

Beyond Predatory Practices: Ethical Game Design and Player Retention in the Gaming Industry

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ABSTRACT

Today the video game market is ever growing and expanding. As such player retention and engagement have emerged as pivotal challenges for game developers and stakeholders. The booming gaming industry constantly seeks innovative ways to captivate players and sustain their interest over time. However, this pursuit often led to the proliferation of predatory practices, exploiting players' psychology and financial vulnerabilities. This paper explores ethical player retention strategies in the gaming industry, addressing the pervasive issue of predatory practices regarding monetization. The results emphasize the importance of holistic approaches — prioritizing autonomy, achievement, social connections, and fair monetization practices to foster an enduring player commitment.

CCS CONCEPTS

• **Human-centered computing** → **Empirical studies in interaction design; Interaction design theory, concepts and paradigms.**

KEYWORDS

Player engagement, Player retention, Ethical game design, Monetization models, In-game purchases

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1 INTRODUCTION

The global market for video games is ever growing and expanding. The gaming industry, valued at \$184 billion in 2023 [41], constantly seeks innovative ways to captivate players and sustain their interest over time. With more games on the market than ever, the challenge to interest and keep new players in games are a challenge every game company faces for financial success. As such, player retention and engagement have emerged as pivotal challenges for game developers and stakeholders. In this quest for engagement,

some game developers have resorted to predatory practices, creating in-game mechanisms that trigger compulsive behaviors, akin to those seen in gambling addiction [e.g. 23, 26]. Microtransactions, such as Loot boxes and cosmetic microtransactions, as well as pay-to-win schemes have become common, enticing players with the promise of in-game rewards while extracting real-world money [e.g. 14, 25, 35]. Monetization strategies such as loot boxes are already regarded as unfair [20] and exploitative which are factors that might turn players away while optional cosmetic microtransactions might add fun and enjoyment to games [4]. In many countries, there is an ongoing debate regarding the design of games to trick vulnerable groups, such as kids and gambling addicts, into different kind of in-game transactions that might be hard for themselves or their parents to control [6, 11, 16]. Even though these practices are financially lucrative in a short term perspective, they, obviously, raise profound ethical concerns. Players, especially vulnerable demographics, e.g., children, are enticed into a cycle of compulsive spending, sometimes leading to financial distress and emotional turmoil [7, 19].

The aim of this research is to explore innovative, player-centric, monetization strategies that foster genuine engagement, prioritize player well-being, and eliminate the exploitative undertones that have appeared in the gaming industry. This can be observed through games such as *Elden Ring*, which has seen massive profits of the game without any monetization contained within the game itself. Leading to the game reaching 20 million copies sold in less than a year [42].

The objective of this pilot study is to explore sustainable and ethical player retention and engagement strategies in the gaming industry, with focus on games for the PC platform. The research aims to propose alternative strategies that prioritize user satisfaction, long-term engagement, and ethical game design in contrast to predatory practices.

2 THEORY

2.1 Behavioral Economics and Game Design

Behavioral economics, a field that combines insights from psychology and economics, provides a valuable framework for understanding how players make decisions in games [3]. Prospect theory [17], for instance, explains how players weigh potential losses and gains when making decisions, influencing their choices regarding in-game purchases [3]. Loss aversion suggests that people are more sensitive to losses than gains, impacting their willingness to spend money on in-game items. By integrating behavioral economics theories into game design, developers can create experiences that



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align with players’ psychological tendencies. Games can be structured to offer rewards and challenges that tap into players’ intrinsic motivations, fostering engagement without relying on exploitative practices. Understanding these psychological nuances can guide the design of ethical in-game purchase systems that enhance player experience while avoiding compulsive spending.

2.2 Gaming addiction and player well-being

The self-determination theory [8, 34] proposes that individuals have fundamental psychological needs for *autonomy*, *competence*, and *relatedness*. Games and game mechanics that fulfill these needs, providing players with a sense of control, mastery, and social connection, can, consequently, create fulfilling experiences [22, 30]. Additionally, the concept of flow [5], a state of deep immersion and enjoyment, suggests that games offering an optimal balance of challenge and skill can enhance player well-being. Even though the direct link between flow and game addiction is discussed [e.g. 15, 18], investigating these theories in the context of gaming addiction helps in understanding how game design can either support or compromise players’ mental well-being. Ethical game design principles can emphasize these positive psychological aspects, ensuring that games empower players rather than exploit their vulnerabilities. Creating games that offer meaningful challenges, social interactions, and a sense of achievement can enhance player satisfaction and mitigate the risks of addiction-like behaviors [22].

2.3 Game Monetization Models and Player Engagement

Different monetization models have varying impacts on player engagement. *Free-to-play* or *freemium* are games that can be played for free but often rely on microtransactions [32] for e.g., additional content, *subscription* or *pay-to-play* games offer continuous content updates for a regular fee, *one-time purchase* games provide the complete game experiences upfront, and out-of-game revenue models. Each model influences player expectations, perceptions of value, and long-term engagement differently [e.g. 21, 40]. Comparing these models allows for an in-depth analysis of player experiences and ethical considerations. Free-to-play games need to balance enticing players with in-game purchases without pressuring them into compulsive spending. Subscription models must continuously deliver content to maintain player interest and justify the recurring cost. One-time purchase games rely on creating a comprehensive and satisfying experience from the start. Evaluating player feedback, analyzing player behavior, and understanding community dynamics within these models can inform the development of ethical monetization strategies that prioritize player satisfaction and long-term engagement [24].

3 METHOD

To explore sustainable and ethical player retention and engagement strategies in the gaming industry, a approach based on surveys, inspired by research on player retention by Strååt and Verhagen [38], complemented with interviews was used. Each method was selected to provide unique insights into player behavior, motivations, and preferences, ensuring a understanding of the challenges faced by the gaming industry in balancing profitability and ethical

game design. The age group 18–34 year olds is prominent as the most common demographic among European gamers [1], reflecting a significant portion of the gaming community. Furthermore, according to industry reports [36], these individuals constitute a substantial proportion of active and engaged players across various gaming platforms. We have added age groups below and above this span, but most of our participants come from this age span.

3.1 Surveys

A survey was designed to assess players’ perceptions and experiences related to ethical game design principles and monetization models. Specific survey questions were tailored to evaluate players’ sense of autonomy, competence, and relatedness within the games they played. Additionally, players were asked about their satisfaction levels, perceived engagement, and overall well-being in games that incorporated ethical design principles. Data collected through surveys allowed for quantitative analysis, enabling the measurement of correlations between the implementation of ethical design principles and player satisfaction, long-term engagement, and well-being. Some of the survey questions were inspired by a research study by Huang et al. [13]. Survey questions regarding cosmetic monetization practices was inspired by another study [9] focused on Fortnite, a game renowned for its distinctive approach to monetization. A four point Likert-scale [33] was used to prevent fence-sitting and make the participants take a stand. The survey was pilot-tested before being published on Internet gaming forums.

3.2 Interviews

In-depth player interviews were conducted to investigate players’ subjective experiences and perspectives regarding ethical game design and monetization strategies. Using semi structured interviews [10], players were asked open-ended questions about their feelings of autonomy and control within games, their sense of competence and mastery, and the significance of social connections and relatedness in their gaming experiences. Moreover, their attitudes towards different monetization models, specifically focusing on the impact of ethical considerations such as cosmetic microtransactions versus pay-to-win mechanisms, were explored. Similar to the survey, the interview questions and process underwent a pilot-test to ensure their effectiveness in capturing nuanced and qualitative insights.

3.3 Participants

A total of 52 participants answered the survey and 13 participants that answered the survey also took part in the follow-up interview. For the survey, 54% of the participants identified as males, 31% as females, and 15% identified as non-binary. The age span for the survey participants can be seen in Figure 1.

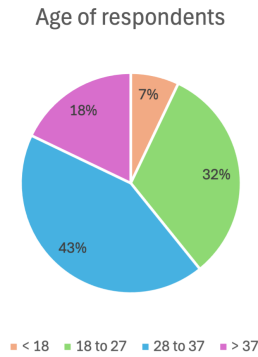


Figure 1: Participants age span.

3.4 Data Analysis

The triangulation of both quantitative and qualitative findings enabled good insights into the research objective. The mean values and standard deviation (SD) of the the Likert-type survey data were examined. These analyses focused on identifying patterns and correlations between the implementation of ethical game design principles and key metrics such as player satisfaction, long-term engagement, and overall well-being.

The interview data were analysed using thematic analysis. This involved identifying recurring themes, emotions, and player sentiments related to ethical game design and different monetization models. By immersing into the richness of players' narratives, this qualitative analysis provided a understanding of the nuanced aspects of player engagement and satisfaction within ethical gaming environments.

4 RESULTS AND DISCUSSION

The results obtained from the interviews and surveys shed light on various aspects of player experiences and preferences, contributing valuable insights to the topic of player retention and engagement strategies without resorting to predatory practices in the gaming industry.

4.1 Autonomy, competence, and relatedness

More than half of the participants (58%) felt quite autonomous (scored 3 out of 4) when playing their favourite games (Figure 2), and (39%) and felt very much in control (4 out of 4) (mean=3.33, SD=0.61). The findings underscore the importance of providing players with a sense of agency and autonomy within the gaming environment.

The results from the interviews show a consistent theme of a *deep connection to games that afforded a strong sense of autonomy and control over virtual environments*. One participant emphasized the significance of freedom and decision-making in Minecraft [27] as “the freedom to explore, create, and make meaningful decisions in Minecraft gave me this incredible sense of control and wonder”.

Regarding the significance of experiencing a sense of skill mastery and achievement in games, 23% of the participants indicated a minor lack of importance in terms of competency (2 out of 4)

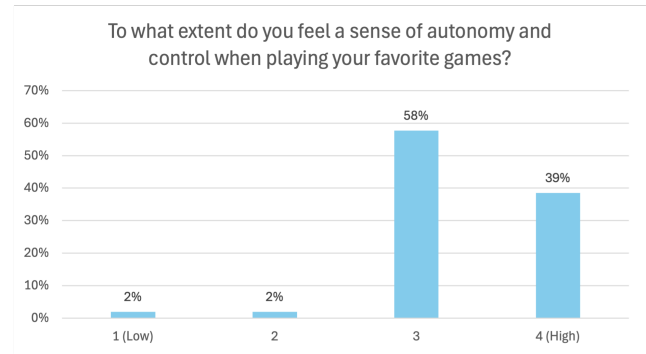


Figure 2: The extent to which the sense of autonomy and control is achieved while playing favourite games.

(Figure 3), while 42% indicated a minor significance (3 out of 4) and 33% indicated a high significance (4 out of 4) in the games they play (mean=3.06, SD=0.79). This suggests that while skill mastery is valued by many, there is variability in its perceived importance among participants. This is a point that varies a lot from player to player and might be biased on the selection.

The theme of *achievement and mastery* emerged as a cornerstone component of player satisfaction in the analysis of the interview data. A participant discussed the experience in the competitive shooter game Counter-Strike: Global Offensive [39], underscoring the importance of mastering game mechanics, understanding maps, and implementing strategic elements like “well-placed smokes”. participants expressed that these aspects make the game engaging and contribute to their ongoing enthusiasm. Furthermore, one participant expressed appreciation for a “ranked ladder” system [37], highlighting its role in giving a sense of achievement and progression.



Figure 3: The importance of feeling skill mastery and achievement while playing.

In terms of the extent to which gaming contributes to a sense of social connection or relatedness with others (Figure 4), 34% respectively indicated that this was not important and a somewhat important (2 out of 4), 21% stated a modest contribution (3 out

of 4), and 11% highlighted a significant contribution (4 out of 4) (mean=2.10, SD=1.00).

According to the results from the interviews, the formation of meaningful connections and friendships within gaming communities was identified as a vital aspect of the gaming experience and a crucial factor in player satisfaction. One participant cited their involvement in a guild in World of Warcraft [2], noting the collaborative game play of “clearing dungeons and raids” as a foundation for long-term connection between players. Another participant highlighted the social dimension of Minecraft, stating that “building things in Minecraft together is so much fun! It is also a perfect way to keep up with friends you have not seen for a while”.

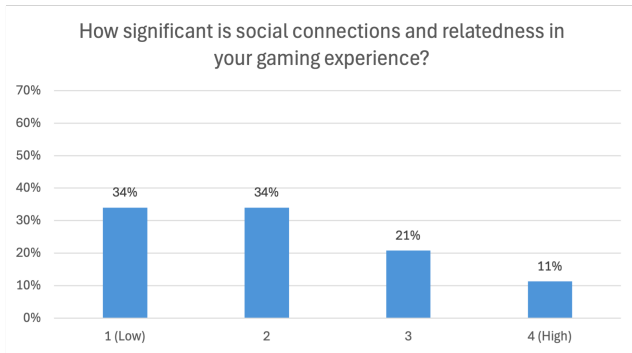


Figure 4: The significance of social connections and relatedness in the gaming experiences.

4.2 Monetization models

Regarding monetization models (Figure 5), one-time purchase of a game was preferred (75%) by the participants, while 14% preferred cosmetic microtransactions and 6% was ok with microtransactions than affect the abilities in the game. From the free text answers it was clear that participants appreciated the ability to express themselves through cosmetic features that are not part of the game play. The participants mentioned that this is “a good way for developers to earn money by other means and also a way for players to express themselves and create an identity” and “I think it’s pretty fine, it is optional and as long as the cosmetics give no advantages, I feel it is ok and a great way for players to express themselves”. 4% preferred a totally free-to-play model and 2% favored a subscription model. One participant actually stated “I don’t pay for games”.

The results show the monetization models negative impact on player retention, since 85% of participants had stopped playing a video game due to dissatisfaction with the monetization model. This suggests a considerable impact of monetization strategies on player retention.

When participants discussed their personal perceived values of in-game purchases (Figure 6), 60% indicated a significantly low perceived value (1 out of 4), 29% believed the value to be low (2 out of 4) and only seven participants rated it 3 or 4 (mean=1.56, SD=0.79), meaning that most participants’ did not perceive in-game purchases to have a high value.

Preferred monetization models

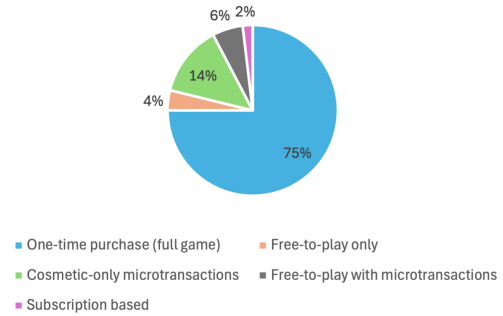


Figure 5: Respondents’ preferred monetization models.

Supporting this observation, a study [12] on player retention in Animal Crossing: New Horizons [29] underscores the game’s effectiveness in player retention through customizable elements such as clothes and furniture, mirroring the appeal seen in optional cosmetics.

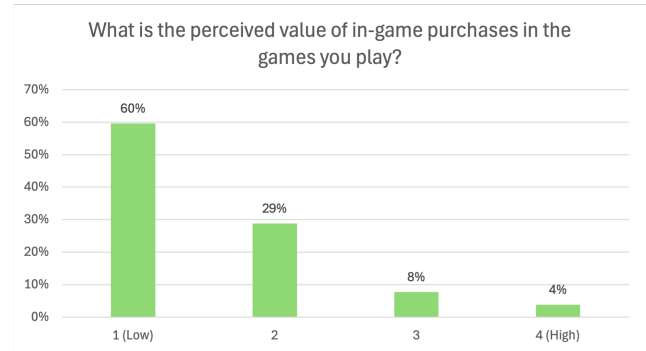


Figure 6: The perceived value of in-game purchases in games.

The impact of regular updates or expansions on sustained game enjoyment was fairly equal between all four answer alternatives (Figure 7), (mean=2.50, SD=1.14). These findings somewhat contradict two previous studies on player retention in games [28, 38] that concluded that repetitiveness contributes to a decline in engagement. The potential for games to become repetitive may be mitigated by the timely addition of new content. Consequently, new updates can be both positive and negative but most likely either way keeps players engaged. But our results imply that is not always the case.

Participants were also questioned about how the presence of in-game purchases or specific monetization models impacts their specific enjoyment of a game (Figure 8). Responses indicated that 50% of the participants felt a very low impact (1 out of 4), 39% a low impact (2 out of 4), 8% a high impact (3 out of 4), and 4% a very high impact (4 out of 4) (mean=1.65, SD=0.78). This aligns with a study on predatory monetization, where numerous tactics were deemed “unfair, misleading, or aggressive” [31, p. 1075].

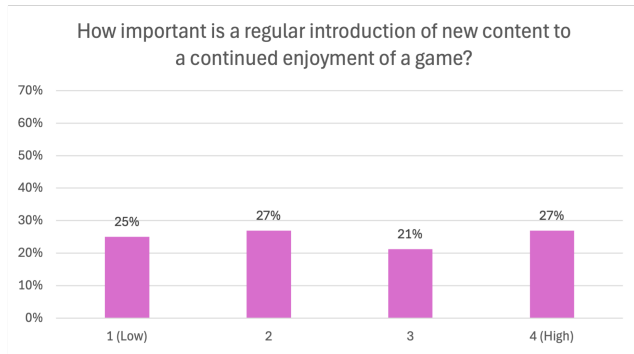


Figure 7: The importance of regular introduction of new content (e.g., updates, expansions) to a continued enjoyment of a game.

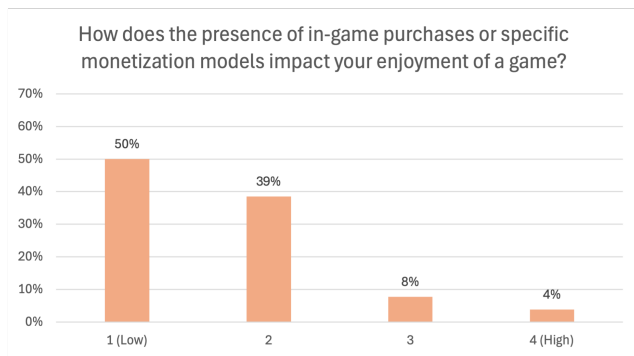


Figure 8: The impact of the presence of in-game purchases or specific monetization models for the enjoyment of a game.

4.3 Ethical design principles

Reflecting on ethical design principles, participants found satisfaction in games that prioritized *autonomy*, *fairness*, and *collaboration* — the freedom to make choices without constraints, fair competition through ranking systems, and cooperative game play were highlighted as key contributors to positive gaming experiences.

Regarding the impact of gaming on well-being, participants shared instances where gaming positively influenced their mood, stress levels, and overall sense of well-being. Engaging in games that provided autonomy and achievement served as a source of joy and relaxation, demonstrating the potential for gaming to contribute positively to mental and emotional well-being.

The collection of quantitative survey data and qualitative interview insights has illustrated critical aspects of player experiences and preferences. These findings provide essential guidance for formulating player retention and engagement strategies that center on autonomy, achievement, social connections, and equitable monetization practices. The varied perspectives captured underscore the intricate nature of player engagement, emphasizing the need for a holistic approach in game design and monetization. By prioritizing these elements, game developers can cultivate enduring player

commitment while avoiding the pitfalls associated with predatory practices in the gaming industry.

While the results from this study offers valuable insights into player preferences and experiences, the limitations in scope and number of participants should be considered when interpreting the results. Future research endeavors should aim to address these limitations by incorporating a broader range of variables, increasing the sample size, and employing a mix of quantitative and qualitative methods to provide a more comprehensive understanding of player retention and engagement strategies in the gaming industry.

5 CONCLUSIONS

In conclusion, it is clear that player-centric strategies are essential for navigating the complex dynamics of player engagement and to have a holistic approach in game design. Key factors crucial for player retention and engagement are autonomy, meaningful achievements, social connections, and fair monetization. By prioritizing these, developers can not only retain players but also contribute to the positive evolution of the gaming industry.

While positive responses to cosmetic microtransactions and regular updates showcase promising ways to enhance player satisfaction, the study highlights the significant impact of dissatisfaction with monetization models on game abandonment. Developers must navigate these nuances to create enduring player commitment while avoiding predatory practices.

Based on the results, this paper concludes with indications towards two hypothesis that should be further explored.

- The implementation of ethical game design principles, focusing on fulfilling players' psychological needs for autonomy, competence, and relatedness, correlate positively with increased player satisfaction and long-term engagement. Games that successfully integrate these principles will demonstrate higher levels of player retention and overall player well-being compared to games relying on exploitative practices.
- Monetization models rooted in ethical considerations, such as offering optional cosmetic microtransactions rather than pay-to-win mechanisms, result in sustained player engagement. Players in games with ethical monetization strategies exhibit higher levels of contentment and willingness to invest in in-game purchases, creating a positive feedback loop that enhances both player satisfaction and the game's financial viability.

5.1 Future research

Future research should include both a larger population and a broader scope to understand player engagement in gaming. This involves exploring factors like game genres and demographics, and using larger, diverse samples. Adjusting methods for larger scales and incorporating qualitative methods like interviews could offer deeper insights. Overcoming these limitations could lead to a comprehensive understanding of player engagement.

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