending is seamlessly integrated into gameplay through rewards or limited-time offers—can create a sense of urgency that exacerbates financial risks for players who may lack robust digital literacy skills.

Existing literature suggests that while microtransactions can enhance user experiences by providing additional content and features, they may also lead to unintended financial consequences for players who do not possess adequate understanding of these systems (Dai et al., 2024). For instance, students with limited insight into the long-term costs associated with frequent microtransactions may find themselves facing significant financial strain. Additionally, social dynamics within gaming communities can complicate these decisions; peer influence often drives players toward spending, creating an environment where financial literacy becomes essential for making informed choices (Bleize & Antheunis, 2019).

A thorough examination of current literature reveals that most studies have predominantly focused on multiplayer gaming environments, thereby overlooking single-player experiences where social dynamics may differ significantly (Siu et al., 2017; Fang et al., 2015). This limitation underscores a critical research gap concerning how microtransaction behaviours manifest across different gaming contexts. Furthermore, while some studies have explored the emotional and social values associated with micro-transactions (Rita et al., 2024; Huang et al., 2024), there is a conspicuous absence of comprehensive frameworks that integrate digital literacy as a moderating factor influencing purchasing decisions. Addressing this gap is vital for developing targeted interventions aimed at enhancing students' digital literacy skills, ultimately fostering more informed consumer behaviours in online gaming environments.

To address this research gap, this study proposes an investigation into the impact of digital literacy on microtransaction decisions among university students. By employing a qualitative approach, this research aims to elucidate how digital literacy affects students' understanding of microtransactions and their subsequent purchasing behaviours. The findings will contribute to a deeper understanding of the interplay between digital skills and financial decision-making within the context of online gaming. This exploration is particularly pertinent given the increasing reliance on digital platforms for entertainment and the potential implications for financial health among young adults navigating these environments. Understanding how digital literacy shapes purchasing decisions can inform educational initiatives aimed at promoting responsible spending habits within this demographic.

## **2. METHODOLOGY**

This study employs a qualitative research design to explore the impact of digital literacy on microtransaction decisions among university students. By utilizing in-depth interviews, the research aims to capture rich, detailed insights into participants' experiences, perceptions, and decision-making processes related to online gaming and microtransactions.

The sample consists of three university students selected through purposive sampling. This method allows for the selection of participants who exhibit varying levels of digital literacy, thereby providing a diverse range of perspectives on how these differences influence their engagement with microtransactions in online gaming. Participants were recruited through direct face-to-face interactions at university events and social gatherings, as well as through messenger applications. This dual approach facilitated the establishment of rapport and trust, which are essential in qualitative research. Initial recruitment occurred in person, where potential participants were informed about the study's objectives and invited to share their experiences. Follow-up communications via messenger applications allowed for convenient scheduling of interviews while maintaining personal engagement. The participants in this study are university students aged 20 to 22 years who have been actively playing games since junior high school for approximately seven to eight years.

Data collection involved semi-structured interviews focused on key topics such as participants' definitions of digital literacy, their experiences with microtransactions in online games, factors influencing their purchasing decisions, and perceived impacts of microtransactions on their financial behavior. The interviews were recorded and transcribed verbatim to ensure accuracy. The interviews were conducted from October to November 2024. Thematic analysis was employed for data analysis, involving an iterative coding process that identified significant themes and patterns related to digital literacy and microtransaction behaviors. Key themes were developed based on recurring ideas expressed by participants, providing insights into how digital literacy influences their decision-making regarding microtransactions.

## **3. RESULTS AND DISCUSSION**

The qualitative analysis of interviews with university students regarding their engagement with microtransactions in online gaming revealed several key themes. These themes illustrate the complex interplay between digital literacy, social influences, emotional engagement, and the motivations behind spending on microtransactions. Below is a detailed explanation of each key theme identified in the study.

### 3.1. Understanding of Digital Literacy

Digital literacy encompasses a broad spectrum of skills that enable individuals to effectively navigate and utilize digital environments. Within the realm of online gaming, participants in this study acknowledged digital literacy as a critical factor in making informed decisions regarding microtransactions. The findings reveal distinct differences among the participants based on their levels of digital literacy.

Two participants demonstrated advanced digital skills, which allowed them to leverage various resources effectively. They utilized tools such as price comparison websites and community forums to gather insights before making purchases. This proactive approach not only helped them identify credible sources of information but also enabled them to avoid misleading marketing claims. For instance, these participants reported feeling more confident in their purchasing decisions, reflecting the importance of social engagement and information access.

In contrast, one participant with average digital skills exhibited a more cautious approach to spending. While they recognized the importance of evaluating information, they often relied on limited resources and struggled to discern between reliable and unreliable sources. This participant expressed feelings of uncertainty when making purchases, highlighting how lower digital literacy can lead to less informed decision-making.

Research indicates that gamers who actively engage with online community report increased confidence in their purchasing decisions compared to those who do not participate in such platforms. Furthermore, as highlighted by (Bleize & Antheunis, 2019) players possessing strong digital literacy skills are more likely to engage in reflective decision-making processes when considering in-game purchases.

### 3.2. Influence of Digital Literacy on Spending Behavior

Understanding how digital literacy affects spending behavior in online gaming is crucial in today's digital landscape, where microtransactions have become prevalent. The findings reveal that participants with higher digital literacy were better equipped to navigate these systems, ultimately affecting their purchasing decisions.

Participant A, who demonstrated a high level of digital proficiency, actively researched the value of virtual items before making purchases. Regular consultations of forums and reviews ensured that purchases provided benefits that justified the associated costs. Participant A highlighted the importance of access to information in making informed decisions, supporting findings by (Etrata, Jr. et al., 2022) that indicate accurate information can shape consumer behavior. Recent research also shows that informed consumers are less likely to experience regret after purchases, underscoring the importance of digital literacy (Faheem Akram et al., 2023; Sarwar et al., 2023).

Participant B also exhibited good digital literacy and frequently compared prices of virtual items across different platforms before making purchasing decisions. Recognizing that not all virtual items hold the same value, this participant took steps to avoid falling for misleading advertisements. This critical evaluation facilitated more effective management of spending, which suggest that gamers who engage in thorough evaluations are more likely to make informed purchasing choices.

In contrast, Participant C displayed lower digital literacy and admitted to difficulties in assessing the necessity and value of virtual items. Reliance on in-game advertisements for purchasing decisions led to feelings of regret over perceived wasted money. This aligns with research by (Abdallah et al., 2024) , which explains that individuals with lower digital skills tend

to make less informed financial decisions and are more susceptible to impulsive buying behaviors.

Overall, these insights highlight the critical role of digital literacy in shaping spending behaviors related to microtransactions. Participants with higher digital literacy were able to make more informed and prudent decisions, while those with lower digital literacy exhibited greater tendencies toward impulsive spending and overspending.

### **3.3. Social Influences on Microtransaction Decisions**

Social dynamics significantly influence players' decisions to engage in microtransactions within online games. Many participants in this study reported that peer influence plays a critical role in their purchasing behavior, with friends often encouraging spending on in-game items to enhance the gaming experience or maintain social status within gaming communities. This observation aligns with research by (Rita et al., 2024) which indicates that social comparisons can drive players to make purchases they might not otherwise consider. The pressure to conform to peer behaviors can overshadow personal assessments of value, highlighting the importance of understanding social influences in financial decision-making.

The participants frequently engaged in multiplayer online games (MOGs) such as League of Legends and Fortnite, where social interactions are integral to gameplay. In these environments, players often showcase character skins or special items as status symbols among peers. This behavior illustrates how social dynamics can lead individuals to prioritize spending on items that enhance their visibility and prestige within their gaming circles. The desire for recognition and acceptance was a common theme among participants, significantly impacting their purchasing decisions and often resulting in impulse buys motivated by the need to align with peer expectations.

Additionally, the interplay between social dynamics and impulse buying behaviors emerged as a key finding. Participants noted that the enjoyment derived from online gaming and associated social interactions could trigger impulsive purchases, as they sought to enhance their experiences or conform to peer behaviors. As individuals compared themselves to others within their gaming communities, the motivation to acquire exclusive or visually appealing items became a driving force behind spending decisions.

### **3.4. Perceived Financial Impact and Awareness**

Participants exhibited varying levels of awareness regarding the financial implications of frequent microtransactions. Those with higher digital literacy demonstrated greater proficiency in tracking their spending and establishing budgets, while others acknowledged instances of overspending without a clear understanding of their financial limits. This observation aligns with research by (Rita et al., 2024), which indicates that microtransactions can significantly affect personal financial management among gamers. For example, one participant articulated feelings of regret after realizing that substantial expenditures on cosmetic items had accumulated over time, highlighting a lack of awareness regarding the cumulative nature of such purchases.

Additionally, some participants reported having developed informal budgeting strategies tailored to their gaming habits. For instance, several individuals allocated a specific amount each month for gaming-related expenses, ensuring that these expenditures did not interfere with essential living costs such as food or transportation. This behavior suggests a growing awareness among certain gamers regarding the importance of managing their finances responsibly and making informed decisions about discretionary spending.

### 3.5. Emotional Engagement and Impulse Buying

Emotional engagement emerged as a significant factor influencing purchasing decisions among participants. Many individuals reported that strong connections to games or communities could lead to impulsive purchases driven by excitement or a desire for instant gratification. This aligns with the findings of (Rita et al., 2024) who noted that emotional responses can heighten players' urges to spend money on virtual items, often resulting in regret afterward when reflecting on their spending habits.

Participants frequently expressed feelings of compulsion to purchase limited-time offers or exclusive items during special events within games such as Genshin Impact or Call of Duty: Warzone. The fear of missing out (FOMO) associated with these time-limited offers often led to hasty decisions made without thorough consideration. This phenomenon is consistent with research indicating that emotional states, particularly excitement and urgency, can significantly influence impulse buying behavior (Rita et al., 2024). The presence of promotional events creates a heightened emotional environment that encourages players to act quickly, often bypassing rational evaluation of the purchase's necessity or value.

Moreover, participants indicated that their emotional connections to the gaming experience played a crucial role in their spending habits. The enjoyment derived from gameplay and community interactions can create an environment where impulse purchases feel justified, as players seek to enhance their gaming experience or solidify their status within their social circles.

Additionally, studies have shown that the interplay between emotional engagement and impulse buying is influenced by factors such as shopping enjoyment and cognitive control (Ahn & Kwon, 2022; Yi & Jai, 2020). High levels of shopping enjoyment can lead to increased impulsivity, while effective self-control may mitigate such tendencies. Understanding these dynamics is essential for game developers and marketers aiming to create environments that resonate with players while promoting responsible spending practices.

### 3.6. Motivations for Microtransaction Spending

Participants identified several motivations for engaging in microtransactions: (1) *Enhancement of Gameplay Experience*: Many students believed that purchasing items or enhancements improved their overall gaming experience by providing advantages or making gameplay more enjoyable. For example, purchasing character upgrades or special abilities allowed them to progress faster in competitive games like Apex Legends or Overwatch. This aligns with research indicating that players are willing to spend money if they perceive benefit from their purchases (Gibson et al., 2023); (2) *Customization and Personalization*: The desire for customization played a significant role in participants' willingness to spend on microtransactions. Buying skins or unique items allowed them to personalize their characters and enhance their sense of identity within the game. Participants expressed satisfaction in showcasing unique designs or rare items during gameplay sessions with friends, reinforcing their individuality within gaming communities; (3) *Social Status and Peer Comparison*: Several participants mentioned that seeing friends or other players using exclusive items motivated them to make similar purchases to maintain social status within their gaming communities (Gibson et al., 2023; King & Wong-Padoongpatt, 2022). This reflects a broader trend where social influences can significantly impact spending behaviors in gaming contexts.

#### 4. CONCLUSION

In conclusion, this study demonstrates that digital literacy plays a vital role in influencing the decision-making processes of university students regarding microtransactions in online gaming. Participants with higher levels of digital literacy exhibited enhanced capabilities to make informed purchasing decisions, effectively utilizing resources such as community forums and price comparison websites to evaluate the value of virtual items. This informed approach not only reduced impulsive spending but also minimized feelings of regret associated with their purchases.

Conversely, students with lower digital literacy faced challenges in discerning reliable information, which often led to impulsive buying behaviors and subsequent financial regret. The findings further highlight that social influences and emotional engagement are critical factors in shaping spending decisions. Peer pressure and the desire for social acceptance frequently motivated participants to make purchases that mirrored their friends' behaviors, while emotional connections to games heightened their susceptibility to impulse buying.

Overall, this research underscores the necessity of enhancing digital literacy among gamers to empower them in making informed financial decisions. By promoting digital skills and increasing awareness of the implications of microtransactions, stakeholders can foster a healthier gaming environment that encourages responsible spending practices. Furthermore, implementing targeted educational initiatives can equip players with the tools needed to navigate the complexities of microtransactions effectively, ultimately leading to more sustainable gaming habits.

As a recommendation for further research, these findings might be expanded upon by investigating the efficacy of certain interventions meant to enhance gamers' digital literacy. For instance, longitudinal studies could examine the impact of tailored digital literacy programs or workshops on gamers' financial behaviors over time. Additionally, comparative studies across different demographics and gaming cultures could provide insights into how digital literacy interacts with cultural and socioeconomic factors in shaping microtransaction behaviors.

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