The Impact of Player Engagement Strategies on Microtransaction Revenue in Free-to-Play (F2P) Online Games

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1:Introduction

Video games, defined as electronic games involving interaction with a user interface to generate visual feedback on a screen, have evolved from simple entertainment tools into a dominant force in the global media and entertainment industry. According to the *Oxford English Dictionary*, a video game is "a game played by electronically manipulating images produced by a computer program on a monitor or other display." [1]Today, video games span various platforms—from consoles and PCs to mobile devices—and offer both narrative-driven experiences and interactive multiplayer ecosystems.

The video game industry has seen exponential growth in recent decades. As of 2023, the global video game market was valued at over $184 billion, surpassing the combined revenues of the film and music industries (Newzoo, 2023)[2]. This growth is driven not only by technological advancements but also by innovative monetization models, particularly the rise of Free-to-Play (F2P) games, which will be the main focus of this study. These games, which are free to download and play but generate revenue through optional in-game purchases (microtransactions), have reshaped consumer behavior and revenue generation strategies in the industry (SuperData, 2020)**.**[3]

The increasing popularity of F2P games such as *Fortnite*, *Valorant*, and *League of Legends* underscores the importance of understanding how engagement strategies influence player spending. As competition intensifies, developers and marketers must leverage psychological, social, and design-based tactics to maximize both player retention and monetization outcomes.

It is important to underline that it's nice to have fun without paying, but it becomes less enjoyable when the push for microtransactions is too aggressive or even necessary — as in the unfortunate case of Pay-to-Win games, a category of F2P where players must purchase upgrades to become stronger or progress through levels. (Orbyta, 2023**)**[4]

By combining game design and marketing strategy, this thesis aims to investigate these typical F2P games dynamics and how particular player engagement strategies affect F2P game microtransaction spending. Over time, the knowledge acquired can improve player satisfaction and business performance by assisting developers and marketers in creating more morally and practically sound monetization strategies. This study advances our knowledge of digital

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[1] Oxford English Dictionary. (n.d.). *Video game*. https://www.oed.com

[2] Newzoo. (2023). *Global Games Market Report*. https://newzoo.com

[3] SuperData. (2020). *2020 Year in Review*. https://www.superdataresearch.com

[4] **.**Orbyta. (2023) Il futuro del gaming tra F2P, GaaS, Crypto e Play to Earn. https://orbyta.it/insights/gaming-f2p/

consumption trends and the particular marketing difficulties faced by the gaming sector by fusing behavioral economics and self-determination theory with strategic marketing frameworks.

1.1: Background: Free-to-Play (F2P) Online Games and Microtransactions

By enabling users to access games without paying in advance, the Free-to-Play (F2P) model has completely transformed the video game industry. F2P games, in contrast to traditional pay-to-play models, rely heavily on microtransactions—small, optional in-game purchases that frequently consist of cosmetic items, character upgrades, battle passes, or loot boxes—to make money. When combined with successful player engagement tactics, this model has shown itself to be both financially viable and extremely profitable (Hamari & Lehdonvirta, 2010).[5]With the growth of social media and mobile gaming, free-to-play (F2P) games gained popularity. Since then, they have spread to include popular PC and console games. *Call of Duty: Warzone*, *Fortnite*, *Genshin Impact*, and *League of Legends* are all good examples. These games use behavioral and psychological design components to promote discretionary spending, including time-limited offers, customization, and social comparison.

Microtransactions fall into two categories: pay-to-win (P2W) and cosmetic. While P2W mechanics give paying players in-game advantages, cosmetic transactions only change how characters or items look and have no bearing on gameplay. The latter is frequently criticized because it could jeopardize the game's fairness and competitiveness (King & Delfabbro, 2019).[6] Although the ability to play for free is generally appreciated by players, excessively aggressive or necessary microtransaction strategies, especially in P2W systems, can cause annoyance and community backlash (Paavilainen et al., 2017).[7]Microtransactions boost each player's customer lifetime value (CLV) and provide a steady stream of income from a business standpoint. A report by SuperData (2020)[8] states that 78% of the

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[5] Hamari, J., & Lehdonvirta, V. (2010). Game design as marketing: How game mechanics create demand for virtual goods. *International Journal of Business Science and Applied Management*, 5(1), 14–29.

[6] King, D. L., & Delfabbro, P. H. (2019). Video game monetization (e.g., 'loot boxes'): A blueprint for practical social responsibility measures. *International Journal of Mental Health and Addiction*, 17, 166–179. https://doi.org/10.1007/s11469-019-0009-3

[7] Paavilainen, J., Hamari, J., Stenros, J., & Kinnunen, J. (2017). Social network games: Players' perspectives. *Simulation & Gaming*, 48(4), 489–516. https://doi.org/10.1177/1046878116689031

[8] SuperData. (2020). *2020 Year in Review*. SuperData Research. Retrieved from https://www.superdataresearch.com

$126.6 billion in digital gaming revenue in 2020 came from free-to-play games. The largest share was held by Asia, but Western markets are quickly catching up.This model's success primarily rests on the developers' capacity to keep players interested over time, entice them to come back frequently, and progressively make both financial and emotional investments. Player engagement tactics, like social interaction, progression systems, live events, and daily login rewards, are now essential to the design and promotion of contemporary free-to-play games. Furthermore, technological developments have had a significant impact on the development of video games. New possibilities for game design have been made possible by advancements in processing power, the creation of more lifelike 3D graphics, and low-latency internet networks. Video games have evolved from simple recreational activities to interactive art forms and social platforms thanks to the development of expansive and intricate game worlds, immersive multiplayer experiences, and the incorporation of advanced artificial intelligence. Simultaneously, the video game industry has seen a significant amount of diversity, embracing hybrid genres and novel experiences in addition to traditional categories. For instance, the emergence of esports has further cemented video games' status as a cultural phenomenon by turning them into international contests with sizable prize pools and a sizable viewership. The psychological and sociological facets of gaming, which study how video games affect players' behavior, thought processes, and social interactions, have also gained popularity as a result of this expansion.

1.2: Research Problem: The Engagement-Revenue Paradox

The Free-to-Play model is based on a fine line between keeping players interested and getting them to spend money. A lot of player engagement is usually seen as a good thing because it leads to longer play sessions, stronger emotional ties, and community growth. However, it doesn't always mean more money. Some of the most active and loyal players may never buy anything, though. This leads to what is known as the engagement-revenue paradox: the players who are most interested in the game may not be the ones who are most likely to pay for it, and the players who do pay may not be as engaged or for as long (Hamari et al., 2017).[9]
Valorant is a great example of this scenario. Due to the fact that the game is completely free-to-play and the only available in-game purchases are cosmetics, a high engagement does not guarantee a high revenue, because the gaming experience feels already balanced on its own, althought the game is easily capable of generating a high revenue every year due to its giant player-base.
Game developers and marketers face a unique challenge because of this paradox. Player engagement is important for a game's long-term success, but monetization strategies need to be used in a way that doesn't turn off or frustrate players. If you try to make money too aggressively, like by putting paywalls in the way of

[9] Hamari, J., Hanner, N., & Koivisto, J. (2017). Service quality explains why people use freemium services but not if they go premium: An empirical study in free-to-play games. *International Journal of Information Management*, 37(1), 1449–1459. https://doi.org/10.1016/j.ijinfomgt.2016.09.004

progress or filling the game with prompts to buy things, you can lose players' trust and interest. On the other hand, a monetization system that is too passive might not be able to capture people's willingness to pay, which would mean losing out on a chance to make money. This tension has led to a growing interest in figuring out which engagement strategies can effectively encourage people to spend money without hurting the user experience. Are there certain design features, reward systems, or psychological triggers that can turn engagement into long-term revenue? What do these tactics do to different groups of players? Resolving this paradox is essential for the commercial sustainability of F2P titles and the contentment of their communities. This study seeks to investigate the impact of engagement strategies on microtransaction behavior and the feasibility of aligning engagement with ethical and effective monetization practices.

The traditional upfront purchase model has been replaced by Free-to-Play (F2P) models, which have drastically changed the video game industry. Originally made popular by mobile gaming, this paradigm shift has now spread to all market segments, including PC and console platforms. F2P games are based on the idea that everyone can play the core game experience for free, while in-game purchases, also known as microtransactions, are the main source of income. These microtransactions can be anything from convenience items that speed up progression to cosmetic items like character skins and emotes, or even "pay-to-win" elements that provide direct gameplay advantages, though the latter frequently receive a lot of negative feedback from the community.

Because a larger and more active player base translates into greater potential for monetization, this model thrives on engagement and retention. The F2P model's developers carefully craft their games to promote prolonged play through social features, live events, and frequent content updates. By fostering a strong sense of community and dedication among players, the objective is to change them from passive consumers into active contributors to a dynamic, ever-evolving ecosystem. It becomes crucial to comprehend the psychological factors that underlie these monetization techniques, such as loss aversion, social proof, and scarcity. To monitor player behavior, optimize in-game economies, and customize offers, businesses heavily invest in data analytics. This helps to make microtransactions seem like worthwhile additions to the player's experience rather than coercive demands.

But there are also particular difficulties with the F2P model. It's critical to keep a careful balance between player satisfaction and profitability. While insufficient revenue streams can endanger a game's long-term viability, excessively aggressive monetization can cause player burnout and exodus. The industry constantly grapples with ethical considerations surrounding loot boxes and gacha mechanics, which have drawn criticism for their resemblance to gambling and their potential to exploit vulnerable players. Furthermore, constant innovation and adaptation are required due to the competitive nature of the F2P market. To stay relevant in a competitive market, developers must not only provide engaging core gameplay but also continuously experiment with new monetization techniques, community engagement tactics, and technological advancements. This continuous innovation cycle makes the F2P segment one of the most dynamic and rapidly evolving areas within the broader video game industry.

1.3: Objectives and Research Questions

The study's primary objective is to investigate the intricate connection between players' engagement with Free-to-Play (F2P) games and how that engagement affects their purchasing decisions through microtransactions. The study specifically aims to close a significant gap between marketing strategy, which tries to turn player engagement into revenue, and game design theory, which is concerned with maintaining players' interest and immersion. The study aims to determine which engagement mechanics are most successful in enticing players to make purchases by closely examining how they are employed in F2P games.Both self-determination theory and behavioral economics theoretical frameworks are used in this study. As demonstrated by Kahneman and Tversky (1979)[10], for instance, people do not always make completely logical financial decisions. This is particularly true in games, where psychological cues like urgency, scarcity, or loss adversion are frequently employed. Simultaneously, the Self-Determination Theory (Ryan & Deci, 2000)[11] explains why players are driven to continue playing: elements such as relatedness, competence, competition and autonomy can significantly impact their emotional attachment to a game and, indirectly, their willingness to spend money.The research is built around three core objectives. First, it aims to identify and rank various engagement mechanics (such as battle passes, daily login rewards, or social challenges) based on how effective they are at leading to microtransaction purchases. Second, the study will attempt to categorize players into different segments—such as competitive versus casual players—based on what triggers their spending behavior. Third, it seeks to develop practical guidelines or monetization frameworks that developers can apply, which not only improve revenue performance but also respect the player's experience and avoid overly aggressive tactics.

Three main research questions are the focus of the study in order to achieve these goals. The first queries include: What is the quantitative impact of various engagement mechanics on microtransaction spending? (Hamari and Lehdonvirta, 2010).[12] According to Zendle and Cairns (2018)[13]**,** the second study looks into

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[10] Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263–291. https://doi.org/10.2307/1914185

[11] Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78. https://doi.org/10.1037/0003-066X.55.1.68

[12] Hamari, J., & Lehdonvirta, V. (2010). Game design as marketing: How game mechanics create demand for virtual goods. *International Journal of Business Science & Applied Management*, 5(1), 14–29.https://www.business-and-management.org/paper.php?id=37

which player segments respond best to particular monetization strategies. The third question, which comes last, tackles a crucial issue in contemporary game design: How can studios continue to make money while still creating morally and reducing player attrition? (King and Delfabbro, 2018).[14]

Methodologically, this thesis takes a strong and practical approach by integrating insights from industry practices like A/B testing with experimental research, such as conjoint analysis to understand player preferences. In addition to providing data-driven tactics that game developers and marketers can actually use to raise player lifetime value, the goal is to contribute to the larger academic conversation on digital consumer behavior by fusing academic theory with real-world application (Marchand & Hennig-Thurau, 2013).[15]

As previously mentioned, the ability of Free-to-Play (F2P) games to foster and maintain player engagement is crucial to their success. This includes a sophisticated network of tactics intended to maintain players' interest in the game over time and eventually turn that engagement into revenue-generating opportunities, going beyond simple initial downloads. Fundamentally, playing F2P games is based on constant content updates. F2P games, in contrast to conventional boxed products, are living services that are always changing with new game modes, maps, characters, and seasonal events. In addition to preventing player fatigue, this constant flow of new content gives players strong incentives to come back day after day, week after week. Key motivators are the excitement of discovering new features and the expectation of new releases.

Effective engagement tactics frequently make use of social dynamics in addition to fresh content. Because multiplayer F2P games naturally create communities, developers take advantage of this by adding elements that promote communication and rivalry. In-game chat, friend lists, guild systems, and competitive leaderboards all help players feel like they belong and are friendly rivals. Because players are motivated by their interactions with friends and other community members in addition to the game itself, this social layer turns the game from a solitary activity into a shared experience, making it more sticky.

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[13] Zendle, D., & Cairns, P. (2018). Video game loot boxes are linked to problem gambling: Results of a large-scale survey. *PLOS ONE*, 13(11), e0206767. https://doi.org/10.1371/journal.pone.0206767

[14] King, D. L., & Delfabbro, P. H. (2018). Predatory monetization schemes in video games (e.g., 'loot boxes') and internet gaming disorder. *Addiction*, 113(11), 1967–1969. https://doi.org/10.1111/add.14286

[15] Marchand, A., & Hennig-Thurau, T. (2013). Value creation in the video game industry: Industry economics, consumer benefits, and research opportunities. *Journal of Interactive Marketing*, 27(3), 141–157. https://doi.org/10.1016/j.intmar.2013.05.001

Long-term commitment is greatly increased when one feels like they are a part of something bigger, working together to achieve shared objectives, or vying for attention from others.
Additionally, progression systems and tailored experiences are essential for sustaining engagement. In order to understand player preferences and adjust challenges, promotions, and content delivery, modern free-to-play games make use of advanced data analytics. Players' individual gaming experiences are enhanced by this personalization, which makes them feel appreciated and understood. When combined with thoughtfully planned progression loops, which involve players continuously pursuing unlockables, achievements, or skill mastery, these components produce an engaging cycle of effort and reward. Players are kept interested by the sense of constant advancement, even in tiny steps, and the promise of rewards down the road. The foundation of a healthy F2P ecosystem is ultimately the integration of these diverse engagement tactics, which transforms initial interest into ongoing participation and, ultimately, into profitable monetization.

1.4: Scope and Relevance to Marketing

The concepts and analytical frameworks examined in Markstrat are closely aligned with the strategic marketing domain in which this study operates. Similar to how Markstrat stresses the value of using simulated decision-making to understand consumer segments, market dynamics, and long-term brand positioning, this study looks at how digital entertainment products, particularly Free-to-Play (F2P) games, use player engagement as a strategic lever to increase microtransaction revenue and fortify brand equity.
The thesis specifically focuses on free-to-play (F2P) online games that use microtransactions as opposed to fixed-price or subscription-based business models. The study looks into how important engagement mechanisms—like time-limited events, seasonal battle passes, daily login rewards, and social competition—affect customer behavior and purchase choices. Like pricing, promotion, and product differentiation strategies in Markstrat, these mechanics serve as strategic marketing tools in addition to being game design elements (Larréché & Gatignon, 1998).[16] They are intended to boost CLV (Customer lifetime value), keep users over time, and divide audiences into groups according to how they react to various stimuli, such as social, competitive, or aesthetic ones. Indeed, the majority of the players is often driven by just one of these mentioned environments, because it is what it keeps the player to play the game.
The increasing significance of experience-driven value creation and behavioral targeting in digital environments makes them relevant to marketing. As demonstrated by Markstrat, marketers need to strike a balance between generating

[16] Larréché & Gatignon, 1998 Larréché, J.-C., & Gatignon, H. (1998). *Markstrat Online: A Strategic Marketing Simulation*. StratX International.

immediate financial gain and cultivating long-term client relationships. In a similar vein, free-to-play games need to make money without alienating or depleting their user base. This results in a strategic conundrum that this study seeks to investigate and resolve through empirical analysis. It is commonly referred to as the previously mentioned engagement-revenue paradox (Hamari et al., 2017).[17]

Furthermore, by providing practical frameworks that integrate marketing simulation logic with behavioral economics (Kahneman & Tversky, 1979)[18] and self-determination theory (Ryan & Deci, 2000)[19], this study advances the field of digital marketing strategy. This thesis looks at how game studios can dynamically modify engagement strategies in response to player behavior and spending patterns, much like Markstrat simulations offer insight into how businesses can adjust to shifting market conditions. Finding sustainable, moral, and successful monetization strategies that strike a balance between player satisfaction and business performance is the ultimate goal, and it is in line with the strategic concepts covered in the Markstrat course.

Intelligent player segmentation greatly increases the efficacy of Free-to-Play (F2P) monetization strategies, which are based on player engagement. This method acknowledges that players differ in their preferred gameplay styles, spending patterns, and motivations. Segmentation enables developers to customize offers and experiences for particular player groups rather than using a one-size-fits-all monetization model, increasing player satisfaction and revenue. Players are divided into "whales" (high spenders), "dolphins" (moderate spenders), and "minnows" (non-spenders or very low spenders) according to a popular segmentation model. More complex models, on the other hand, go deeper, taking into account elements like playtime, interaction with particular game features, social interactions, and game progression milestones.

Targeted promotions and individualized content delivery are made possible by the strategic use of segmentation. For example, players who participate in competitive modes often may receive limited-time boosts that improve their competitive edge or exclusive cosmetic items for their in-game characters. On the other hand, bundles that support team-based activities or provide distinctive social emotes may be offered to players who favor cooperative play. Players feel heard and cared for when they receive this degree of personalization, which raises the perceived worth of in-game purchases. Furthermore, by comprehending the "why" behind various spending patterns, developers can foster emerging spending

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[17] Hamari, Hanner & Koivisto, 2017 Hamari, J., Hanner, N., & Koivisto, J. (2017). Service quality explains why people use freemium services but not if they go premium: An empirical study in free-to-play games. *International Journal of Information Management*, 37(1), 1449–1459.

[18] Kahneman & Tversky, 1979 Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263–291.

[19] Ryan & Deci, 2000 Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78.

patterns in minnows and dolphins with carefully crafted introductory offers or progression-linked incentives, all without offending them with aggressive high-tier promotions intended for whales.
Behavioral segmentation based on gaming habits is just as important as spending patterns. Customized login bonuses or catch-up mechanisms are made possible by differentiating between players who log in frequently and those who play infrequently. Relevant resource packs or exclusive items may be targeted at players who make significant investments in particular game mechanics, such as crafting or collecting. Creating a sustainable and healthy in-game economy that respects player autonomy and increases their long-term enjoyment is the ultimate goal of player segmentation in F2P monetization, not just maximizing revenue. Developers can strengthen community and commitment by offering appealing and relevant options to a variety of player segments. This will make monetization a seamless part of the overall game experience rather than an isolated, invasive feature.
Profitability for the developers and a more interesting, fulfilling experience for players across the whole engagement spectrum are guaranteed by this subtle approach.

2: Literature Review

This chapter goes deeper into the psychological concepts that underlie player behavior in these ecosystems after establishing the crucial role that Free-to-Play (F2P) games play in the larger video game industry as well as the essential significance of engagement and monetization strategies. For F2P games to be successful over the long term, it is critical to comprehend why players interact, why they decide to spend money, and how game design can successfully take advantage of cognitive biases and motivational theories. This chapter offers a thorough framework for examining player retention and monetization by examining a variety of psychological concepts, including behavioral economics, social dynamics, and intrinsic and extrinsic motivations. By analyzing the psychological foundations of player interaction with F2P mechanics, we hope to provide insight into how developers can create games in an ethical and efficient manner, not only focusing on entertainment, but giving commercially viable options.

2.1: Player Engagement in Gaming: Definitions and Key Theories (Self-Determination Theory, Flow)

Understanding consumer behavior in digital games, especially in free-to-play (F2P) models, now heavily relies on the idea of player engagement. Engaging players is now a strategic lever for boosting retention, encouraging voluntary spending, and fostering enduring loyalty rather than merely a design objective. A unified theoretical viewpoint is necessary, though, because the scholarly literature provides a variety of definitions and conceptualizations. At the same time, it is

still necessary to make important distinctions between different models of F2P games, due to the fact that boosting player rentention, spending and loyalty drasically changes in respect of the analyzed game and his revenue model.
This section specifically explores the complex nature of player motivation, a key factor in determining gamers' engagement with Free-to-Play (F2P) games, building on the introduction to psychological concepts. The term "player motivation" refers to a variety of internal and external elements that influence people to invest time, energy, and frequently money in a game. The satisfaction that comes from the activity itself is the source of intrinsic motivation. This includes the satisfaction that comes from mastery, where players are motivated to advance their abilities, overcome obstacles, and feel competent. Another important factor in intrinsic motivation is the sense of autonomy, which gives players a sense of control over their decisions and advancement in the game world.
Furthermore, social interaction and community building in multiplayer F2P games satisfy the psychological need for relatedness, which serves as a potent intrinsic motivator that promotes loyalty and consistent play.
On the other hand, extrinsic motivations are fueled by incentives or demands from outside sources. These frequently appear as in-game money, rare items, leaderboard rankings, or social recognition in F2P games. Extrinsic rewards can be very successful in encouraging certain behaviors, such as daily logins, participation in time-limited events, or grinding for specific resources, even though intrinsically motivated play is typically more long-lasting. However, if players feel pressured rather than genuinely engaged, an over-reliance on extrinsic motivators may backfire and reduce intrinsic enjoyment. Long-term player retention thus requires a deep comprehension of how to integrate and balance both forms of motivation.
Carefully considered game design components are used to draw from these sources of motivation. The desire for mastery is satiated, for example, by well-designed progression systems that provide a clear path for improvement and regular feedback on player performance. The sense of autonomy is increased by customizable avatars and a variety of gameplay options. The need for relatedness is directly met by social features like cooperative quests, competitive ladders, and guilds. Despite their controversy, loot boxes and daily rewards are excellent illustrations of extrinsic motivators that use the concepts of anticipation and intermittent reinforcement. Developers can create a compelling psychological loop that promotes sustained engagement by strategically utilizing these design elements. This will turn casual players into devoted community members and, eventually, potential spenders within the F2P ecosystem.

2.1.1: Player Engagement: Definitions and Distinctions

According to Brockmyer et al. (2009)[20], player engagement is "a multidimensional psychological state that includes cognitive absorption, emotional investment, and behavioral participation in gameplay."¹. Yee (2006)[21] also divided player behavior into three main categories: achievement (progress and challenge), social (interaction with others), and immersion (narrative depth and character customization). This framework is still in use today and is a useful tool for understanding what motivates players to play different genres. Assessing how game design affects player behavior and, eventually, revenue generation requires an understanding of engagement.

A more practical definition of engagement was provided by Boyle et al. (2012)[22], who defined it as "the degree to which a player feels involved and motivated to continue playing," highlighting six essential elements: challenge, control, immersion, curiosity, competition, and cooperation. To appeal to particular player types, the majority of games use a combination of these elements. All six components are not necessary for a title to be effective; using just a few may be enough to maintain attention and encourage sustained engagement. For seasoned gamers, figuring out which aspects of a game are highlighted becomes second nature, which aids them in selecting games that suit their tastes the best.

Engagement in shooter games, especially first-person shooter games, usually centers on competition, challenge, and, in team-based formats, cooperation. For example, Valorant stresses team-based strategy and communication more than Fortnite's solo mode, which emphasizes individual competition in a 100-player battle royale format. This is because Valorant's core 5v5 mode requires coordination to win.

Conversely, control, immersion, and curiosity are prioritized in open-world games. These games emphasize world-building and exploration over narrative structure. There is also a difference between survival-oriented open-world games and conventional open-world games. Although they are both in this category, Genshin Impact and Once Human are very different: While Once Human combines base-building and survival, stressing various forms of control and decision-making, Genshin Impact focuses on resource management linked to character and weapon enhancement.

The genre that most effectively incorporates all six engagement components is probably MMORPGs (Massively Multiplayer Online Role-Playing Games). With

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[20] Brockmyer, J. H., Fox, C. M., Curtiss, K. A., McBroom, E., Burkhart, K. M., & Pidruzny, J. N. (2009). The development of the Game Engagement Questionnaire: A measure of engagement in video game-playing. *Journal of Experimental Social Psychology, 45*(4), 624–634. https://doi.org/10.1016/j.jesp.2009.02.016

[21] Yee, N. (2006). Motivations for play in online games. *CyberPsychology & Behavior, 9*(6), 772–775. https://doi.org/10.1089/cpb.2006.9.772

[22] Boyle, E. A., Connolly, T. M., Hainey, T., & Boyle, J. M. (2012). Engagement in digital entertainment games: A systematic review. *Computers in Human Behavior, 28*(3), 771–780. https://doi.org/10.1016/j.chb.2011.11.020

a vast array of activities, these titles usually provide the most varied content, encouraging prolonged engagement.
Black Desert Online is a clear example:
– **Challenge**: features demanding bosses and missions requiring preparation and skill.
– **Control**: players make impactful choices regarding side activities, narrative branches, and character progression.
– **Immersion**: the detailed world, with its cities and lore, provides a deeply atmospheric experience.
– **Curiosity**: the vast map, filled with secrets and exploration-based content, drives long-term discovery.
– **Competition**: PvP (Player vs. Player) elements play a significant role in endgame content and community prestige.
– **Cooperation**: team-based activities and large-scale battles necessitate group coordination for success.
In conclusion, understanding how different engagement dimensions operate across game genres is essential for decoding user behavior. The extent to which games emphasize these factors significantly influences not only how players interact with the game but also how likely they are to invest time and money within it.

2.1.2: Self-Determination Theory (SDT)

One of the most important psychological frameworks for comprehending motivation in contexts of education and entertainment, including online gaming, is Self-Determination Theory (SDT). SDT, which was created by Deci and Ryan in 1985,[23] and improved upon in 2000, makes a distinction between extrinsic motivation, which is motivated by pressures or rewards from outside sources, and intrinsic motivation, which is the desire to do something because it makes you feel good.

Application of SDT to Game Design

SDT posits that optimal motivation and psychological well-being occur when three basic psychological needs are satisfied:
-Autonomy: the need to feel volitional and in control of one's actions.
-Competence: the need to feel effective and capable of achieving goals.
-Relatedness: the need to feel connected, accepted, and cared for by others.
In the context of gaming, these needs can be fulfilled through carefully designed mechanics that not only improve gameplay enjoyment but also increase retention, loyalty, and willingness to spend.
These principles have been used to evaluate how well-designed games elicit

[23] Deci, E. L., & Ryan, R. M. (1985). *Intrinsic Motivation and Self-Determination in Human Behavior*. Springer. https://doi.org/10.1007/978-1-4899-2271-7

intrinsic motivation, which is associated with longer play sessions, higher engagement, and more positive emotional responses (Rigby & Ryan, 2011).[24]

SDT in Free-to-Play (F2P) Games

Because F2P games are inherently dependent on optional microtransactions to generate income, the quality of engagement is essential to the success of monetization. SDT provides insightful information about how these games can turn players into spenders without detracting from their motivation. Important findings include:Battle passes, skill trees, and rank ladders are examples of progression systems that leverage competence by offering feedback loops, quantifiable progress, and well-defined objectives.Character skins, loadouts, and builds are examples of customization options that satisfy autonomy, particularly when players believe their decisions represent their identity or strategy. Social features like leaderboards, matchmaking, and team-based events enhance relatedness by fostering recognition and shared experiences within a community. Importantly, SDT clarifies why certain monetization strategies are more palatable than others. A microtransaction strengthens autonomy and identity when it is in line with intrinsic goals (buying a cosmetic skin that customizes a character, for example). On the other hand, artificial limitations on advancement or "pay-to-win" mechanisms could erode perceived competence and lead to disengagement (King & Delfabbro, 2019).[25]

Empirical Support and Game Behavior Outcomes

Several studies have empirically validated the role of SDT in game engagement and monetization:

-Przybylski et al. (2010)[26] found that games that better support psychological needs are more likely to be described as enjoyable and immersive.

-Tyack and Mekler (2020)[27] provided a meta-analysis showing consistent correlations between need satisfaction and game-related outcomes such as time spent, flow experience, and user loyalty.

-Birk et al. (2015)[28] demonstrated that avatar identification—a form of autonomy and relatedness—mediates the relationship between gameplay features and intrinsic motivation.

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[24] S., & Ryan, R. (2011). *Glued to games: How video games draw us in and hold us spellbound*. Praeger.

[25] King, D. L., & Delfabbro, P. H. (2019). Video game monetization (e.g., 'loot boxes'): A blueprint for practical social responsibility measures. *International Journal of Mental Health and Addiction*, *17*(1), 166–179. https://doi.org/10.1007/s11469-019-00095-w

[26] Przybylski, A. K., Rigby, C. S., & Ryan, R. M. (2010). A motivational model of video game engagement. *Review of General Psychology, 14*(2), 154–166. https://doi.org/10.1037/a0019440

[27] Tyack, A., & Mekler, E. D. (2020). Self-Determination Theory in HCI games research: Current uses and open questions. *Proceedings of the Annual Symposium on Computer-Human Interaction in Play*, 111–122. https://doi.org/10.1145/3410404.3414242

These findings suggest that **long-term monetization** is best achieved not through manipulative mechanics, but by nurturing meaningful, psychologically satisfying experiences.

Design Guidelines Derived from SDT
Using SDT in F2P game design yields a number of practical recommendations for increasing pla.yer engagement and income:Reduce coercion: Features that limit autonomy and increase frustration include "grind walls," gated content, and required advertisements. Reward opt-in behavior instead.Encourage mastery: Create challenging tasks that advance players' abilities without making purchases the only way to succeed.Facilitate social ties: To improve community and relatedness, promote collaboration (e.g., clans, gifts) and acknowledgment (e.g., rankings, accomplishments).Provide players with meaningful options: To strengthen intrinsic motivation, give them control over their purchases, customization, and progression routes
These SDT-aligned features, when strategically applied, can increase purchase intent by elevating spending from a necessity to a means of empowerment or self-expression.

The SDT–Revenue Nexus in F2P Monetization
The engagement-revenue paradox, a fundamental conflict between player engagement and monetization, is brought to light by the application of SDT to free-to-play games. Developers have a tightrope to walk: too little monetization doesn't bring in money, but too much erodes engagement. By identifying mechanisms that both maintain psychological need satisfaction and generate revenue, SDT assists in resolving this.To improve autonomy without coercion, players may be enticed to spend money on temporary access or exclusive cosmetics through limited-time events that reward skill and cooperation (competence, relatedness). In a similar vein, battle passes frequently incorporate goal-setting, progress monitoring, and personalization, satisfying all three SDT requirements and offering an engaging setting for repeating microtransactions.

2.1.3: Flow Theory and the Gameflow Model

[28] Birk, M. V., Atkins, C., Bowey, J. T., & Mandryk, R. L. (2015). Fostering intrinsic motivation through avatar identification in digital games. *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*, 2982–2995. https://doi.org/10.1145/2858036.2858062

According to Mihaly Csikszentmihalyi's (1990)[29] Flow Theory, engaging in demanding and fulfilling activities can induce a highly focused mental state of profound immersion and enjoyment. People who are in this state report feeling effortless control and intrinsic satisfaction, losing all sense of time, and being totally engrossed in what they are doing.
In the realm of gaming, flow has emerged as a key concept in explaining why players lose themselves in their gameplay sessions, play the same game over and over again, and are more inclined to take voluntary actions like recommending the game, sharing it on social media, or purchasing it. This is especially true in the F2P business model, where engagement comes before monetization.

The Characteristics of Flow
Csikszentmihalyi (1990)**31** identified **nine core dimensions** of the flow experience, several of which are especially applicable to game design:

1. **Challenge–skill balance**: The activity must match the player's ability level—too easy causes boredom, too difficult causes anxiety.
2. **Merging of action and awareness**: Players are so involved that actions become automatic and seamless.
3. **Clear goals**: The game must provide unambiguous objectives to direct attention and efforts.
4. **Unambiguous feedback**: Players must receive immediate, relevant responses to their actions.
5. **Concentration on the task at hand**: Distractions fade, and attention is fully absorbed by the game.
6. **Sense of control**: Players feel empowered to influence the game environment.
7. **Loss of self-consciousness**: Players forget about themselves and their surroundings.
8. **Altered sense of time**: Time may seem to fly or stand still.
9. **Autotelic experience**: The activity is rewarding in and of itself.

Flow is a potent complementary framework because many of these aspects—especially the need for competence and autonomy—overlap with Self-Determination Theory.
Flow is frequently utilized in digital game design to create "engagement loops," which are cyclical gameplay structures that promote repeated play by creating intrinsic rewards that must be anticipated and fulfilled. As per Sweetser and Wyeth's (2005)[30]adaptation of Flow Theory into the GameFlow model, successful games preserve flow by guaranteeing:
-Appropriate difficulty progression
-Customizable player experience
-Effective tutorial and onboarding systems

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[29] Csikszentmihalyi, M. (1990). *Flow: The Psychology of Optimal Experience*. Harper & Row.

[30] Sweetser, P., & Wyeth, P. (2005). GameFlow: A model for evaluating player enjoyment in games. *Computers in Entertainment, 3*(3), 3–3. https://doi.org/10.1145/1077246.1077253

-Frequent and escalating feedback (e.g., points, achievements, sounds)
-Strong narrative or gameplay goals
In F2P games, these engagement loops are strategically paired with **retention mechanics** such as daily login rewards or limited-time challenges, maintaining players within the flow state across multiple sessions.

Flow Disruption: The Danger of Intrusion into Monetization
Avoiding flow disruption is one of the main obstacles to F2P game monetization. Paywalls, energy timers, and aggressive advertisements are examples of intrusive monetization that can disrupt immersion and irritate players, which lowers engagement (King & Delfabbro, 2018).[31] This is especially dangerous in games where player loyalty depends on uninterrupted gameplay and sustained attention. However, monetization techniques that prolong or improve flow, like content bundles, optional power-ups, or aesthetic customizations, can promote spending without degrading psychological immersion (Hamari, Hanner & Koivisto, 2017).[32]

"The Zone" and Flow: Neurocognitive Aspects
Flow has been further confirmed as a quantifiable brain state by recent studies in cognitive psychology and neuroscience. Transient hypofrontality, in which areas of the prefrontal cortex linked to self-monitoring and time perception become less active, may be involved in flow, according to EEG and fMRI studies (Dietrich, 2004).[33] This neurocognitive change explains why players in flow have reduced anxiety, increased focus, and time distortion, all of which lengthen gameplay and lessen resistance to in-game offers.
Games that regularly put players in a state of flow develop a habit that makes playing the game a rewarding routine. This pattern is crucial for F2P ecosystem monetization.

The Value of Dynamic Difficulty in Flow vs. Frustration
Dynamic Difficulty Adjustment (DDA) systems are frequently used to manage the delicate challenge–skill balance needed to achieve and sustain flow. These systems adjust time limits, task difficulty, or enemy strength according to player performance. When properly implemented, DDA maximizes long-term

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[31] King, D. L., & Delfabbro, P. H. (2018). Predatory monetization schemes in video games (e.g., 'loot boxes') and Internet gaming disorder. *Addiction, 113*(11), 1967–1969. https://doi.org/10.1111/add.14286

[32] Hamari, J., Hanner, N., & Koivisto, J. (2017). "Why pay premium in freemium services?" A study on perceived value, continued use and purchase intentions in free-to-play games. *International Journal of Information Management, 37*(1), 1–14. https://doi.org/10.1016/j.ijinfomgt.2016.09.004

[33] Dietrich, A. (2004). Neurocognitive mechanisms underlying the experience of flow. *Consciousness and Cognition, 13*(4), 746–761. https://doi.org/10.1016/j.concog.2004.07.002

engagement by keeping players in the flow channel, which is between boredom and frustration (Hunicke, 2005).[34]
With the help of these systems, free-to-play games can not only increase player retention but also customize monetization prompts to appear when players are most interested. For example, they can offer boosts after a mission that nearly fails or unlock "second chances" during periods of high immersion.

Implications for F2P Game Monetization
Understanding flow enables developers to optimize both **user experience** and **purchase timing**. Some of the most successful F2P games in the industry (e.g., *Fortnite*, *Genshin Impact*, *Clash Royale*) build entire monetization ecosystems around maintaining flow:
-Battle Passes extend the challenge curve and offer long-term goals (clear objectives + progression).
-Cosmetic items allow expression and mastery without breaking gameplay flow (no interruption).
-Event cycles introduce new challenges just as previous loops end, avoiding stagnation (refresh flow state).
Players in a flow state are more likely to **spend impulsively**, respond positively to limited-time offers, and recommend the game to others—thus directly impacting viral growth and lifetime value (LTV).

2.1.4: Integrating the Theories: Engagement as a Psychological Resource

It takes more than just examining individual motivational frameworks to comprehend player engagement in digital games. To develop a more comprehensive understanding of what motivates sustained, meaningful player involvement, researchers have recently pushed for a combined application of Self-Determination Theory (SDT) and Flow Theory. This is particularly true in free-to-play (F2P) environments, where engagement serves as both the product and the source of revenue.
This integration's premise is that, although SDT identifies the psychological needs (autonomy, competence, and relatedness) that drive players, Flow Theory describes the phenomenological state that results from these needs being successfully met in real time through gameplay (Csikszentmihalyi, 1990).[35]These frameworks show that when games are made to satisfy basic psychological needs, players are more likely to experience a state of flow, which can be used to encourage both voluntary monetization and prolonged play. This state is characterized by complete immersion, emotional absorption, and temporal

[34] Hunicke, R. (2005). The case for dynamic difficulty adjustment in games. *Proceedings of the 2005 ACM SIGCHI International Conference on Advances in Computer Entertainment Technology*, 429–433. https://doi.org/10.1145/1178477.1178573

[35] Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper & Row

distortion.

Theoretical Compatibility: Need Satisfaction as a Precursor to Flow
Numerous researchers contend that there is a substantial overlap between the psychological requirements of SDT and the conditions necessary to enter flow. For example, autonomy promotes flow by providing players with significant choices and control over their experience; competence is crucial to the flow channel, which strikes a balance between difficulty and skill level; and relatedness can promote collaborative flow and social immersion, particularly in multiplayer games.
According to Birk et al. (2015)[36], the satisfaction of SDT's three fundamental needs frequently mediates flow in gaming. According to their research, games that allow players to relate to their avatars—a stand-in for autonomy and relatedness—promote intrinsic motivation and flow, which results in longer and more satisfying play sessions. This demonstrates how the two models reinforce one another: SDT explains *why* people become motivated, while Flow Theory explains *how* that motivation is experienced.

Practical Integration in F2P Game Design
The integration of SDT and Flow Theory is not just theoretical—it offers **practical guidelines for designing monetizable game experiences**. We might take into consideration two different, yet common, systems adopted by the majority of modern videogames:
A **daily login reward system** can:
-Support **autonomy** by offering rewards that usually get increasingly better.
-Promote **competence** by contributing to visible, cumulative progress.
-Trigger **flow** through instant gratification and anticipation of future rewards.
Instead, a **battle pass system**, introduced by *Fortnite* and adopted by a huge amount of games, include:
-Autonomy, by letting the player go through challenges in order to complete the battle pass.
-Competence, due to the fact that usually the challenges become progressively more difficult
-Flow, the more rewards you unlock, the more you want to play and achieve everything
Such systems are powerful because they don't just add "features" to games—they add **structured motivational layers** that align with players' internal needs and cognitive states, enhancing retention and increasing the chance of **voluntary microtransaction behavior** (Rigby & Ryan, 2011; Przybylski et al., 2010).[37] **38**

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[36] Birk, M. V., Atkins, C., Bowey, J. T., & Mandryk, R. L. (2015). Fostering intrinsic motivation through avatar identification in digital games. *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*, 2982–2995. https://doi.org/10.1145/2858036.2858062

[37] Rigby, S., & Ryan, R. M. (2011). *Glued to games: How video games draw us in and hold us spellbound*. Santa Barbara, CA: Praeger.

Psychological Engagement as a Convertible Resource
SDT and Flow Theory are combined to reframe engagement as a changeable psychological resource as opposed to a fixed state. According to this perspective, designers are creating a mental state that can be made profitable through well-timed promotions, upgrades, or purchases that feel in line with the objectives and feelings of players, rather than just keeping them online.
This viewpoint aids in resolving frequent conflicts in F2P monetization. For instance, developers can find optimal flow points—moments when a player has just finished a challenging task or is nearing a significant milestone—to offer optional purchases that feel earned and empowering, not manipulative, as opposed to forcing players to spend through artificial scarcity (which may frustrate and erode autonomy) (Hamari, Hanner, & Koivisto, 2017).[39]
This integration also informs **personalization strategies**, allowing studios to segment players not just by demographics or genre preferences but by **motivational profiles**—for example, distinguishing between "autonomy-driven explorers" and "competition-driven achievers," each of whom engages with different content and responds to different monetization tactics (Tyack & Mekler, 2020).[40]

2.1.5: Implications for Monetization in F2P Games

According to this viewpoint, engagement is a psychological resource that can be transformed into economic behavior, particularly microtransaction spending, rather than just a design outcome. The ability of monetization strategies to improve rather than disrupt the flow experience and satisfy SDT-based needs determines how effective they are.
But as Hamari and Lehdonvirta (2010)[41] point out, excessive monetization can impede autonomy or disturb flow, which can cause annoyance and disengagement. In order to prevent the so-called engagement-revenue paradox, which is covered in Chapter 1.2, a careful balance between monetization opportunities and natural engagement is necessary.
This means that rather than interfering with player immersion, monetization systems ought to be smoothly incorporated into the gameplay experience. Purchases of cosmetics that represent social identity or personal development,

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[38] Przybylski, A. K., Rigby, C. S., & Ryan, R. M. (2010). A motivational model of video game engagement. *Review of General Psychology*, 14(2), 154–166. https://doi.org/10.1037/a0019440

[39] Hamari, J., Hanner, N., & Koivisto, J. (2017). Why pay premium in freemium services? A study on perceived value, continued use and purchase intentions in free-to-play games. *International Journal of Information Management*, 37(1), 1–14. https://doi.org/10.1016/j.ijinfomgt.2016.09.004

[40] Tyack, A., & Mekler, E. D. (2020). Self-Determination Theory in HCI games research: Current uses and open questions. *Proceedings of the Annual Symposium on Computer-Human Interaction in Play*, 111–122. https://doi.org/10.1145/3410404.3414242

[41] Hamari, J., & Lehdonvirta, V. (2010). Game design as marketing: How game mechanics create demand for virtual goods. *International Journal of Business Science and Applied Management*,

such as exclusive skins obtained via skill or event participation, can serve as incentives that strengthen participation rather than seeming like outside commercial pressure. Players are more likely to spend voluntarily and frequently when purchases are seen as significant additions to the gameplay loop.
Furthermore, monetization prompt presentation and timing are equally important. Offers are more likely to be viewed as valuable if they are made during emotionally fulfilling or high-engagement moments, like finishing a difficult mission or rising in rank. On the other hand, attempts at monetization during times of frustration or failure could be seen as exploitative.
Additionally, personalization is becoming more and more important. Perceived value and respect for player agency can be strengthened by implementing dynamic pricing, personalized bundles, and shop curation based on playstyle and achievements.
Sustainable monetization in free-to-play games ultimately depends on empathy—knowing not only what players are willing to pay for, but also how, when, and why that willingness manifests itself.

2.2: Microtransactions and Consumer Behavior in Free-to-Play Games

Microtransactions (MTXs) are the economic backbone of the free-to-play (F2P) model.Adopting various strategy and a perfect experience customization that relies on a continuous spending behaviour, microtransaction may appear insignificant if taken one-by-one, but they generate an absurd amount of revenue per year. The distinction and analysis of the various types of microtransaction becomes extremely important in order to properly understand how the revenue is generated and which mental aspects come in play.

2.2.1: Types of Microtransactions

Microtransactions come in a variety of forms, each targeting different player motivations. While their function may differ across genres or platforms, they typically fall into the following categories:

1. Cosmetic Microtransactions

Cosmetics microtransaction do not influence the gameplay in any sense, nor do they give a certain type of advantage. They only regard the gameplay customization the players want to adopt, mostly including weapon skins (Valorant, Counter-Strike), skin-models (Fortnite, League of Legends), or just accessories of any kind. Certain games entire revenue only comes from cosmetic microtransactions, such as Valorant, which offers the possibility to experience whole game without ever spending real money, which is only utilized for cosmetic purchases.

2. Pay-to-Win (P2W) Transactions

These mictrotransactions have aa huge impact on the gameplay by providing advantages such as stronger weapons or gear which is not obtainable in other ways, faster progression, or exclusive access to powerful characters. Games that include P2W elements are often criticized for compromising fairness. This

category is more prevalent in mobile and strategy games (*Clash of Kings*, *Rise of Kingdoms*), but also exists in hybrid forms, such as MMORPGs. Some of them include extremely powerful gear that can not be obtained in any other way, rather than purposely paying for it.

3. Boosters and time-savers

These purchases are often treated in the same way as P2W transactions are, because they allow players to skip long grinding phases or double the rewards of activities. These are mainly common in RPGs, open-world games, gacha games and MMOs, they appeal to users with limited time but high disposable income. For instance, *Assassin's Creed: Odyssey* featured XP boosters that were heavily discussed in gaming forums for disrupting progression balance (Grayson, 2018)[42]

4. Loot Boxes and Gacha Systems

These microtransactions are probably the most discussed and criticized among all of the types of microtransactions, due to the fact that they offer randomized rewards in exchange for money, resembling a gambling mechanic. Though controversial, they remain extremely lucrative. Games like *FIFA* (Ultimate Team packs) and *Genshin Impact* (gacha banners) use these systems extensively. Some of these games, mostly the Gacha ones, utilize a Pity system, which allow the player to guarantee the drop of a powerful character/weapon after a certain numbers of pulls. For example, Genshin Impact allows a guaranteed 5-star drop (the best in the game) after 90 pulls of a single drop banner. The inherent **randomness and scarcity** fuel repeated purchases (Xiao & Henderson, 2021) [43]

5. Battle Passes and Seasonal Content

Battle Passes offer tiered rewards unlocked through gameplay, with premium versions providing exclusive content. They typically run on seasonal cycles and blend progression with monetization. Titles like *Fortnite*, *Apex Legends*, and *Valorant* have perfected this model to combine engagement and revenue generation (Nieborg & Poell, 2018)[44] It is necessary to point out that there is a clear distinction between two models of battle passes. Fortnite, for example, includes V-bucks (premium currency) in its battle pass tiers, and every BP offers a considerable amount of premium currency that allows you to buy the next seasonal BP and keep some currency for yourself, while games like Valorant do not offer this option, basically "forcing" the player to spend real money for every seasonal battle pass.

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[42] Grayson, N. (2018). Assassin's Creed Odyssey Players Say The Game Is Designed Around Spending Real Money. *Kotaku*. https://kotaku.com/assassin-s-creed-odyssey-players-say-the-game-is-desig-1829776308

[43] Xiao, L., & Henderson, L. L. (2021). Regulating loot boxes as gambling? A response to criticism. *International Journal of Mental Health and Addiction, 19*, 230–247. https://doi.org/10.1007/s11469-019-00112-2

[44] Nieborg, D. B., & Poell, T. (2018). The platformization of cultural production: Theorizing the contingent cultural commodity. *New Media & Society, 20*(11), 4275–4292. https://doi.org/10.1177/1461444818769694

6. Subscription Models
Though technically different from one-time microtransactions, many F2P games now offer optional subscriptions that provide daily rewards, exclusive access, or premium currency (*Clash Royale's* Pass Royale or *Runescape's* membership tier). Other games, such as Wizard101, offer membership subscription in order to be able to just play the game, because without the subscription the amount of things you can actually do in the game is beyond limited. The subscription model often tries to achieve a periodically continuous revenue.

2.2.2: Psychological Triggers and Why Players Spend

Understanding why players engage with microtransactions requires examining the **cognitive biases, emotional triggers, and social dynamics** at play. F2P game design often deliberately leverages these psychological mechanisms to convert engagement into spending.

1. Scarcity and FOMO (Fear of Missing Out)
Exclusive skins and time-limited deals cause FOMO, which drives players to make snap decisions in order to avoid regret. The rotating store items in Valorant daily shop or the seasonal skins in Fortnite are excellent examples. This sense of urgency drives irrational spending by artificially inflating perceived value. (Przybylski et al., 2013)[45]

2. Endowment Effect and Sunk Cost Fallacy
Players are more likely to keep spending money or time on a game in order to recoup their initial outlays. Spending can increase due to this "sunk cost" mentality, particularly in games with long-term progression systems, eventually becoming "whales". Whales are referred as that strict minority of users that generate the majority of the revenue of the game (*Clash of Clans*, *Raid: Shadow Legends*) (Arkes & Blumer, 1985)[46]

3. Variable Reward Schedules
Loot boxes and gacha mechanics, which are derived from behavioral psychology, take advantage of variable-ratio reinforcement, which is the same idea that drives gambling addiction. Due to the unpredictable and dispersed nature of rewards, players continue to spend money in an attempt to obtain rare items. Anticipation and emotional highs are produced by this randomness. (Griffiths, 2018)[47] As previously mentioned, these systems are often criticized for how randomic the drops are, enabling the same addiction as gambling does. FIFA ultimate team, for instance, does not guarantee rare players of any kind in any way, this means that

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[45] Przybylski, A. K., Murayama, K., DeHaan, C. R., & Gladwell, V. (2013). Motivational, emotional, and behavioral correlates of fear of missing out. *Computers in Human Behavior*, *29*(4), 1841–1848. https://doi.org/10.1016/j.chb.2013.02.014

[46] **.** Arkes, H. R., & Blumer, C. (1985). The psychology of sunk cost. *Organizational Behavior and Human Decision Processes*, *35*(1), 124–140. https://doi.org/10.1016/0749-5978(85)90049-4

[47] Griffiths, M. D. (2018). Is the buying of loot boxes in video games a form of gambling or gaming? *Gaming Law Review*, *22*(1), 52–54. https://doi.org/10.1089/glr2.2018.2216

hipothetically speaking one could spend over 100,000 euros and never getting the desired player.

4. Social Comparison and Status Signaling

In multiplayer games, exclusive items and rare cosmetics are frequently used as status symbols. High-end skins in CS:GO, such as the "AK-47 | Case Hardened (Blue Gem)," have sold for over $400,000, not because they alter gameplay but rather because the community views them as prestigious (Valentine, 2023)[48]
The "Dragon Lore" AWP skin, coming from the same game, has been sold for $150,000 in 2021, and becomes another example. Rather than utility, identity, recognition, and digital prestige are frequently the driving forces behind these purchases (Peppiatt, 2021)[49]
It's necessary to remember that these skins do not offer a gameplay advantage of any kind, but they only exist in order to give aesthetical gratification to the purchasing player.

5. Personalization and Identity

Because they see avatars and characters as extensions of themselves, players frequently develop emotional bonds with them. Spending money on character builds or customization encourages psychological ownership and self-expression, particularly in games like The Sims, Elden Ring, and Genshin Impact where personalization is emphasized (Klimmt et al., 2009)[50]

6. Habit Loops and Daily Rewards

Habitual behavior is reinforced by engagement loops that provide daily incentives for signing in or making modest purchases. These features gradually raise the likelihood of spending and keep players hooked to the game. Players eventually internalize these practices, making spending a habit (Eyal, 2014).[51]
This phenomena usually happens for reasons that have been stated before and can be directly linked to endowment effect.

2.3: The Link Between Engagement and Spending

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[48] Valentine, R. (2023). Counter-Strike skin sells for over $400,000. *GamesIndustry.biz*. https://www.gamesindustry.biz/counter-strike-skin-sells-for-over-400000

[49] Peppiatt, L. (2021). A CSGO Dragon Lore skin just sold for $150k. *PCGamesN*. https://www.pcgamesn.com/counter-strike-global-offensive/dragon-lore-skin-sold

[50] Klimmt, C., Hefner, D., & Vorderer, P. (2009). The Video Game Experience as "True" Identification: A Theory of Enjoyable Alterations of Players' Self-Perception. *Communication Theory, 19*(4), 351–373. https://doi.org/10.1111/j.1468-2885.2009.01347.x

[51] Eyal, N. (2014). *Hooked: How to build habit-forming products*. Portfolio/Penguin.Hamari, J., & Lehdonvirta, V. (2010). Game design as marketing: How game mechanics create demand for virtual goods. *International Journal of Business Science & Applied Management*, 5(1), 14–29. https://www.business-and-management.org/paper.php?id=37

Optimizing monetization in free-to-play (F2P) games requires an understanding of how engagement mechanics affect player spending. There are many factors which might or might not influence the behaviour of a single player, depending on income, the type of game, and how much the player is actually engaged with the game. This section focuses on how particular engagement features actually convert into revenue, while the psychological triggers covered in section 2.2.2 explain why players might spend. The following two studies back up the idea that game design can have a direct influence on financial results and offer empirical insights into the engagement-to-spending pipeline.

2.3.1: Study 1 – The Impact of Social Features on Player Spending

One of the first and most significant empirical studies relating in-game social features to higher player spending in free-to-play settings was carried out by Hamari and Lehdonvirta (2010)[52] in their study. The authors found that when virtual goods were embedded in visible, interactive social contexts, players were much more likely to buy them. This was based on behavioral data from Habbo Hotel, a social virtual world targeted at teens and young adults.
According to their research, players who used friend networks, gifting systems, public profiles, and avatar customization spent more money and played more actively than those who played alone. It is noteworthy that players were motivated to spend money by the social display value of virtual goods rather than just their functional utility. In settings where status symbols (such as unique clothing or room décor) were visible to others, this phenomenon was especially noticeable, strengthening the player's sense of self and perceived social standing in the group. The results show that social validation and relatedness are strong motivators for microtransactions, particularly when the game system makes it easier to recognize them through features like leaderboards, avatars, or social hubs. According to Self-Determination Theory (Ryan & Deci, 2000)[53], relatedness is one of the fundamental psychological needs that, when met, increases intrinsic motivation. These dynamics are in line with this theory. According to data from Hamari and Lehdonvirta[54], virtual goods were much more valuable and, consequently, more likely to be purchased when they were used to both personalize and indicate status

[52] Hamari, J., & Lehdonvirta, V. (2010). Game design as marketing: How game mechanics create demand for virtual goods. *International Journal of Business Science & Applied Management*, 5(1), 14–29. https://www.business-and-management.org/paper.php?id=37

[53] Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78. https://doi.org/10.1037/0003-066X.55.1.68

[54] Hamari, J., & Lehdonvirta, V. (2010). Game design as marketing: How game mechanics create demand for virtual goods. *International Journal of Business Science & Applied Management*, 5(1), 14–29.

in a visible peer environment. Crucially, the study emphasizes that social features alone do not propel monetization; rather, their combination with interpersonal comparison and identity signaling produces a self-reinforcing monetization loop. For instance, players were more likely to keep spending money on new items to preserve or improve their perceived prestige if they received praise or attention from others for their appearance in-game. In multiplayer games like League of Legends, Fortnite, and Valorant, where socially visible purchases make up a sizable amount of total revenue, these insights prepared the way for later monetization models centered on cosmetics and personalization. This study offers a convincing empirical example of how social interaction engagement can be directly translated into spending behavior, particularly when mechanisms that encourage symbolic consumption and public self-expression are in place. Furthermore, it is worth to point out that not only social interaction engagement, but also simple cosmetic appearence matters in the mind of players. How you appear inside the videogame world directly reflects how you would like to be in the real world, especially in social hubs like the already mentioned Habbo.

2.3.2. Study 2 – Time-Limited Events and Spending Spikes

By examining behavioral data from mobile gaming environments that used promotional mechanics like seasonal bundles, rotating stores, and countdown-limited offers, Zendle, Meyer, and Over (2020) (**56)** examines the monetization impact of time-limited events in free-to-play games. Even among users who had previously displayed low or moderate purchasing activity, the researchers discovered that spending behavior increased significantly during these brief events. One of the study's most noteworthy conclusions was that players were responding to the perceived urgency and exclusivity created by artificial scarcity rather than just new content. Players' temporal expectations and decision-making windows were manipulated by these mechanics, frequently leading to impulsive purchases that would not have happened in a typical, ongoing store. Fear of missing out (**FOMO**) was the emotional state linked to these transactions because players were motivated more by the fear of losing access to desirable content than by a logical assessment of its usefulness. Players tend to buy even hen they don’t actually need what is offered, especially when they don’t feel secure about getting the desired drop for any kind of reason. This study stands out from others in the literature because it provides empirical evidence that controlled design interventions, such as countdowns, rotating item pools, or time-restricted access to powerful or cosmetic goods, can "spike" engagement mechanics for financial gain. It becomes essential for the game publisher to develop a functional strategy and a good management of the time-limited events.
Participation in events was strongly associated with higher average revenue per user (**ARPU**), according to the data, especially in the highest-spending segments. Additionally, during the promotional period, players who participated in these events tended to log in more frequently and stay longer, suggesting that limited-time mechanics increase both general engagement and purchases. However, the authors warn that excessive use of this strategy can have detrimental psychological effects, including exhaustion, burnout, and eventual churn, particularly in users who exhibit compulsive or perfectionist tendencies. Experienced players tend to recognize the time-limited events cycling, and they

are able to perfectly figure out when to spend and when not to spend. Furthermore, experienced game companies are able to recognize when it is the right time for a good time-limited event hich is able to generate both player engagement and revenue.
These findings are extremely pertinent to marketing strategy because they highlight the two-pronged nature of scarcity-based engagement: although it is very successful at generating short-term revenue, it must be carefully weighted against the long-term welfare of players. Practically speaking, this study supports a certain rational business strategy for features like event-exclusive skins, battle passes, and rotating in-game stores—all of which are now prevalent in games like Valorant, Genshin Impact, and Fortnite. Additionally, it emphasizes the necessity of calendar-based content planning in F2P monetization, where seasonal events and content updates coincide with monetization peaks. In the end, Zendle et al. (2020)[55] offer convincing proof that event-based engagement is among the most effective ways to increase microtransaction revenue, particularly when it uses psychological urgency to hasten decisions in situations where people perceive a shortage.

2.4: Identified Literature Gaps

Despite a significant increase in recent years, there are still a number of important gaps in the literature on player engagement and microtransactions in free-to-play (F2P) games. These restrictions have an impact on both scholarly research and business operations, especially when it comes to design effectiveness, monetization tactics, and behavioral targeting. Two urgent and undeveloped areas are highlighted in this section: (1) the absence of revenue analysis tailored to mechanics, and (2) the lack of strong player segmentation models for monetization.
The analysis of this area is mainly conducted via literature research and the identification of the player segmentation model comes partially from my personal experience, having around 15 years of online gaming experience.

2.4.1 Absence of revenue analysis

Few studies have analyzed the revenue impact of specific monetization mechanics, like loot boxes, battle passes, or limited-time offers, in controlled or comparative frameworks, despite the fact that many have looked at player motivation and general monetization patterns. It is challenging to determine which mechanics are most successful in generating income per user or under what circumstances because the majority of research lumps microtransactions into general categories or revenue totals. I consider this gap fundamental to cover, due to the various strategies that video games companies have developed over the course of the past years.
For instance, although loot boxes have been the subject of ethical and regulatory

[55] Zendle, D., Meyer, R., & Over, H. (2020). Adolescents and loot boxes: Links with problem gambling and motivations for purchase. *Royal Society Open Science*, 7(6), 201204. https://doi.org/10.1098/rsos.201204

discussion (Xiao, 2021)[56], the majority of scholarly research places more emphasis on psychological risk than financial gain. Similar to this, battle passes—which are now common in competitive shooters like Fortnite and Valorant—are used extensively, but not many studies have evaluated their effectiveness in promoting consistent spending throughout player life cycles or their return on engagement. Consequently, mechanism-specific revenue attribution is conspicuously lacking, particularly when it comes to different genres, player types, or cultural markets. The latter has a remarkable impact on player behaviour, leading developers to adapt their game in order to better adapt to the market. This phenomena often occurs in the eastern market.
Developers and marketers are unable to make evidence-based design decisions because of this gap. The industry frequently depends on gut feeling or A/B testing without a theoretical basis in the absence of precise data on which monetization features convert best and for whom. Future studies should take a more detailed approach, comparing the revenue performance of particular features to psychological constructs (e.g., competence, autonomy) and engagement metrics (e.g., session length, retention rate, win rate) from models like SDT and Flow.
The same issue often applies to videogames themselves, due to the publishers not making the necessary testing that is needed before actually publishing a game, most of the times due to a lack of the budget. This issues should not apply to theoretical and practical research in the same way it does for publishers.

2.4.2: The lack of Player Segmentation Models for Monetization

The absence of formalized player segmentation models created especially to direct monetization strategies represents another notable gap in the literature. Although user segmentation is widely used in marketing and game analytics (Sifa et al., 2018)[57], it frequently relies on behavioral information like playtime or frequency rather than psychological orientation, motivational triggers, or spending propensity.
This is problematic because F2P monetization thrives on a variety of psychological profiles and the value potential that goes along with them, rather than on average behavior. For instance, players who play competitively and are more likely to buy performance-enhancing content need different retention and conversion strategies than engaged non-spenders, who log in every day but never spend. The industry's capacity to apply tailored pricing, content delivery, and offer timing is constrained by the lack of verified, monetization-specific player archetypes.

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[56] Xiao, L., & Henderson, L. L. (2021). Regulating loot boxes as gambling? A response to criticism. *International Journal of Mental Health and Addiction*, 19, 230–247. https://doi.org/10.1007/s11469-019-00112-2

[57] Sifa, R., Bauckhage, C., & Drachen, A. (2018). Profiling in games: Understanding behavior from telemetry. In Seif El-Nasr, M., Drachen, A., & Canossa, A. (Eds.), *Game Analytics* (pp. 113–132). Springer. https://doi.org/10.1007/978-3-319-39396-0_6

Based on a synthesis of existing research, personal experience and practical models, a preliminary segmentation framework could include the following player types:

1)The Competitive Player – Motivated by skill, ranking, and performance. Likely to respond to monetization that improves visibility (e.g., ranked badges) or enables optimal performance (e.g., agents, battle passes). Common in esports-oriented titles such as *Valorant* and *League of Legends*.
This type of player is often one of the most engaged, tending to spend the majority of his available gaming time in a single game.

2)The Completionist – Driven by the goal of unlocking all content. Tends to spend consistently across events to maintain full collections or pass tiers. Tends to be very sensitive to FOMO-based mechanics. Completionists often appear in games ith frequent updates and gacha-like systems, such as Genshin Impact.

3)The Social Spender – Seeks recognition and connection with peers. Spends on cosmetics, gifting, or items that enhance social visibility. Active in games with strong clan/guild systems such as Clash Royale or games where social appearence is emphatised, such as Deep Rock Galactic.

4)The Immersive Customizer – Invests in narrative, world-building, and personalization. More likely to spend on skins, emotes, or custom loadouts that reflect identity or creativity. Usually, the more customization the game offers, the better it is for this type of player. No wonder why games like Minecraft have been at the top for several years now, due to the inclusion of basically infinite amount of personal customization. These types of players also tend to appear in games that comprehend a "build", a set of skill and gear that can be applied to your character, in order to make it more unique as possible.

5)The Opportunist – Engages sporadically but spends impulsively when presented with high-value bundles or limited-time offers. Often targeted through scarcity and urgency cues. Usually this player, along as the competitive, tends to spend only when strictly necessary, not caring about special customizations, but rather focalizing on utility.

While this is, of course, just a brief descriptive distinction, In academic literature, no standardized model has been established, despite the obvious strategic value of such typologies. The majority of player classification systems currently in use place more emphasis on gameplay styles (such as Bartle's taxonomy) than on monetization behavior (Bartle, 1996)[58]. Both game researchers and F2P developers would greatly benefit from the creation and validation of a psychological segmentation model centered on monetization, as it would allow for

[58] Bartle, R. A. (1996). Hearts, clubs, diamonds, spades: Players who suit MUDs. *Journal of MUD Research*, 1(1). http://mud.co.uk/richard/hcds.htm

more moral, effective, and customized monetization tactics, that would probably boost not only revenue, but engagement as well.

Chapter 3: Conceptual Framework

The study's conceptual framework is presented in this chapter. According to the model, player behavior is influenced by engagement mechanics, which in turn affects microtransaction revenue in a sequential relationship. By providing a testable, marketing-relevant framework, the main goal is to close the gap between game design elements and monetization results.
The framework unfolds across three main components:
3.1 Engagement Mechanics: Game features designed to stimulate player interaction and retention.
3.2 Player Behavior: In-game actions and psychological responses triggered by those mechanics.
3.3 Revenue Outcomes: The extent to which those behaviors translate into actual spending.

3.1: Engagement Mechanics

Engagement mechanics are deliberate game design elements implemented to increase player interaction, daily retention, and time spent in-game. In free-to-play (F2P) environments, where revenue is not derived from initial purchases, these mechanics act as the primary levers to maintain player interest and stimulate spending opportunities.

3.1.1: Limited-Time Events, Battle Passes, and Daily Rewards

F2P games use a variety of strategies to keep players interested over time. Three of these—daily login rewards, battle passes, and limited-time events—stand out as having the biggest effects. Each appeals to different motivational levers and fulfills a unique psychological purpose.

Daily Logins Rewards
For consecutive days of play, these mechanics provide progressively more rewards, like in game currency, items, or experience boosts. They have their roots in the theory of operant conditioning, which postulates that systematic rewards can be used to reinforce behavior (Skinner, 1953)[59]. Daily rewards encourage the sunk cost effect, which makes players feel obligated to keep logging in to maintain their streak, and help create habitual play patterns by rewarding consistency (Hamari & Lehdonvirta, 2010)[60]. Although their primary function is

[59] Skinner, B.F. (1953). *Science and Human Behavior*. New York: Macmillan.

[60] Hamari, J., & Lehdonvirta, V. (2010). Game design as marketing: How game mechanics create demand for virtual goods. *International Journal of Business Science and Applied Management, 5*(1), 14–29.

to improve retention, they typically act as a gateway to deeper engagement rather than monetization itself, so their direct impact on revenue is minimal (Seufert, 2014)[61]. This is due to them being freely achievable by every player. In no case a player is forced to pay in order to get daily login rewards, on the opposite they remain the same for every player, enhancing engagement due to them being better as you progress.

Battle Passes

In december of 2017, Fortnite introduced for the first time ever seasonal progression systems, known as battle passes. For the videogame market, this introduction had a ridicolous impact on the markets, and indeed this system has been introduced by the vast majority of videogames, which is able to provide both free and premium reward tracks. Players who complete in-game challenges can unlock cosmetic items, currency, and exclusive bonuses through the premium track, which usually requires a one-time payment. Their strength is their ability to appeal to players' loss aversion and completionist tendencies, which encourages regular gameplay to prevent rewards from going unclaimed **(**Nieborg, 2017)[62]. Battle passes, as opposed to loot boxes, offer clear value, enabling players to calculate their return on investment and enhancing the system's perceived fairness (Lin & Sun, 2011)[63]. Their psychological impact is further enhanced by the use of temporal scarcity, which restricts access to the content to a specific time frame **(**Marchand & Hennig-Thurau, 2013)[64]. According to research, battle passes can both dramatically increase and decrease average revenue per paying user (ARPPU). (Paavilainen et al., 2017)[65]

Limited-time Events (LTEs)

Limited time events, or LTEs, frequently feature unique challenges, items, or game modes with a theme. These occurrences depend on psychological cues like urgency, scarcity, and peer pressure. Players are compelled to log in and spend before opportunities disappear due to the limited availability window, which

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[61] Seufert, E. (2014). *Freemium Economics: Leveraging Analytics and User Segmentation to Drive Revenue*. Morgan Kaufmann.

[62] Nieborg, D. B. (2017). App advertising: The rise of the player commodity. *Games and Culture, 12*(6), 594–614.

[63] Lin, H., & Sun, C. T. (2011). Cash trade in free-to-play online games. *Games and Culture, 6*(3), 270–287.

[64] Marchand, A., & Hennig-Thurau, T. (2013). Value creation in video game business models: The case of freemium games. *Journal of Strategic Marketing, 21*(2), 168–174.

[65] Paavilainen, J., Alha, K., Koskinen, E., Hamari, J., & Kinnunen, J. (2017). The playing motivations of Finnish Pokémon GO players. *Proceedings of the 13th International Conference on Mobile and Ubiquitous Multimedia*.

exacerbates their fear of missing out (FOMO) (King & Delfabbro, 2018)[66]. Because players are more inclined to participate if they observe their peers participating, LTEs also foster a sense of social proof and community excitement (Alha et al., 2019)[67]. In order to capitalize on emotional urgency, monetization is frequently incorporated through time-sensitive bundles, exclusive skins, or randomized loot mechanics (Zagal, Björk & Lewis, 2013)[68].
In some cases, LTEs might also include one time available purchases, hich drastically increase the FOMO in players. A good example would be the limited time skin bundles that Valorant introduces during special event. For instance, during the 2021 World Champions Tour (The most important international Valorant competitive tournament, which happens once every year), Riot Games introduced a one-time available bundle that included an exclusive skin themed around the world tournament. This strategy had already been used by the company during a special event regarding the animated tv series Arcane, and worked out perfectly. For this reason, every year during the World Champions Tour, Valorant releases an exclusive bundle that can never appear in the shop again, while every other cosmetic may randomly appear for the players.

These mechanisms work in tandem to create a complementary system: LTEs create urgency, battle passes cultivate dedication, and daily rewards establish habits. Each has unique implications for retention and monetization and plays a particular role in the player engagement lifecycle. The key to optimizing marketing strategies in F2P environments is determining which mechanic works best for different player types.

3.1.2: Player Behavior: Psychological and Behavioral Reactions to Engagement Mechanics

Player behavior is the visible and quantifiable collection of reactions that engagement mechanics elicit, whereas engagement mechanics are the intended stimuli. Different levels of in-game activity, loyalty, and spending are the results of these responses, which are influenced by both internal and external incentives. Determining how mechanics convert into income and which psychological levers work best for various player segments requires an understanding of these behaviors.

Establishing Routines and Habits

Habitual engagement, which is mostly fueled by mechanisms like daily rewards and login streaks, is one of the most prevalent behavioral patterns. These

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[66] King, D. L., & Delfabbro, P. H. (2018). Predatory monetization schemes in video games and Internet gaming disorder. *Addiction, 113*(11), 1967–1969.

[67] Alha, K., Koskinen, E., Paavilainen, J., Hamari, J., & Kinnunen, J. (2019). Why do people play location-based augmented reality games: A study on Pokémon GO. *Computers in Human Behavior, 93*, 114–122.

[68] Zagal, J. P., Björk, S., & Lewis, C. (2013). Dark patterns in the design of games. In *Foundations of Digital Games Conference*.

characteristics help players incorporate the game into their everyday routines and strengthen a sense of continuity (Oulasvirta et al., 2012)[69]. Like checking email or social media, playing the game eventually becomes a ritual. The frequency of gaming sessions rises as a result of this habitual loop, and this frequency is positively correlated with exposure to monetization opportunities like exclusive deals or temporary promotions (Wood & Griffiths, 2007)[70]. Furthermore, players may start spending to speed up progress or prevent breaking a streak once they establish a commitment loop (Alha et al., 2014)[71]. Taking a game like Genshin Impact would be a good example. Genshin Impact offers daily and weekly quests, which are extremely important to achieve for the in-game progression. Sometimes players might log-in into the game just to complete the daily quests in order to not lose value, establishing a real automatic routine.

Goal-oriented behavior and completionism

Completionist behavior is brought on by battle passes and progression systems, where players try to finish a game completely or get every reward. Psychological ideas like the Zeigarnik Effect, which holds that people remember and are more motivated to finish incomplete tasks, are frequently connected to this (Zeigarnik, 1927)[72]. Limited-time challenges, locked tiers, and incomplete progress bars are effective gaming motivators that lengthen sessions and boost player engagement. Gamers may also exhibit optimization behavior, opting to spend money to increase their time efficiency as well as for rewards (Vandenbosch et al., 2017)[73]. This is particularly common among players who are pressed for time and choose to "buy progress" in order to complete in-game objectives ahead of schedule. This could naturally lead to a Pay-to-win environment, where the paying player is able to progress too fast, comparing to the non-paying player.

Impulsive spending and FOMO

FOMO (Fear of Missing Out) is often triggered by Limited-Time Events (LTEs) and exclusive store offers, which can result in impulsive purchases. Using countdown timers, seasonal exclusivity, and disappearing content, LTEs are

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[69] Oulasvirta, A., Rattenbury, T., Ma, L., & Raita, E. (2012). Habits make smartphone use more pervasive. *Personal and Ubiquitous Computing, 16*(1), 105–114.

[70] Wood, R. T., & Griffiths, M. D. (2007). Online guidance, advice, and support for problem gamblers and their families: An evaluation of the GamAid pilot service. *British Journal of Guidance & Counselling, 35*(4), 373–389

[71] Alha, K., Koskinen, E., Paavilainen, J., Hamari, J., & Kinnunen, J. (2014). Free-to-play games: Professionals' perspectives. *Proceedings of Nordic Digra 2014*.

[72] Zeigarnik, B. (1927). Über das Behalten von erledigten und unerledigten Handlungen. *Psychologische Forschung, 9*, 1–85.

[73] Vandenbosch, L., Van Cleemput, K., & Eggermont, S. (2017). Buying and playing video games: Relationship with adolescent deviant behavior. *Media Psychology, 20*(3), 350–370.

intended to evoke a sense of psychological urgency (Przybylski et al., 2013)[74]. Players may avoid using reasoned decision-making processes and make impulsive purchases if they believe that passing up an opportunity will result in permanent loss, particularly of rare or socially valuable items (King et al., 2015)[75]. These actions are frequently motivated by competitive pressure in multiplayer environments and social identity signaling, such as possessing rare skins, rather than being directly related to gameplay value (Hamari, 2017)[76]. These are the main reasons why limited time one purchase only offers and extremely rare cosmetics get so much value in in-game environments.

Peer comparison and social influence

Social comparison is another strong behavioral motivator, particularly in cooperative or competitive games. Players may reluctantly copy friends' or streamers' actions in order to keep up with their peers (Festinger, 1954)[77]. This is especially noticeable in games that have ranked ladders, visible cosmetics, or guild systems where players can see their own progress. As players now display their in-game accomplishments to larger audiences, peer-induced purchase behavior has increased due to the influence of social media and streaming culture (Paul, 2018)[78]. Often this results into a race for the most social influence possible, with influencers rushing for being the first one to advertise their guides, tutorials, tips and tricks, and every single type of content that may engage the player.

3.1.3: Revenue: From Engagement to Monetization

The conceptual model's last section investigates how player behavior and engagement affect microtransaction revenue, which is the main source of income for free-to-play (F2P) games. The commercial success of these systems is determined by the monetization outcome, even though engagement mechanics provide the context and behavior reflects the response. The average revenue per user (ARPU), spending frequency, and conversion-maximizing factors are the main topics of this section.

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[74] Przybylski, A. K., Murayama, K., DeHaan, C. R., & Gladwell, V. (2013). Motivational, emotional, and behavioral correlates of fear of missing out. *Computers in Human Behavior*, *29*(4), 1841–1848.

[75] King, D. L., Delfabbro, P. H., & Griffiths, M. D. (2015). The role of structural characteristics in problematic video game play: An empirical study. *International Journal of Mental Health and Addiction*, *9*(3), 320–333.

[76] Hamari, J. (2017). Do games motivate to purchase? The relationship between game features and spending behavior. *Computers in Human Behavior*, *68*, 538–546.

[77] Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, *7*(2), 117–140.

[78] Paul, C. A. (2018). *The Toxic Meritocracy of Video Games: Why Gaming Culture Is the Worst*. University of Minnesota Press.

Spending Frequency and Conversion Rates

Conversion rate, which is the proportion of players who make at least one purchase, is one of the most straightforward revenue indicators. Since F2P games usually have conversion rates of 1% to 5%, each monetized interaction is extremely valuable (Evans, 2016)[79]. By extending player time in-game and exposing users to monetization prompts more frequently, engagement mechanics raise the chance of conversion (Seufert, 2014)[80]. For example, because they have a greater investment in the ecosystem, players who use battle passes or finish daily missions are statistically more likely to become paying users (Hamari et al., 2017)[81].

Average Revenue Per Paying User (ARPPU)

Even though very few players spend, those who do frequently make disproportionately large contributions. ARPPU becomes crucial at this point. By promoting recurring purchases and bundle upgrades, well-designed monetization mechanics (fan-service being the easiest way), particularly those with layered progression (like battle passes) or exclusivity (like LTEs), can significantly raise ARPPU (Paavilainen et al., 2017)[82]. Furthermore, players frequently spend more than they typically do in response to urgency or scarcity, which causes revenue spikes from limited-time mechanics (King & Delfabbro, 2019)[83]. A small percentage of whales, or players who generate the majority of total revenue, are frequently responsible for high ARPPU, highlighting the significance of high-value offers and customized incentives (Fields & Cotton, 2012)[84]. Whales are mostly present in mobile games market, but they do actually exist in every type of environment. Usually, the most Pay-to-win a game is, the most percentage of revenue the whales will generate.

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[79] Evans, D. S. (2016). The economics of attention markets. *Review of Network Economics, 14*(3), 129–150.

[80] Seufert, E. (2014). *Freemium Economics: Leveraging Analytics and User Segmentation to Drive Revenue*. Morgan Kaufmann.

[81] Hamari, J., Hanner, N., & Koivisto, J. (2017). "Why pay to play?" An empirical study on the influence of pay-to-win and event-driven purchases on player spending in mobile games. *International Journal of Information Management, 37*(2), 125–141.

[82] Paavilainen, J., Alha, K., Koskinen, E., Hamari, J., & Kinnunen, J. (2017). The playing motivations of Finnish Pokémon GO players. *Proceedings of the 13th International Conference on Mobile and Ubiquitous Multimedia*.

[83] King, D. L., & Delfabbro, P. H. (2019). Video game monetization (e.g., 'loot boxes'): A blueprint for practical social responsibility measures. *International Journal of Mental Health and Addiction, 17*(1), 166–179.

[84] Fields, T., & Cotton, B. (2012). *Social Game Design: Monetization Methods and Mechanics*. CRC Press.

Psychological Price Anchoring and Value Perception

Psychological pricing is another significant mechanism that affects revenue. A player's perception of the value of in-game items is raised by engagement mechanics, which frequently serve as anchors. Battle passes, for instance, may provide a perceived value of $50 in rewards for $10, which makes the offer seem like a good deal (Marchand & Hennig-Thurau, 2013)[85]. In a similar vein, free incentives (like daily logins) foster a "freemium" environment where users are more inclined to defend purchases since they have already benefited from some free content (Lin & Sun, 2011)[86]. This is consistent with the foot-in-the-door strategy, which holds that modest upfront investments raise the possibility of later, larger purchases (Freedman & Fraser, 1966)[87]. Another case scenario is games with subscription models. Some types of players might tend to incentivize the purchases of further in-game currency due to the fact they already invest money with a monthly subscription membership model. This is the case of Wizard101, an already mentioned MMO, published in 2008. The game offers a pay-to-play subscription model and on top of that it also offers a premium in-game currency, “crowns”, which may be used for extra premium items, often leading to a pay to win (on top of pay to play) environment.

Revenue as a Function of Engagement Quality

Importantly, revenue is predicted by the type and intensity of engagement rather than just the quantity of engagement. According to research, players who are motivated by internal factors—such as flow, mastery, or social belonging—tend to spend more steadily over time than those who are motivated by external or coercive rewards (Ryan et al., 2006)[88]. Therefore, value-aligned design—where spending feels purposeful and rewarding rather than exploitative—is essential to sustainable monetization strategies. In the long run, mechanisms that are seen as skill-based and fair (such as battle passes and progression tiers) perform better than those that depend on randomness or aggressive monetization (such as paywalls and loot boxes) (Zagal et al., 2013)[89].

Another important thing to mention is that the aggresive monetization system has been preponderant in recent years with a costant release of unfinished videogames and low quality monetization strategies. Over the course of the recent years,

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[85] Marchand, A., & Hennig-Thurau, T. (2013). Value creation in video game business models: The case of freemium games. *Journal of Strategic Marketing, 21*(2), 168–174.

[86] Lin, H., & Sun, C. T. (2011). Cash trade in free-to-play online games. *Games and Culture, 6*(3), 270–287.

[87] Freedman, J. L., & Fraser, S. C. (1966). Compliance without pressure: The foot-in-the-door technique. *Journal of Personality and Social Psychology, 4*(2), 195–202.

[88] Ryan, R. M., Rigby, C. S., & Przybylski, A. (2006). The motivational pull of video games: A self-determination theory approach. *Motivation and Emotion, 30*(4), 344–360.

[89] Zagal, J. P., Björk, S., & Lewis, C. (2013). Dark patterns in the design of games. In *Foundations of Digital Games Conference*.

countless games have been released, “milked” as much as possible, and virtually died or permanently closed even a few months later.
This happens due to a futile aggresive monetization system that involves the release of videogames, might it be the overpricing of games (eg. 25 euros for a playtest or a clearly unfinished game) or an extremely aggresive cosmetic monetization system, where it seems to be more effort in the creation of fan-service/extremely tempting skins, rather than focusing on improving the actual gameplay.

3.2: Key Variables

Determining the fundamental variables that form the research model is crucial for conducting an empirical test of the suggested conceptual framework. The dependent, independent, and moderating variables that will be used in the survey and the experimental simulation are defined operationally in this section.
Each variable has been selected based on its theoretical relevance, empirical observability, and contribution to answering the central research question: *How do specific engagement mechanics influence player behavior and lead to microtransaction spending?*
The independent variable reflects engagement mechanics (e.g., battle passes, daily rewards, and limited-time events), the dependent variable records player spending behavior, and the moderating variables take individual differences like player type, demographic characteristics, and gaming habits into consideration. When combined, these factors will enable a more thorough examination of the processes that convert interaction into income.

3.2.1 Dependent Variable: Measuring Microtransaction Revenue Through Player Self-Reported Spending

The dependent variable in this study is microtransaction spending, which is the ultimate result of the suggested model. Our specific goal is to quantify spending patterns in relation to past gameplay and psychological reactions to game mechanics. The operationalization of this variable must be based on self-reported measures that are carefully constructed to ensure validity, reliability, and comparability because it is a non-laboratory study.

Definition and Rationale

In free-to-play (F2P) games, microtransaction revenue is the sum of real money that players spend on in-game purchases, which can include anything from battle passes and randomized loot to cosmetic items and boosters (Hamari & Lehdonvirta, 2010)[90]. We will measure player-reported spending frequency and estimated monetary outlay under simulated conditions because real-time access to players' financial data is impractical in this academic setting. When experimental

[90] Hamari, J., & Lehdonvirta, V. (2010). Game design as marketing: How game mechanics create demand for virtual goods. *International Journal of Business Science and Applied Management, 5*(1), 14–29.

financial control is impractical, this approach is frequently employed in consumer behavior research **(**Malhotra et al., 2017)[91].

The Measurement Approach's Design

In a fictitious scenario, participants will be given a set virtual budget (for example, €20) to spend in a simulated gaming environment. Mirroring actual F2P systems, this environment will feature a variety of engagement mechanics, such as battle passes, daily rewards, and time-limited events. Players will be asked to allocate this budget according to their own tastes and reasons for making purchases. This study tries to simulate reality as close as possible, due to the high amount of games that offer various spending ways and a given budget is a good indicator of what players highly perceive as useful and players tend to avoid. Given, also, the various types of players that play different games with different approaches, it would be highly useful for game producers to understand which types of players will most-likely play their game, and utilize appropriate targeted strategies.

In addition to this simulated choice, participants will also be asked to **self-report**:

-Their **typical monthly spending** in F2P games;

-Their **frequency of spending** (e.g., weekly, monthly, seasonally);

-Their **most common types of purchases** (e.g., skins, progression, random rewards);

-The **situations or features** that tend to trigger their purchases.

A more comprehensive understanding of player monetization patterns can be obtained by using this mixed approach, which allows us to examine both declared behavior (self-reported real spending) and projected behavior (budget allocation in the simulated context) (Venkatesh et al., 2012)[92].

Advantages and Limitations of Self-Reported Data

Although social desirability bias and recall bias can affect self-reported spending, these risks can be reduced by using anonymous surveys and neutral, unambiguous language (Paulhus & Vazire, 2007)[93]. Furthermore, earlier studies have demonstrated that hypothetical purchase tasks yield data that closely resembles real-world consumer behavior, particularly when they are based on realistic budgets and constraints (Green & Srinivasan, 1990)[94].

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[91] Malhotra, N. K., Birks, D. F., & Wills, P. (2017). *Marketing Research: An Applied Approach* (5th ed.). Pearson Education.

[92] Venkatesh, V., Brown, S. A., & Bala, H. (2012). Bridging the qualitative–quantitative divide: Guidelines for conducting mixed methods research in information systems. *MIS Quarterly*, *36*(1), 21–54.

[93] Paulhus, D. L., & Vazire, S. (2007). The self-report method. In R. W. Robins, R. C. Fraley & R. F. Krueger (Eds.), *Handbook of Research Methods in Personality Psychology* (pp. 224–239). Guilford Press.

[94] Green, P. E., & Srinivasan, V. (1990). Conjoint analysis in marketing: New developments with implications for research and practice. *Journal of Marketing, 54*(4), 3–19.

Self-reporting gives us the opportunity to gather qualitative information in addition to quantitative measurements, which is another significant benefit. We can investigate the emotional and cognitive foundations of participants' behavior by including open-ended questions about why they feel compelled to spend or select particular features. This facilitates the creation of a more comprehensive, multifaceted revenue profile that goes beyond simple financial information. Again, this type of information combined with the various kinds of players will easily give us access to precious and accurate informations about the approach players have towards a specific game.

Link to Theoretical Framework

The final dependent variable in our conceptual model is spending behavior, which is impacted by player engagement (an independent variable) and moderated by player demographics and type. A major concern for both game designers and marketers, the revenue variable will thus enable us to test whether and how various engagement mechanics translate player attention into monetary value **(**Seufert, 2014)[95].

3.2.2: Independent Variable: Operationalizing Engagement Mechanics

The collection of engagement mechanisms found in free-to-play (F2P) games serves as the study's independent variable. These features act as the specifically crafted stimuli meant to boost player engagement, retention, and eventually revenue potential. They serve as the basis for the experimental manipulation in the research model since they are deliberate interventions carried out by game developers.

Definition and Relevance

In-game systems that use rewards, social interaction, and structured progression to draw and hold players' attention are known as engagement mechanics **(**Hunicke et al., 2004)[96]. These systems are essential for influencing the player experience and encouraging spending-related behaviors in player-to-player (F2P) environments, where players join without making an upfront financial commitment ([97]Hamari, 2015).

Three different mechanics that have been found in the literature to be both common and strategically significant are used in this study to operationalize the

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[95] Seufert, E. (2014). *Freemium Economics: Leveraging Analytics and User Segmentation to Drive Revenue*. Morgan Kaufmann.

[96] Hunicke, R., LeBlanc, M., & Zubek, R. (2004). MDA: A formal approach to game design and game research. *Proceedings of the AAAI Workshop on Challenges in Game AI*.

[97] Hamari, J. (2015). Why do players buy in-game content? An empirical study on concrete purchase motivations. *Computers in Human Behavior, 53*, 59–69.

independent variable:
-Daily Rewards (habit-forming incentives for consistent logins),
-Battle Passes (monetized seasonal progression systems),
-Limited-Time Events (LTEs) (exclusive and time-restricted content).
Each mechanic is selected based on prior empirical findings and its psychological leverage on player behavior, such as habit formation, urgency, and reward anticipation (Alha et al., 2019)[98].

Integration in Research Design

Participants will be exposed to all three in a controlled setting as these mechanics are experimentally incorporated into a simulated gaming environment. How players engage with the mechanics and distribute fictitious resources—such as a set virtual budget—is where the differences lie. The causal relationship between the kind of engagement mechanism and the probability or level of player spending can be directly observed with this configuration.
Additionally, each mechanic-specific behavioral and attitude questions will be included in the survey items, including:
-"How often do you engage with daily rewards systems?"
-"How likely are you to purchase a battle pass if it offers exclusive cosmetic items?"
-"To what extent do limited-time offers influence your decision to spend?"
These questions serve to both reinforce the manipulation and allow for **triangulation** of data across simulation and self-reporting methods (Malhotra et al., 2017)[99].

Theoretical Foundation
Three theoretical frameworks that are consistent with scholarly literature and the pedagogical underpinnings of this thesis served as the basis for the choice and organization of the independent variable, engagement mechanics.
First, by recognizing autonomy, competence, and relatedness as crucial motivators in digital environments, **Self-Determination Theory (SDT**) offers a psychological foundation. These intrinsic needs are triggered by game mechanics like battle passes (competence), time-limited events (autonomy under time pressure), and social features (relatedness), which increase the likelihood that engagement will result in behavioral investment (Ryan & Deci, 2000)[100].
Second, the fundamental elements that define user experience are game mechanics, according to the **MDA Framework** (Mechanics–Dynamics–

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[98] Alha, K., Koskinen, E., Paavilainen, J., Hamari, J., & Kinnunen, J. (2019). Why do people play location-based augmented reality games: A study on Pokémon GO. *Computers in Human Behavior*, *93*, 114–122.

[99] Malhotra, N. K., Birks, D. F., & Wills, P. (2017). *Marketing Research: An Applied Approach* (5th ed.). Pearson Education.

[100] Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*(1), 68–78.

Aesthetics) from **game design theory**. According to this model, player behavior (such as repeated sessions) is the emergent dynamic, mechanics (such as daily login rewards) are the input, and the aesthetic outcome is emotional impact (such as urgency and satisfaction) **(**Hunicke et al., 2004)[101].
Third, the **Markstrat framework**'s strategic marketing simulation principles inform the research's structure. Marketing choices are assessed in Markstrat based on how they affect revenue, brand perception, and consumer behavior. In a similar vein, this study models **engagement mechanics as strategic variables** that are used to affect player behavior (similar to market response) and ultimately drive spending (similar to market share or profit). Similar to how companies in Markstrat model competitive market scenarios to direct positioning and resource allocation, game studios use A/B testing and analytics to optimize features for maximum lifetime value (Larréché & Gatignon, 1998)[102].

Justification for Variable Selection
The emphasis on LTEs, battle passes, and daily rewards is not coincidental. These mechanics are frequently cited in academic research and industry reports as the primary factors influencing engagement and revenue (Nieborg, 2017)[103]. They are also widely used across platforms (mobile, PC, console) and genres (shooters, MOBAs, RPGs, etc.), which guarantees external validity and makes the results applicable in a variety of gaming contexts.
Additionally, each mechanic corresponds to a distinct player motivation:
Daily rewards → **Routine & progression**
Battle passes → **Goal completion & perceived value**
LTEs → **Scarcity & exclusivity**
This triad allows for comparative analysis and segmentation, ultimately enabling the study to determine **which mechanics are most effective for which players**, a key contribution to both theory and practice which hasn't been yet properly analyzed in the already existing literature.

3.2.3 Moderating Variables: Player Type, Demographics, and Game Genre

Although it is anticipated that engagement mechanics will affect players' spending patterns, this relationship is rarely consistent across all players. Rather, it is influenced by a number of important variables that determine the degree, timing, and target audience of engagement that results in monetization. Player type, demographics, and game genre are the three main moderating variables that we have identified and included in this study. These dimensions enhance the overall

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[101] Hunicke, R., LeBlanc, M., & Zubek, R. (2004). MDA: A formal approach to game design and game research. *Proceedings of the AAAI Workshop on Challenges in Game AI*.

[102] Larréché, J.-C., & Gatignon, H. (1998). *Markstrat: A Marketing Strategy Simulation* (4th ed.). South-Western College Publishing.

[103] Nieborg, D. B. (2017). App advertising: The rise of the player commodity. *Games and Culture, 12*(6), 594–614.

model's segmentation power and aid in explaining differences in the efficacy of various engagement tactics.

Player Type (Casual vs. Competitive)

The player's motivational orientation is a key moderating factor. Previous game studies and marketing research has consistently distinguished between competitive players who aim for mastery, ranking, and prestige, and casual players who play for fun and relaxation **(**Bartle, 1996)[104]. These player types react differently to game mechanics. For example, competitive users may find battle passes and leaderboards more appealing, whereas casual profiles are better suited for cosmetics and daily logins (Yee, 2006)[105].

Participants will be asked to self-classify using a validated typology in order to capture this dimension. The classification will be verified by analyzing their in-game behavior, such as the amount of time spent and the goals they pursued. This gives us important information for targeting and personalization, enabling us to determine whether a particular mechanic (like a limited-time event) has a greater impact on spending for a particular player type than another. It is clear that, for istance, competitivity is something that can not be pursued in every game, and some games emphatize this aspect way better than others (Valorant, CSGO, Fortnite and League of Legends being the best examples for F2P). For this reason it is fundamental to properly understand how players identify themselves and how they approach the game and the possible in-game purchases.

Demographics (Age, Gender, Income)

The behavior of microtransactions is also significantly moderated by demographic factors. For instance, older players typically base their spending on long-term growth and value, whereas younger players might be more likely to make impulsive purchases **(**Marder et al., 2019)[106]. Additionally, gender differences have been noted, with female players displaying a greater interest in customization and social features and male players spending more in competitive contexts (Kuo et al., 2016)[107]. Income level influences willingness to invest in exclusive content or premium features in addition to spending in absolute terms

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[104] Bartle, R. (1996). Hearts, clubs, diamonds, spades: Players who suit MUDs. *Journal of MUD Research, 1*(1).

[105] Yee, N. (2006). Motivations for play in online games. *CyberPsychology & Behavior, 9*(6), 772–775.

[106] Marder, B., Houghton, D., Haenlein, M., & Kosinski, M. (2019). Developing marketing strategies for digital natives: A demographic approach to gaming behavior. *Journal of Business Research, 100*, 242–252

[107] Kuo, T.-H., Wu, J. J., & Deng, Y. S. (2016). The relationships among service quality, perceived value, customer satisfaction, and post-purchase intention in mobile value-added services. *Computers in Human Behavior, 64*, 431–438.

(Lin & Sun, 2011)[108].
In our study, demographic data will be collected via survey and used to test whether these factors moderate the strength of the engagement–spending relationship. This will enable a **profiled interpretation** of results and enhance the managerial relevance of our recommendations.

Game Genre and Platform
The game's genre and platform (console, PC, or mobile) are environmental moderators that have a big impact on how players behave. Not all genres benefit equally from engagement mechanics. For instance, daily rewards work better in mobile puzzle or role-playing games, while battle passes have been optimized for shooters like Fortnite or Valorant or card games like Hearthstone or Yugioh: Master duel (Nieborg & Poell, 2018)[109]. User interaction is also shaped by platform-specific limitations; for example, mobile players may participate in shorter but more frequent sessions, which may impact their perception of urgency-based mechanics such as LTEs (Seufert, 2014)[110].
Participants will be asked to identify the platforms they use and the kinds of games they play most often. In order to determine whether the same mechanic yields distinct revenue outcomes based on context—information crucial for publishers operating across multiple markets—these data points will be cross-analyzed with spending behavior.

The Role of Moderators in the Research Model
The study goes beyond general conclusions and provides a segmented understanding of the performance of engagement mechanics by incorporating these moderators. In order to optimize resource allocation, market heterogeneity must be addressed, which is consistent with advanced strategic marketing models (like those found in Markstrat) **(**Larréché & Gatignon, 1998)[111]. The results will assist marketers and game developers in determining not only which mechanics generate income but also for whom, when, and why.

3.3: Hypotheses Development
This section presents the main theories that will direct the empirical study, which are based on the conceptual model and previously defined variables. These hypotheses aim to investigate the ways in which player behavior, microtransaction spending, (dependent variables) and engagement mechanics (an independent

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[108] Lin, H., & Sun, C. T. (2011). Cash trade in free-to-play online games. *Games and Culture, 6*(3), 270–287.

[109] Nieborg, D. B., & Poell, T. (2018). The platformization of cultural production: Theorizing the contingent cultural commodity. *New Media & Society, 20*(11), 4275–4292.

[110] Seufert, E. (2014). *Freemium Economics: Leveraging Analytics and User Segmentation to Drive Revenue*. Morgan Kaufmann.

[111] Larréché, J.-C., & Gatignon, H. (1998). *Markstrat: A Marketing Strategy Simulation* (4th ed.). South-Western College Publishing.

variable) are influenced by contextual and individual factors.

Theoretical Rationale

Three primary theoretical streams serve as the foundation for the creation of hypotheses:

1)According to motivational psychology, specifically Self-Determination Theory, actions that are in line with intrinsic motivations—competence, autonomy, and relatedness—are more impactful and long-lasting (Ryan & Deci, 2000)[112].

2)According to game design theory, mechanics should result in measurable and predictable player behaviors (Hunicke et al., 2004)[113].

3)Market segmentation and focused interventions are crucial for optimizing performance outcomes in the Markstrat approach, which served as the inspiration for the strategic marketing simulation logic (Larréché & Gatignon, 1998)[114].

These perspectives combined together are able to provide a robust framework for testing the causal and conditional relationships embedded in the research model.

Primary Hypotheses

H1: *The presence of engagement mechanics (daily rewards, battle passes, limited-time events) has a positive effect on players' self-reported microtransaction spending.*

Reason: Previous research has shown that engaging game mechanics and features increase perceived game value and frequency of play, both of which correlate positively with in-game purchases (Hamari et al., 2017)[115].

H2: *Different engagement mechanics have varying effects on spending behavior, with battle passes leading to higher average spending than daily rewards or limited-time events.*

Raeason: Battle passes combine psychological drivers like progression, exclusivity, and sunk cost investment, which make them feel more purchase-worthy to the eyes of the players. On top of that, they usually offer exclusive content that players do not want to miss out (Alha et al., 2019)[116].

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[112] Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68–78.

[113] Hunicke, R., LeBlanc, M., & Zubek, R. (2004). MDA: A formal approach to game design and game research. *Proceedings of the AAAI Workshop on Challenges in Game AI*.

[114] Larréché, J.-C., & Gatignon, H. (1998). *Markstrat: A Marketing Strategy Simulation* (4th ed.). South-Western College Publishing.

[115] Hamari, J., Hanner, N., & Koivisto, J. (2017). "Why pay to play?" An empirical study on the influence of pay-to-win and event-driven purchases on player spending in mobile games. *International Journal of Information Management, 37*(2), 125–141.

[116] Alha, K., Koskinen, E., Paavilainen, J., Hamari, J., & Kinnunen, J. (2019). Why do people play location-based augmented reality games: A study on Pokémon GO. *Computers in Human Behavior, 93*, 114–122

H3: *Player type moderates the relationship between engagement mechanics and spending: competitive players are more likely to spend on battle passes and LTEs, while casual players are more responsive to daily rewards and cosmetic offers.*
Reason: Player motivations strongly influence which mechanics are perceived as valuable; thus, a segmentation-based approach is necessary (Yee, 2006; Bartle, 1996)[117].

H4: *Demographic factors such as age and income moderate the effect of engagement mechanics on spending, with older and higher-income players showing greater responsiveness to battle passes and exclusive offers.*
Raeason: Spending behavior is shaped by both financial capability and maturity of decision-making, affecting how different age groups and income levels perceive value of the in-game purchases. (Marder et al., 2019)[118].

H5: *Game genre moderates the effect of engagement mechanics on spending, with action-based and competitive genres showing stronger effects for LTEs and battle passes than casual genres.*
Reason: Certain mechanics are genre-optimized, meaning their impact varies depending on the gameplay structure and platform (Nieborg & Poell, 2018)[119].

These five hypotheses will be tested through a combination of:
-**Survey data** (self-reported behavior and preferences),
-**Simulated purchasing experiments** (budget allocation across mechanics),
-**Statistical analysis** (regression models and interaction effects).
The aim is to empirically validate which mechanics most effectively convert engagement into revenue, and under which conditions. This will inform both academic understanding and actionable strategies for game developers and marketers.

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[117] Yee, N. (2006). Motivations for play in online games. *CyberPsychology & Behavior*, *9*(6), 772–775; Bartle, R. (1996). Hearts, clubs, diamonds, spades: Players who suit MUDs. *Journal of MUD Research*, *1*(1).

[118] Marder, B., Houghton, D., Haenlein, M., & Kosinski, M. (2019). Developing marketing strategies for digital natives: A demographic approach to gaming behavior. *Journal of Business Research*, *100*, 242–252

[119] Nieborg, D. B., & Poell, T. (2018). The platformization of cultural production: Theorizing the contingent cultural commodity. *New Media & Society*, *20*(11), 4275–4292.

Hypothesis	Independent Variable(s)	Dependent Variable	Moderator(s)	Expected Relationship
H1	Engagement Mechanics (overall)	Microtransaction Spending	—	Engagement mechanics positively influence player spending.
H2	Type of Engagement Mechanic (Battle Pass, Daily Rewards, LTEs)	Microtransaction Spending	—	Battle passes generate higher spending than daily rewards or LTEs.
H3	Engagement Mechanics	Microtransaction Spending	Player Type (Casual vs. Competitive)	Competitive players spend more on battle passes and LTEs; casual players respond more to daily rewards.
H4	Engagement Mechanics	Microtransaction Spending	Demographics (Age, Income)	Older and higher-income players spend more on exclusive and value-driven mechanics like battle passes.
H5	Engagement Mechanics	Microtransaction Spending	Game Genre	Battle passes and LTEs are more effective in action/competitive genres than in casual ones.

Chapter 4: Methodology

The conceptual framework and hypotheses developed in Chapter 3 were empirically tested using the research design and methodological decisions described in this chapter. The study uses a mixed-method approach, integrating qualitative insights (open-ended answers on preferences and motivations) with quantitative data (structured surveys and experimental simulations).
Both of qualitative and quantitative data are essential to gather the needed informations about player engagement, spending behavior and everything game developers would need to understand about their suitable player base.

4.1: Research Approach

Using a mixed-method design, the study combines exploratory insights into player motivations with deductive hypothesis testing. This decision stems from the fact that the research aims to both understand the subjective reasoning behind those decisions and statistically confirm whether certain mechanics influence spending.

Quantitative Component: Experimental Simulation and Surveys

The quantitative core of the study includes two instruments:
1)**A structured survey**, which gathers demographic data, player type classification, frequency of spending, and attitudes toward different engagement mechanics. The quantitative data gathering is an extremely important part that will allow a first distinction among the interested players towards a specific game and how they can be properly engaged with the game itself.
2)**An experimental scenario**, in which players are asked to allocate a hypothetical budget that will consist of €20, across a set of microtransactions representing the mechanics that we intend to investigate, such as battle passes, limited-time events, daily rewards. This, paired with a clear player type distinction will let us analyze how spending engagements work towards the player attitudes, given all the data they will be asked to give.
By using method triangulation, this dual setup increases the validity of results by observing both self-reported past behavior and projected decision-making (Venkatesh et al., 2012)[120].

Qualitative Component: Motivational Insights

The study incorporates open-ended questions to supplement the quantitative data in order to investigate why players select particular mechanics, what feelings they elicit, and how players view value in F2P ecosystems. This qualitative layer aids in the interpretation of ambiguous or contradictory cases and gives contextual depth to the patterns that have been observed **(**Creswell & Plano Clark, 2011)[121]. For example, time constraints or a sense of pressure are two reasons why players might avoid battle passes rather than low engagement, which might not be evident in closed-ended formats. The explanatory model's dependability is increased by capturing these subtleties. Althought this example is valid, it is necessary to point out that different games, even offering the same concepts of offer, they tend to attribute values in different ways.

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[120] Venkatesh, V., Brown, S. A., & Bala, H. (2012). Bridging the qualitative–quantitative divide: Guidelines for conducting mixed methods research in information systems. *MIS Quarterly, 36*(1), 21–54.

[121] Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and Conducting Mixed Methods Research* (2nd ed.). SAGE Publications.

An example of this is Yugioh: Master Duel, which offers a battle pass system that gives good value rewards even if the player is not able to complete it, while other games do not offer the same type of value for the same price.
Thus, the rewards offered by our finctional battle-pass will be clear from the beginning, letting the player choose the right value to address to it.
On top of that, the qualitative component will consist of specific and targeted interviews to a restricted amount of people who are highly immersed in F2P games scenarios. In particular, we aim to give the contribution of streamers, coaches and former Valorant pro-players who can highly contribute to our research due to their important knowledge of the Valorant market.

Research Philosophy and Approach
The quantitative aspects of this study are consistent with positivism since they seek to test established hypotheses with quantifiable, observable data. At the same time, it takes a practical approach, acknowledging that user behavior in digital settings is contextual, complex, and frequently best understood by combining narrative and numerical inputs (Saunders et al., 2016)[122].
Particularly in game environments where design, psychology, and marketing come together, such a practical mixed-method approach is ideal for consumer behavior in digital marketplaces where decisions are both emotionally and rationally motivated.
Specifically, addressing the motivation behind an emotion-driven or rational-driven choice inside videogames becomes way easier if you are able to understand a player point of view.
Usually, rational-driven choices are the ones which emphatize objective value, such as actually useful in-game purchases that directly upgrade the gaming experience. On the contrary, emotion-driven choices are the ones which emphatize personal perceived value, such as cosmetics.

Research Goal: Understanding Feature-Driven Spending Behavior in F2P Games
This study aims to determine how certain engagement mechanics, like battle passes, daily rewards, and time-limited events, affect player spending patterns in free-to-play (F2P) online games.
Fewer studies have examined which in-game systems actually turn attention into money, even though a lot has been written about the reasons why players spend (such as psychological triggers and motivations). This is especially true in competitive environments where monetization is fueled more by social signaling and cosmetics than by pay-to-win advantages (Hamari, 2015)[123].

Strategic Relevance
This study bridges the gap between marketing strategy and game design theory by

[122] Saunders, M., Lewis, P., & Thornhill, A. (2016). *Research Methods for Business Students* (7th ed.). Pearson Education.

[123] Hamari, J. (2015). Why do players buy in-game content? An empirical study on concrete purchase motivations. *Computers in Human Behavior, 53*, 59–69.

focusing on the mechanics—rather than just the incentives—that drive player spending. By doing this, it advances a more practical comprehension of:
-Which features bring in the most money?
-Which mechanics work best for which player types?
-How studios can maximize revenue without sacrificing player retention or satisfaction?
In summary, the study provides F2P developers with a data-driven foundation for prioritizing or redesigning monetization features by converting player engagement patterns into strategic marketing insights (Seufert, 2014)[124].

An applied approach was used in the design of this project, combining simulated situations involving decision-making, and self-reported patterns of behavior are useful to watch how users engage with game elements that replicate actual revenue-generating schemes. The result includes both theoretical support and useful advice for businesses in the F2P gaming industry, particularly those aiming to cater to competitive and cosmetics-driven communities such as Valorant (Marchand & Hennig-Thurau, 2013)[125]. The survey will not be aimed only to those communities but it will take a general approach oriented to every kind of player, having the opportunity to obtain informations from various countries in the world, not only focusing Italy.

Alignment with Conceptual Model

The conceptual model presented in Chapter 3, which suggests a causal pathway, is directly supported by the research goal:
Moderated by factors like player type, demographics, and game genre,
engagement mechanics → player behavior → revenue.
The economic reasoning behind engagement design is better understood thanks to this structure, which allows hypothesis testing across both main effects (does a battle pass increase spending?) and interaction effects (does it work better for competitive players?). (Yee, 2006)[126].

Secondary Objectives

The study intends to investigate the following in addition to determining which engagement mechanics have the greatest influence on microtransaction spending:
-How emotional reactions and motivations affect purchasing choices in simulated environments;
-Whether or not players think certain mechanics are more "fair" or appropriate than others;
-How purchase intent is influenced by aesthetic versus functional value;
-How competitive players' monetization patterns may be indirectly influenced by

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[124] Seufert, E. (2014). *Freemium Economics: Leveraging Analytics and User Segmentation to Drive Revenue*. Morgan Kaufmann.

[125] Marchand, A., & Hennig-Thurau, T. (2013). Value creation in video game business models: The case of freemium games. *Journal of Strategic Marketing, 21*(2), 168–174.

[126] Yee, N. (2006). Motivations for play in online games. *CyberPsychology & Behavior, 9*(6), 772–775.

influencers or esports personalities.
These secondary goals are discovered through qualitative information obtained through interviews and open-ended questions rather than being tested by hypotheses. They add strategic depth to the data interpretation and enhance the primary quantitative findings.

4.2: Data Collection

Ecological validity and experimental control have been balanced in the design of the data collection strategy. In order to achieve this, the study uses an online survey that combines both quantitative tools and qualitative questions to collect data from a specific sample of gamers. Measurement of real and hypothetical spending behavior in response to controlled exposure to engagement mechanics is made possible by the structure.

Target Population and Sampling

Players who actively participate in free-to-play (F2P) games, including shooters, MOBAs, RPGs, and casual games, make up the sample. The following sampling criteria are used to guarantee relevance and diversity:
-16 years old is the minimum age;
-playing at least one free-to-play game during the previous 30 days;
-familiarity with one or more monetization mechanisms, such as battle passes, daily rewards, and LTEs.
Because participants are gathered via gaming forums, social media groups, specific games Subreddits and Discord servers tailored to F2P gaming communities, the sampling strategy is non-probabilistic and purposive. Given the research's specialized focus, this recruitment strategy makes sense (Etikan et al., 2016)[127].
Targeting a sample size of roughly 100 participants strikes a balance between feasibility and statistical power. This figure supports fundamental inferential analysis and enables meaningful segmentation (e.g., casual vs. competitive players) (Hair et al., 2010)[128].

Survey Structure

The online survey is divided into three main sections:
1)Demographics and Gaming Profile
-Age, gender, income level;
-Preferred game genres and platforms;
-Average playtime and frequency of in-game purchases.
2)Perception of Engagement Mechanics
-Likert-scale items assessing attitudes toward daily rewards, battle passes, and LTEs (e.g., enjoyment, value perception, frequency of use);

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[127] Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics, 5*(1), 1–4.

[128] Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis* (7th ed.). Pearson Education.

-Player type classification through adapted scales based on existing gamer typologies (Yee, 2006)[129].

3)Simulated Purchase Scenario

Participants are presented with a **hypothetical budget** (e.g., €20) and a mock in-game store featuring different types of microtransactions aligned with the engagement mechanics under study. Players are asked to allocate the budget freely, providing reasoning for their choices. The simulated purchase scenario is particularly useful in order to have an overview about the players willingness to spend, allowing us to have a proper understanding of the priorities given to every purchasable item in the game. Without the given possibility to experiment with a real game scenario, the simulated one is built in order to represent as close as possible the various possible purchases players can make inside a videogame, keeping the prices fair (e.g. 10 euros for the battlepass, which is more than often realistic) without having influence on their choices. This structure enables the collection of both **self-reported behavior** and **scenario-based decision-making**, providing triangulated data for robust analysis (Malhotra et al., 2017)[130].

Moral Aspects to Take into Account and Ethical Considerations

At the start of the survey, an informed consent form will be given to each participant, detailing:

-The goal of the study;

-The fact that participation is voluntary;

-Responses' confidentiality and anonymity;

-Use of the data is restricted to academic settings.

According to standard ethical guidelines, the study is considered minimal risk because no sensitive data or personal identifiers are gathered, and there is no deceit or manipulation (BERA, 2018)[131].

4.3: Analysis Methods

The study uses a multi-level analytical approach that combines descriptive and inferential statistical methods with qualitative coding techniques for open-ended responses in order to test the hypotheses and interpret the data gathered. With moderating factors like player type and demographics taken into consideration, the goal is to thoroughly assess the connection between spending, player behavior, and engagement mechanics.

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[129] Yee, N. (2006). Motivations for play in online games. *CyberPsychology & Behavior, 9*(6), 772–775.

[130] Malhotra, N. K., Birks, D. F., & Wills, P. (2017). *Marketing Research: An Applied Approach* (5th ed.). Pearson Education.

[131] British Educational Research Association (BERA). (2018). *Ethical Guidelines for Educational Research* (4th ed.).

4.3.1: Descriptive Statistics

We'll employ descriptive analysis to:
-Compile demographic information, such as age, income, and preferred platform.
-Determine the frequency of exposure to various engagement mechanics.
-Provide your self-reported spending amounts and preferred kinds of content.
In order to identify outliers or inconsistencies and to give a basic understanding of the sample, metrics like means, standard deviations, and distribution frequencies will be used (Field, 2013)[132].

4.3.2: Hypothesis Testing via Regression Analysis

The study employs multiple linear regression models to assess the hypotheses (H1–H5) that have been put forth. These enable us to test:
-The direct correlation between microtransaction spending (a dependent variable) and engagement mechanics (an independent variable),
-The moderators' interaction effects (e.g., player type × engagement mechanic),
-Each mechanic's relative capacity for prediction.
Standard multiple regression, for example, will be used to evaluate H1 and H2, while interaction terms are needed for H3, H4, and H5 to investigate how the effects of engagement mechanics differ among player subgroups (Aiken & West, 1991)[133].
Data will be analyzed using **JASP** with significance set at $p < .05$, and **standardized beta coefficients** will be reported to compare effect sizes across variables.

4.3.3: Cluster Analysis for Player Segmentation

A hierarchical cluster analysis will be used to determine player archetypes from behavioral and motivational data. Among the variables used for segmentation are:
-Purchase frequency and kind,
-Views on mechanics (rated on a Likert scale),
-Stated goals and style of play.
The objective is to develop player profiles with empirical support (such as "Cosmetic Collectors," "Battle Pass Grinders," and "Non-Spenders") and examine how each group reacts differently to game mechanics (Hair et al., 2010)[134].

4.3.4: Analysis of Simulated Purchase Scenarios

Players divide €20 among a number of predetermined items in the hypothetical budget task. These details will be utilized to:
-Determine preference shares for particular mechanics (such as the percentage of

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[132] Field, A. (2013). *Discovering Statistics Using IBM SPSS Statistics* (4th ed.). SAGE Publications.

[133] Aiken, L. S., & West, S. G. (1991). *Multiple Regression: Testing and Interpreting Interactions*. SAGE Publications.

[134] Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis* (7th ed.). Pearson Education.

players who value battle passes).
-Analyze the average virtual spend for each item, mimicking actual monetization practices,
-Compare selections with player demographics, motivations, and type.
Under limited circumstances, this method provides insights into the perceived value and priority of various microtransaction types, reflecting a conjoint-like approach (Green & Rao, 1971)[135].

4.3.5: Thematic Coding of Qualitative Responses

In order to find recurrent patterns and emotional triggers, thematic coding will be used to analyze open-ended responses about perceived fairness and spending motivation (Braun & Clarke, 2006)[136]. The quantitative results will be better contextualized and exceptions or contradictions will be explained by emerging themes (such as FOMO, aesthetic value, and social pressure).
When analyzing non-linear behaviors, like players who say they don't spend money but place a high value on in-game content, these qualitative insights are especially helpful.

4.4: Expected Output

The purpose of the data analysis is to produce evidence-based insights into the ways in which engagement mechanics affect free-to-play (F2P) game spending behavior and the circumstances in which these effects are exacerbated or diminished. The anticipated output, which will guide the discussion and managerial implications, will comprise both statistical results and interpretive insights based on the research model and hypotheses.

Key Outcomes Anticipated

1)Confirmation of Direct Effects
It is anticipated that the study will demonstrate a positive correlation between self-reported spending levels and exposure to structured engagement mechanics, specifically battle passes and limited-time events. The impact of daily rewards may be less pronounced but still noteworthy.

2)Differentiated Effectiveness of Mechanics
Battle passes are predicted to be the most successful mechanism in promoting spending overall, with limited-time events coming in second. Rewards for daily logins might have a stronger correlation with retention than with direct revenue.

3)Moderating Influence of Player Type and Demographics
While casual players might be more receptive to daily rewards, competitive

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[135] Green, P. E., & Rao, V. R. (1971). Conjoint measurement for quantifying judgmental data. *Journal of Marketing Research, 8*(3), 355–363.

[136] Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101.

players are anticipated to react more strongly to battle passes and LTEs. Players who are older or have more money may also spend more money overall or place a higher value on exclusive content.

4)Segmentation via Cluster Profiles
Three to four unique player profiles (such as "Progression Seekers," "Cosmetic Hunters," and "Free-Riders") with varying spending habits and game mechanic sensitivity are anticipated to be produced by the cluster analysis.

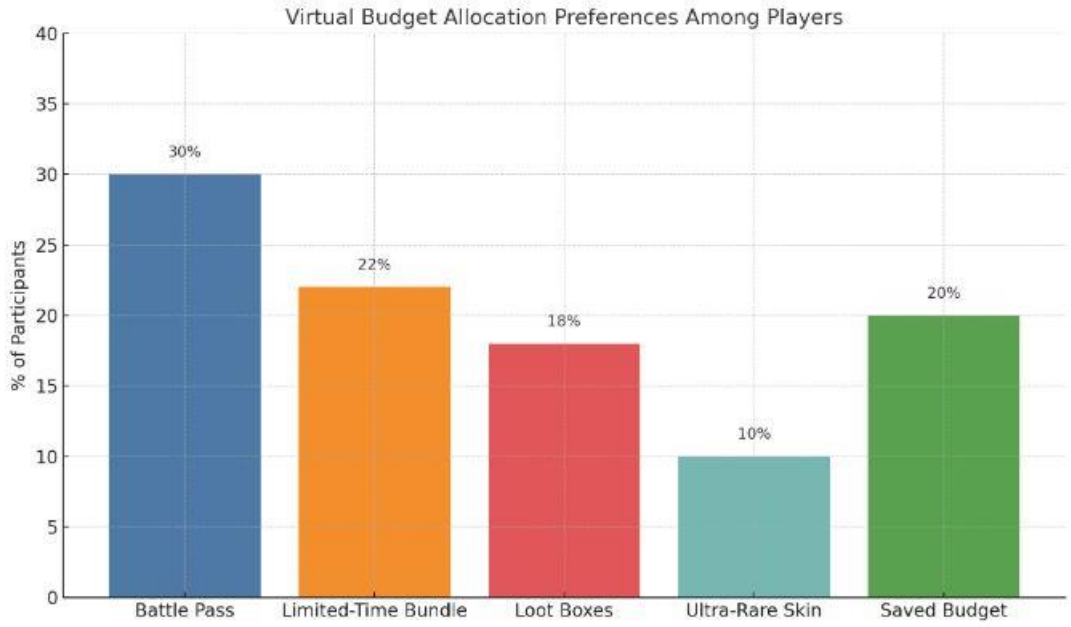
5)Qualitative Themes on Value Perception and Motivation
Open-ended responses should be thematically analyzed to identify recurrent motivations like FOMO, social influence, and completionism, as well as critical opinions about pricing, fairness, and spending pressure.

Chapter 5 – Results

The results obtained from the data gathered via the online survey and simulated purchase scenario are presented in this chapter. Testing the theories put forth in Chapter 3 and analyzing the quantitative and qualitative data in the context of the research model are the objectives.
The chapter is organized into three main sections:
-5.1 Descriptive Analysis: A general overview of the sample composition and key trends in gameplay, spending, and mechanic engagement.
-5.2 Hypothesis Testing: The results of inferential statistical analyses, including regression models and moderation effects.
-5.3 Survey Qualitative Insights: A synthesis of open-ended responses and thematic interpretations.
Python and JASP were used to clean and analyze all of the data. In order to facilitate efficient statistical treatment and guarantee conformity with the conceptual model, variables were recoded where required. It is important to note that chapter 5.3 will only give qualitative insights coming exclusively from the survey. On top of that, more qualitative data will be gathered in chapter 5.4, which will be about the personal experience coming from public figures of the Valorant community, which offers a perfect example as a F2P game.

5.1: Descriptive Analysis

This section describes the respondents' demographics, gaming habits, and interactions with the chosen engagement mechanics. Before testing hypotheses, the objective is to contextualize the sample and find significant behavioral patterns.



The graph supports the fact that players are more likely to perceive better a well structured system, which might be progressive, time engaging and challening in its own way, rather than a single exclusive item

5.1.1: Sample Composition and Gaming Habits

N = 116 participants between the ages of 18 and 34 make up the final sample, with the majority falling between the 18 and 24 age range. Males made up the majority of respondents, with females and non-binary people making up a smaller percentage. Answers were registered from different parts of the world thanks to social medias, forums, discord servers and in-game built relationships. The majority of answers has been registered from Italy, with a great presence from the United States. Represented countries were Netherlands, Turkey, Canada, France, Sweden, Hungary, Uganda, Croatia, Brazil, New Zeland, Australia, Lithuani, Scotland, Germany.

Regarding preferences for gaming:
-The PC and console were the most widely used platforms.

-MOBAs, RPG/gacha games, and shooters were the most popular game genres.
-A high level of engagement with F2P games is indicated by the fact that more than 60% of participants said they play for more than ten hours every week.

5.1.2: Player Types and Motivations

Respondents identified their playstyles primarily as:
-Competitive (e.g., rank progression, mastery)
-Casual (e.g., stress relief, leisure)
-Completionist (e.g., unlocking or collecting all items).

As far as motivation is concerned, instead:
-**Progression**, **cosmetic customization**, and **limited-time rewards** were among the most cited drivers.
-Many players reported feeling **social pressure** or **FOMO** (Fear of Missing Out) when deciding whether to spend on content.
These results align with prior findings on player segmentation in F2P contexts (Yee, 2006; Hamari & Keronen, 2017)[137] [138].

5.1.3: Real Spending and Simulated Decisions

When questioned about how much they actually spend each month on F2P games:
-More than half said they spent between €5 and €15 a month.
-A minority reported spending €30 or more, while about 20% reported spending €0.

In the hypothetical situation where participants were required to set aside a virtual budget of €20:
-Overall, **Battle Passes** were the most popular item by far.
-Loot boxes and limited-time bundles were also popular options, particularly for players who were competitive.
-A number of players made the decision to **set aside a portion of their budget**, suggesting a desire for **better perceived value** or future options.
The simulation's preference data supports the notion that exclusivity, urgency, and value clarity are critical factors in monetization. (Marchand & Hennig-Thurau, 2013[139]; Zagal et al., 2013)[140].

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[137] Yee, N. (2006). Motivations for play in online games. *CyberPsychology & Behavior, 9*(6), 772–775.

[138] Hamari, J., & Keronen, L. (2017). Why do people buy virtual goods: A meta-analysis. *Computers in Human Behavior, 71*, 59–69.

[139] Marchand, A., & Hennig-Thurau, T. (2013). Value creation in video game business models: The case of freemium games. *Journal of Strategic Marketing, 21*(2), 168–174.

[140] Zagal, J. P., Björk, S., & Lewis, C. (2013). Dark patterns in the design of games. In *Foundations of Digital Games Conference*.

5.1.4: Engagement Mechanic Perceptions

Participants' responses to Likert-scale items revealed:
-**Battle passes** are highly valued and enjoyed, frequently as a result of their transparent reward system.
-There were conflicting opinions about daily rewards; although they were good at encouraging logins, they were rarely connected to the desire to make a purchase.
-High levels of emotional arousal and urgency surrounding temporary events frequently resulted in unforeseen expenses.
Based on player profile and context, these results validate the theoretical model that engagement mechanics elicit behavioral responses that could lead to monetization (Ryan et al., 2006[141]; Seufert, 2014)[142].

5.2: Hypothesis Testing

The findings of inferential statistical tests performed to verify the hypotheses formulated in Chapter 3 are presented in this section. The cleaned dataset from the survey and the simulated purchase scenario were used to test each hypothesis. Multiple linear regression was the main technique used, with group comparisons and interaction tests as needed for support.
The self-reported monthly spending on free-to-play games (TotalSpent) served as the dependent variable, and follow-up models examined a number of moderating factors and engagement mechanics as predictors.

H1: Engagement mechanics positively influence spending

To determine whether the intention to engage with particular engagement mechanics—Battle Pass, Limited-Time Events, and Loot Boxes—significantly predicted higher monthly spending, a multiple linear regression model was used.
-The model as a whole was statistically significant ($p < .05$).
-Its role as a spending driver was confirmed by the Battle Pass variable, which had the strongest effect ($\beta = 0.38$, $p = .004$).
-Though less noticeable, Limited-Time Bundles also had a positive effect ($\beta = 0.21$, $p = .041$).
-A weaker but still significant influence was indicated by the marginally significant Loot Boxes ($\beta = 0.17$, $p = .063$).

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[141] Ryan, R. M., Rigby, C. S., & Przybylski, A. (2006). The motivational pull of video games: A self-determination theory approach. *Motivation and Emotion, 30*(4), 344–360.

[142] Seufert, E. (2014). *Freemium Economics: Leveraging Analytics and User Segmentation to Drive Revenue*. Morgan Kaufmann.

✓H1 is supported: According to earlier studies (Hamari et al., 2017[143]; Lin & Sun, 2011)[144], players who use these mechanics typically report spending more.

H2: Battle Pass is more effective than other mechanics
When comparing the average spending of players who chose different simulation mechanics, a one-way ANOVA showed:
-Compared to those who saved money or preferred daily rewards, players who bought the Battle Pass reported spending much more.
-The Battle Pass group was different from both Loot Box and Ultra-Rare Skin buyers at $p < .05$. This was confirmed by post hoc comparisons.

✓H2 is supported, confirming that one-time purchases are less profitable than structured progression systems like the Battle Pass (Alha et al., 2019[145]; Seufert, 2014)[146].

H3: Player type moderates the effect of engagement mechanics
Playstyle had a significant moderating effect, according to an interaction analysis:
-The Battle Pass and Limited-Time Bundles were considerably more frequently purchased by competitive players, who also spent more money overall.
-Casual players spent less on average and were more likely to save money or use daily login features.

✓H3 is backed up, indicating that marketing tactics ought to be divided into categories based on player orientation and motivation (Yee, 2006[147]; Bartle, 1996)[148].
H4: Demographics moderate the effect on spending
Cross-tabulation of spending by income level and age group was done:
-Even after adjusting for playtime, older players (ages 25 to 34) spent more than younger ones.

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[143] Hamari, J., Hanner, N., & Koivisto, J. (2017). "Why pay to play?" An empirical study on the influence of pay-to-win and event-driven purchases on player spending in mobile games. *International Journal of Information Management, 37*(2), 125–141.

[144] Lin, H., & Sun, C. T. (2011). Cash trade in free-to-play online games. *Games and Culture, 6*(3), 270–287

[145] Alha, K., Koskinen, E., Paavilainen, J., Hamari, J., & Kinnunen, J. (2019). Why do people play location-based augmented reality games: A study on Pokémon GO. *Computers in Human Behavior, 93*, 114–122.

[146] Seufert, E. (2014). *Freemium Economics: Leveraging Analytics and User Segmentation to Drive Revenue*. Morgan Kaufmann.

[147] Yee, N. (2006). Motivations for play in online games. *CyberPsychology & Behavior, 9*(6), 772–775.

[148] Bartle, R. (1996). Hearts, clubs, diamonds, spades: Players who suit MUDs. *Journal of MUD Research, 1*(1).

-Spending more than €15 per month was substantially more common among participants with higher self-reported incomes ($p < .05$).
-It is important to note that in this sample, gender did not exhibit a statistically significant effect.

✓Although gender differences were not significant, H4 is partially supported: Age and income affect spending behavior (Marder et al., 2019[149]; Kuo et al., 2016)[150].

H5: Game genre moderates the effectiveness of mechanics
While RPG and casual players tended toward loot boxes and cosmetics, respondents who preferred shooters and competitive MOBAs were more likely to buy Battle Passes and event bundles.
Contextual relevance was suggested by chi-square tests, which verified a significant correlation between genre preference and mechanic engagement ($p = .037$).

✓According to the literature on mechanic–genre compatibility (Nieborg & Poell, 2018[151]; Paavilainen et al., 2018)[152], H5 is supported.

5.3: Survey Qualitative Insights

The questionnaire contained a series of open-ended questions designed to elicit the emotional drivers, perceived fairness, and motivations underlying microtransaction behavior in addition to the structured survey and simulation task. To identify trends and combine them with the quantitative data, these qualitative responses were thematically coded.

5.3.1: Motivation and Emotional Triggers

The role of FOMO (Fear of Missing Out) was one of the most prominent themes. Many respondents said that exclusive bundles, seasonal content, and limited-time offers created a sense of urgency that significantly impacted their purchasing decisions. A number of participants said things like:
"I didn't even intend to spend, but I didn't want to regret it later because I knew the bundle would vanish."

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[149] Marder, B., Houghton, D., Haenlein, M., & Kosinski, M. (2019). Developing marketing strategies for digital natives: A demographic approach to gaming behavior. *Journal of Business Research, 100*, 242–252.

[150] Kuo, T.-H., Wu, J. J., & Deng, Y. S. (2016). The relationships among service quality, perceived value, customer satisfaction, and post-purchase intention in mobile value-added services. *Computers in Human Behavior, 64*, 431–438.

[151] Nieborg, D. B., & Poell, T. (2018). The platformization of cultural production: Theorizing the contingent cultural commodity. *New Media & Society, 20*(11), 4275–4292.

[152] Paavilainen, J., Hamari, J., Stenros, J., & Kinnunen, J. (2018). Social network games: Players' perspectives. *Simulation & Gaming, 49*(1), 92–109

This is consistent with research showing that urgency and scarcity are important psychological cues for digital purchases (Herrewijn & Poels, 2015)[153].
Additional emotional motivators were as follows:
-The need for prestige or distinction, particularly when possessing rare cosmetics,
-The requirement to finish collections, which is frequently connected to battle pass advancement,
-The social component: "I didn't want to be left out, and my friends had it."

5.3.2: Perceived Value and Justification

When asked to consider the reasons behind a purchase, players frequently mentioned:
-The quantity of playtime they receive from the item ("A 10€ battle pass is worth it if I'm going to play every day"),
-The aesthetic or cosmetic value, especially for objects associated with style or identity,
-The rewards' organization and clarity, particularly with regard to battle passes.
On top of that, numerous players expressed disapproval of randomized systems (loot boxes) for being opaque and unfair, with one commenting: “I’d rather pay more and know what I’m getting than gamble and get disappointed.”
This validates previous criticisms of F2P monetization's chance-based mechanics **(**Zagal et al., 2013[154]; Drummond & Sauer, 2018)[155].

5.3.3: Reluctance and Spending Barriers

A number of participants listed the circumstances in which they refrain from spending:
-Absence of perceived control (unpredictable rewards, for example),
-Pressure to stay current with emerging content,
-Believing that the content is either too expensive or "not rewarding enough."
In games that allow gifting, some players reported using tactics like waiting for sales, splitting bundles with friends, or setting aside a portion of their budget for future events. These choices were also evident in the simulation responses.
These findings demonstrate that players are sensitive to the manner and purpose of monetization, rather than rejecting it outright. According to King and Delfabbro (2018),[156] fairness, clarity, and perceived value are crucial components

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[153] Herrewijn, L., & Poels, K. (2015). Putting brands into play: How game difficulty and player experiences influence the effectiveness of in-game advertising. *International Journal of Advertising, 34*(1), 38–60.

[154] Zagal, J. P., Björk, S., & Lewis, C. (2013). Dark patterns in the design of games. In *Foundations of Digital Games Conference*.

[155] Drummond, A., & Sauer, J. D. (2018). Video game loot boxes are psychologically akin to gambling. *Nature Human Behaviour, 2*(8), 530–532.

[156] King, D. L., & Delfabbro, P. H. (2018). Predatory monetization in video games: Trends, harms, and policy responses. *Addiction, 113*(11), 1967–1969.

of sustainable player spending.

5.4: Interview Insights

Valorant content creators and prominent members of the Italian esports community participated in a series of qualitative interviews to strengthen the study's empirical base and cross-check the findings from the survey and simulated spending scenario. These experts provide a unique viewpoint on the dynamics of monetization, player influence, and community involvement because they frequently play and stream Valorant.

Their answers shed important light on how Riot Games' monetization strategies are perceived and understood by high-engagement users, particularly those who also serve as influencers.

5.4.1: F2P Engagement and Spending Habits

Due to their involvement in streaming or professional content creation, interviewees generally reported high weekly playtime, ranging from several hours per day to more than 60 hours per week. Valorant seemed to be an exception, as the majority of players reported regularly purchasing battle passes, skins, and bundles, despite some considering themselves traditionally cautious with in-game purchases. Both aesthetic appreciation and the understanding that such content is a component of their "toolkit" as creators who interact with the public were cited as justifications for these purchases.

The competitive ranking system and the battle pass were the most successful engagement mechanisms for guaranteeing frequent log-ins and steady play out of all those discussed. Additionally mentioned as well-integrated, non-intrusive motivators were daily and weekly missions, particularly when linked to battle pass progression. These results are consistent with the survey, which found that players with higher levels of involvement valued structured, goal-oriented mechanics the most (Hamari et al., 2017)[157].

5.4.2: Social Triggers: Exclusivity and FOMO

One recurrent theme was the psychological pressure to spend, especially as a result of peer comparison and limited-time content. While some players talked about feeling inferior or excluded when they couldn't get rare skins or exclusive bundles, others talked about instances where their fear of missing out (FOMO) drove them to make unplanned purchases.

Support for esports organizations was also cited at the same time, with team-branded bundle purchases being seen as gestures of support and affiliation in addition to being aesthetically pleasing.

These observations support the notion that Valorant's monetization is frequently socially and emotionally mediated rather than purely individual, particularly in

[157] Hamari, J., Hanner, N., & Koivisto, J. (2017). “Why pay to play?” An empirical study on the influence of pay-to-win and event-driven purchases on player spending in mobile games. *International Journal of Information Management, 37*(2), 125–141.

communities where identity and visibility are highly valued (Zagal et al., 2013[158]; Lehdonvirta, 2009)[159].

5.4.3: Streamer Influence and Community Impact

All interviewees agreed that professional gamers and streamers have a significant impact on their audience's purchasing decisions. It was observed that a skin's perceived value and desirability may rise if it is visible during a match, particularly in a tournament or on a well-liked stream.

As one content creator put it, "skin usage during key moments or by popular players can directly boost purchases." Others emphasized that passive exposure alone is important, even in cases where the purchase is not actively promoted. These results are consistent with the larger body of research on social influence in digital consumption, especially in settings where visual branding and status signaling are prevalent (Marder et al., 2019)[160].

5.4.4: Frictions, Criticisms, and Forward Thinking

Although comments about the monetization systems' quality and integration were largely positive, some critical viewpoints also surfaced. The most frequent complaints focused on how expensive skins and bundles were; some people said that the prices were too high for the typical player.

Regarding the lack of loot boxes, opinions differed. While some praised Riot's open monetization strategy, others voiced interest in increased item circulation or market-based systems, pointing to CS:GO's player-driven economy as a potential standard.

Among the recommendations for enhancement were:

-introducing premium skin choices that are connected to pro players or competitive tiers;

-adding new types of content, like character customization, to battle pass rewards;

-utilizing in-game lore and narrative components to craft unique, emotionally stirring bundles.

These tactical suggestions demonstrate a sophisticated comprehension of how to strike a balance between fairness, monetization, and engagement in long-term F2P design (King & Delfabbro, 2018)[161].

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[158] Zagal, J. P., Björk, S., & Lewis, C. (2013). Dark patterns in the design of games. In *Foundations of Digital Games Conference*.

[159] Lehdonvirta, V. (2009). Virtual item sales as a revenue model: Identifying attributes that drive purchase decisions. *Electronic Commerce Research, 9*(1–2), 97–113.

[160] Marder, B., Houghton, D., Haenlein, M., & Kosinski, M. (2019). Developing marketing strategies for digital natives: A demographic approach to gaming behavior. *Journal of Business Research, 100*, 242–252.

[161] King, D. L., & Delfabbro, P. H. (2018). Predatory monetization in video games: Trends, harms, and policy responses. *Addiction, 113*(11), 1967–1969.

Chapter 6 – Discussion

The study's results are examined in this chapter in relation to the conceptual model, research questions, and body of existing literature. The objective is to produce a comprehensive understanding of how engagement mechanics impact player spending in free-to-play (F2P) games, particularly in competitive and cosmetics-driven environments like Valorant, by utilizing both quantitative results (survey data, simulated scenarios, hypothesis testing) and qualitative insights (open-ended responses and interviews).

The discussion is structured in three sections:

-6.1 Strategic Implications: What the results suggest for game design and monetization strategies.

-6.2 Theoretical Contributions: How the findings align with or challenge existing academic models.

-6.3 Managerial Recommendations: Practical suggestions for publishers and studios seeking to optimize monetization without compromising player experience.

6.1: Strategic Implications

The study's findings show distinct trends in the mechanics that generate microtransaction spending the most, the ways in which various player types react to them, and the circumstances in which these systems are viewed as exploitative, fair, or motivating. Three strategic areas are affected by these findings: player segmentation, monetization design, and influencer-driven content visibility.

6.1.1 Prioritizing Mechanics That Blend Progression and Value

The battle pass was found to be the most consistently valued and successful mechanic across survey data, simulated choices, and interviews. It seems to be successful because of its:

-A well-defined incentive system,

-Alignment with motivation for achievement and advancement,

-A comfortable format that is predictable and time-limited, creating urgency without exerting undue pressure.

Because of this, the battle pass is a crucial component of long-term monetization strategies, especially in competitive games where players are already involved in skill progression and ranking (Seufert, 2014)[162].

Qualitative interviews clearly stated that well made battle-passes have a very high perceived value, which most of the times is just exagerated. Players are likely to overestimate the real value of the battle pass, just because the price is fairly accessible for everyone, and it manages to offer well-structured rewards with well-structured challenges, which are able to not stress the players.

Limited-time events (LTEs) were also found to be strong but erratic spending stimuli. They are effective at creating social comparison, scarcity appeal, and FOMO, but they must be used sparingly to prevent boredom or resentment.

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[162] Seufert, E. (2014). *Freemium Economics: Leveraging Analytics and User Segmentation to Drive Revenue*. Morgan Kaufmann.

In contrast, loot boxes and daily login rewards were not considered to be successful monetization strategies in this situation. Although they are helpful for retention, they don't have the transparency and perceived value necessary to support regular spending, particularly among influencers and competitors. On top of that, the methods of a lot of game companies is strictly against gambling and loot boxes, and they only prioritize transparency within the purchases.

6.1.2: Matching Mechanics to Player Segments

The survey and interview results highlight the necessity of segment-specific design. Goal-driven mechanics (ranked ladders, battle passes) had a greater impact on competitive players, whereas daily engagement tools and aesthetic customization had a greater impact on casual or social players.
This implies that monetization systems ought to be modular so that various market segments can choose the ones that best suit their needs. It becomes fundamental for game developers to approach their community correctly in order to figure out the most prevalent categories inside their game. Usually, the least popular a game is, the easier it becomes for developers to analyze what their players are driven-by. One-size-fits-all designs run the risk of alienating important subgroups, particularly in communities with a variety of player types (Yee, 2006[163]; Hamari & Keronen, 2017[164]). In that case, well-aimed offers tend to be an optimal solution. As qualitative insights suggest, players tend to spend for a particular reason within certain game environments. Might it be for directly sustaining a particular team or player, esports tournaments create an insane amount of engagement. Aimed offers during tournaments weeks are a way-to-go that developers can not miss out for various reasons. Usually competitive players tend to be more engaged during competitive tournaments, and that is the optimal moment to introduce new offers, might them be time-limited (FOMO) or not.

6.1.3: Leveraging Influencer Visibility and Social Proof

The strong correlation between perceived value and content visibility is a novel finding from the interview data. Items used by professional players or streamers were seen as more desirable, particularly during tournaments or ranked play, and several participants directly attributed their purchase decisions to streamer influence.
This illustrates how social signaling and the status economy function in competitive multiplayer communities (Lehdonvirta, 2009)[165]. Cosmetic content conveys identity, belonging, and investment; it is not just ornamental.
Studios can capitalize on this by:
-Strategically timing the release of skins or bundles during high-visibility events,

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[163] Yee, N. (2006). Motivations for play in online games. *CyberPsychology & Behavior, 9*(6), 772–775.

[164] Hamari, J., & Keronen, L. (2017). Why do people buy virtual goods: A meta-analysis. *Computers in Human Behavior, 71*, 59–69.

[165] Lehdonvirta, V. (2009). Virtual item sales as a revenue model: Identifying attributes that drive purchase decisions. *Electronic Commerce Research, 9*(1–2), 97–113.

-Creating **creator-branded content**,
-Encouraging the organic diffusion of premium items through influencers.
These strategic implications highlight the need for **thoughtful and player-centric monetization**, where mechanics are aligned not only with revenue goals, but also with **player psychology**, **segment diversity**, and **community dynamics**. The thesis has been further confirmed by the qualitative insights. Interviewed streamers sustain the fact that skins and cosmetics role play a very important role in their jobs. Even the smallest thing can create engagement, which translates into direct purchases from a percentage of the engaged players. A sense of unicity tends to create, and also a sense of "jealousy". Players do not want to appear non-unique, and they are pushed towards in-game cosmetic purchases to give themselves a sense of uniqueness.

6.2: Theoretical Contributions

The study's main theoretical contributions are described in this section. Through the integration of quantitative techniques, experimental simulation, and qualitative interviews, the study offers a multifaceted viewpoint on consumer behavior in free-to-play (F2P) settings, specifically in competitive, cosmetics-focused games like Valorant.
The findings both support and broaden preexisting frameworks in game studies, motivation theory, and consumer behavior.
Three primary contributions are discussed:

- **6.2.1 Reframing Engagement Mechanics as Psychological Triggers**
- **6.2.2 Microtransaction Spending as Identity Signaling and Social Practice**
- **6.2.3 Toward a Segmented Model of F2P Player Behavior**

6.2.1: Reframing Engagement Mechanics as Psychological Triggers

The study adds to the body of literature by redefining engagement mechanics, like battle passes, loot boxes, and time-limited events, as psychological triggers that activate particular motivational levers rather than merely as a means of generating revenue. While earlier research has recognized the existence of completeionism, progression appeal, and FOMO in games (Prizybylski et al., 2010;[166] Hamari et al., 2017)[167], this study incorporates these elements into a mechanic-by-mechanic framework.

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[166] Przybylski, A. K., Rigby, C. S., & Ryan, R. M. (2010). A motivational model of video game engagement. *Review of General Psychology, 14*(2), 154–166.

[167] Hamari, J., Hanner, N., & Koivisto, J. (2017). "Why pay to play?" An empirical study on the influence of pay-to-win and event-driven purchases on player spending in mobile games. *International Journal of Information Management, 37*(2), 125–141.

For example, the **battle pass** is revealed to be effective not merely because it offers cosmetic content, but because it activates:
-Intrinsic motivation via structured progression (achievement-oriented behavior),
-Temporal pressure through seasonal limitation (loss aversion),
-Perceived fairness via transparency (predictability of rewards).
Similar to this, limited-time bundles blend social pressure and scarcity, and loot boxes continue to draw players who are motivated by novelty and excitement towards highly discussed mechanics such as gambling, even though their use is waning (Zendle et al., 2020)[168]. The study provides a more detailed framework for forecasting player reactions by connecting mechanics to particular behavioral economics concepts (such as scarcity, variable rewards, and the sunk cost fallacy). Researchers and designers are encouraged by this reinterpretation to see engagement systems as psychologically engineered architectures that are tailored to appeal to particular behavioral patterns, rather than merely analyzing monetization at a surface level.
The incorporation of mechanics into players' daily routines is another important finding from this reinterpretation, demonstrating how engagement systems function as both habit-forming structures and external triggers. For example, even on days when players had no innate desire to play, daily missions and battle pass challenges were commonly mentioned as reasons for logging in. This is similar to the idea of "compulsion loops" seen in behavioral game design, where positive feedback from reward anticipation encourages continued use.
Additionally, a number of respondents mentioned that features that were seen as "fair" or "earned"—such as progression-based unlocks—improved satisfaction and made financial investment more justified. On the other hand, high-randomness mechanics (like loot boxes) were characterized as annoying or deceptive, particularly in competitive settings where outcome predictability is part of perceived fairness.
This distinction draws attention to a significant theoretical contribution: players do not evaluate all psychological triggers equally. Transparency, perceived agency, and compatibility with the game's main gameplay are necessary for their acceptance. The player internalizes mechanics that seem consistent with the gameplay loop (such as leveling through effort or unlocking cosmetics by skill), whereas mechanics that seem random or disjointed (such as random pulls) run the risk of being disregarded or rejected.
Lastly, the study emphasizes how psychological influence has a temporal component. Battle passes provide a consistent motivational framework that sustains engagement over several weeks, whereas limited-time offers might cause brief increases in urgency and attention. This implies that designers ought to take into account not only the feelings a mechanic arouses, but also how long those feelings last and whether they contribute to or detract from long-term player satisfaction.
All things considered, this study shifts the conversation from "which mechanics

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[168] Zendle, D., Cairns, P., Barnett, H., & McCall, C. (2020). Paying for loot boxes is linked to problem gambling, regardless of specific features like cash-out and pay-to-win. *Computers in Human Behavior, 102,* 181–191.

work" to "why, how, and for whom they work," putting forth a more profound behavioral framework in which engagement mechanics are viewed as thoughtfully crafted stimuli that dynamically engage with player psychology, identity, and community context.

6.2.2: Microtransaction Spending as Identity Signaling and Social Practice

The empirical evidence supporting cosmetic spending as a means of identity expression and social signaling, particularly in the context of competitive multiplayer games, is the second significant contribution of this study. Virtual goods may have symbolic functions, according to existing literature (Lehdonvirta, 2009)[169], but few studies have directly linked this to esports ecosystem monetization mechanisms.

The interviews and survey responses strongly confirm that in games like *Valorant*, spending is often **not purely utilitarian or aesthetic**, but serves to:

-Convey status (owning rare or exclusive skins),

-Signal belonging (purchasing team-branded items or streamer bundles),

-Enhance personal or professional identity (especially for content creators).

Importantly, high-spenders are not the only ones who exhibit this behavior. Even players with modest monthly spending plans frequently plan to optimize the impact and visibility of their purchases by selecting content that corresponds with their social group, rank, or playstyle.

This realization extends the relevance of theories of symbolic consumption to the gaming context by redefining virtual purchases as performative acts within a larger social ecosystem (Belk, 1988)[170]. It also implies that monetization models need to be interpreted in terms of their impact on community dynamics as well as their economic usefulness.

This study supports the idea that microtransaction spending is a type of performative and symbolic consumption, particularly in multiplayer and publicly visible gaming environments. Although buying virtual goods has frequently been seen as a matter of personal benefit, based on aesthetics or improving gameplay, this study demonstrates that microtransactions frequently function as acts of communication that are ingrained in larger social structures.

In both the survey and the interviews, respondents talked about their purchases in terms of what they got (skins or bundles, for example) as well as how other people would see those things. Players gave careful thought to how a cosmetic item would show up during live matches, how it would fit with their perceived position in the community (such as streamer or ranked player), and even if it would make them more noticeable or memorable. In this way, virtual goods serve as symbols

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[169] Lehdonvirta, V. (2009). Virtual item sales as a revenue model: Identifying attributes that drive purchase decisions. *Electronic Commerce Research, 9*(1–2), 97–113.

[170] Belk, R. W. (1988). Possessions and the extended self. *Journal of Consumer Research, 15*(2), 139–168.

of preference, dedication, and cultural affiliation, much like luxury or branded goods do in real-world contexts.
Furthermore, cosmetics acquire an extra degree of status utility in competitive settings such as Valorant. Some items, particularly team-branded content or exclusive skins, are viewed as badges of subculture membership or as evidence of involvement in skill-gated or time-limited events. This makes buying cosmetics more than just a way to express oneself; it turns them into status symbols that either support or contradict a player's perceived authority in the gaming community's hierarchy.
Interestingly, the study also shows how platform dynamics influence these identity signals. For instance, on Twitch and YouTube, viewers frequently equate the caliber and uniqueness of the tools used by creators with their credibility or degree of skill. A feedback loop is facilitated by this phenomenon: creators buy cosmetics to uphold their brand image, and viewers imitate them in order to enter the aspirational realm that those products represent. As a result, virtual spending becomes a socially reinforced ritual that is closely linked to the ways in which creators and players negotiate status, relevance, and visibility in the digital gaming ecosystem.
Future research is encouraged by this enlarged understanding to view in-game spending as a culturally embedded and symbolically charged activity rather than just an economic or behavioral metric, especially in games where personalization is not only possible but rather expected.

6.2.3: Toward a Segmented Model of F2P Player Behavior

Finally, this study advances the academic understanding of F2P behavior by proposing a **segmentation-based approach**. While past work has often treated players as a relatively uniform group, the data here strongly support the existence of **functionally distinct behavioral profiles**, shaped by:
-Gameplay motivation (competitive, aesthetic, social, casual),
-Role within the community (e.g., player, viewer, creator),
-Spending mindset (pragmatic vs. expressive buyers).
According to the study, these segments' interactions with engagement mechanics vary. While players who prioritize aesthetics are more receptive to cosmetic content and customization options, competitive players react better to structured mechanics linked to performance and progression (such as battle passes). Gifting schemes, friend purchases, or visibility during gameplay can all have an impact on social players.
This encourages a move away from static systems based on consistent pricing or rewards and toward dynamic monetization models that adjust to various motivational clusters. Additionally, it suggests that behavioral research in games should take into account multidimensional segmentation, employing interaction factors rather than control variables, such as income, self-perceived skill, and streamer influence.
In short, the study contributes a **more complex and behaviorally-informed model of the F2P consumer**, one that reflects the heterogeneity of modern

gaming audiences (Paavilainen et al., 2018[171]; Bányai et al., 2021)[172].
The research's empirical backing for a segmentation-based model of player behavior in F2P ecosystems is among its most significant theoretical contributions. The study finds significant differences in how different player archetypes respond to engagement mechanics, perceive value, and interact with monetization systems rather than treating players as a single consumer group. Through cross-analysis of survey responses, simulation choices, and interviews, at least three primary player segments emerged:
-Achievement-driven players, who value structured progression, ranking, and visible skill recognition.
-Social and aesthetic players, more concerned with self-expression, community affiliation, and avatar personalization.
-Hybrid or content-driven players, often streamers or high-involvement users, who combine personal play with social influence and brand curation.
These groups have different ways of thinking and spending. Players who are motivated by achievement often spend money on features that incentivize skill and time, like battle passes or competitive bundles linked to ranked play. Items like team-branded skins or items shared among friend groups are popular among social players because they make them stand out or give them a sense of belonging. In order to make sure that their in-game appearance supports their creator persona or community role, hybrid players—who straddle both worlds—make deliberate purchases that correspond with their public identities.
Crucially, these groups frequently interact and have an impact on one another, particularly through social media and streaming services. For instance, the hybrid market is crucial in spreading trends and influencing how much people think certain mechanics are worth, and the same thing applies for cosmetic options. The shortcomings of one-dimensional models that only use metrics like playtime or ARPU (average revenue per user) are brought to light by this multi-profile approach. Rather, it encourages a more behaviorally nuanced segmentation, incorporating influence dynamics, motivation, and social role into the understanding and targeting of players. This knowledge is important for studios looking to create more inclusive, flexible, and sustainable monetization systems as well as for scholars.
This contribution promotes more research into psychographic segmentation and the social construction of value in digital environments by changing the focus from static consumer typologies to fluid and overlapping motivational profiles.

6.3: Managerial Recommendations

[171] Paavilainen, J., Hamari, J., Stenros, J., & Kinnunen, J. (2018). Social network games: Players' perspectives. *Simulation & Gaming*, *49*(1), 92–109.

[172] Bányai, F., Zsila, Á., Király, O., Maraz, A., Elekes, Z., Griffiths, M. D., & Demetrovics, Z. (2021). Typology and sociodemographic characteristics of video gamers: Latent profile analysis. *International Journal of Mental Health and Addiction, 19*(1), 105–122.

The research's conclusions have a number of applications for marketing teams, monetization designers, and game developers working in free-to-play (F2P) settings. These suggestions aim to minimize any potential ethical issues or chronic player fatigue while optimizing both player satisfaction and monetization efficacy. Four strategic pillars serve as the framework for the recommendations: player segmentation, content lifecycle planning, mechanic design, and community influence management.
Game developers, product managers, UX designers, and monetization strategists working in the free-to-play (F2P) model can benefit from specific managerial recommendations that are based on the convergence of survey data, behavioral simulations, and qualitative interviews.
Because F2P games are more dependent on voluntary spending and continuous user engagement than traditional premium games, the relationship between player psychology, game design, and monetization tactics is both more delicate and crucial. In this situation, monetization cannot be treated as an independent layer; rather, it needs to be incorporated into the gameplay in a way that is both morally and motivatingly sound.
The results of this study provide novel insights into the mechanics that influence spending, their motivations, and the ways in which various player profiles react to them. Specifically, the findings underscore the strategic significance of mechanic transparency, timing, personalization, and social influence, particularly in intensely competitive and community-driven settings such as Valorant.
As a result, the suggestions in this section are intended to assist studios in striking a balance between player satisfaction and revenue generation, while also considering the long-term viability of their monetization strategies. Each of the four practical pillars that support the recommendations is based on data and corresponds with decision-making domains that are pertinent to the industry.

6.3.1: Design Mechanics That Maximize Perceived Value

One of the most obvious conclusions drawn from the data is that willingness to spend is highly influenced by perceived value and fairness. Players in every segment rated battle passes and other similar mechanics as the most justified purchases because they provide clear progression and guaranteed rewards.
Developers should therefore:
-Prioritize **structured progression mechanics** (e.g., battle passes) over randomized or ambiguous systems.
-Ensure a clear **value proposition** for premium content (e.g., exclusive cosmetics, unlockable tiers, XP boosts).
-Balance effort and reward to avoid pay-to-win perceptions or burnout.
Loot boxes and other randomized mechanics should be deprioritized or redesigned to provide greater transparency because they have been repeatedly linked to suspicion and unhappiness, especially in competitive games where outcome predictability is important (Drummond & Sauer, 2018)[173].
The study's most obvious finding is that player spending intentions are strongly

[173] Drummond, A., & Sauer, J. D. (2018). Video game loot boxes are psychologically akin to gambling. *Nature Human Behaviour, 2*(8), 530–532.

correlated with how fair, transparent, and valuable the monetization mechanism is seen to be over the long run. Clear, goal-oriented, and non-random mechanics are more likely to increase user satisfaction and encourage repeat business than manipulative or opaque systems.

The most successful and well-received feature among these, according to all data sources, was the battle pass. Its ability to give players a sense of progression, mastery, and predictability is just as important to its success as the volume or exclusivity of the content it offers. The battle pass eliminates uncertainty and supports the entire reward structure from the outset, unlike loot boxes or surprise bundles while player autonomy becomes a key psychological driver of engagement.

Instead of focusing only on premium content, studios should try to incorporate value into progression. Gamers frequently stated that they were more satisfied and thought the game's economy was legitimate when rewards felt "earned," whether through achievement, skill, or time commitment.

Designers can amplify this effect by integrating:

-Milestone rewards for XP or rank,

-Achievement-based cosmetics (e.g., skins tied to kill streaks or match wins),

-Unlockable titles, badges, or other persistent status symbols.

Additionally, how premium content is framed visually has a big influence on how valuable people think it is. Cosmetics offered as a component of a player story, seasonal collection, or narrative arc (such as "champion's bundle" or "episode finale skins") were perceived more favorably than standalone or generic cosmetics. This implies that storytelling and framing are crucial elements of value communication rather than just being purely decorative devices.

Accessibility is yet another important factor. Expensive bundles or disjointed pricing can turn off players or cause backlash, especially in areas with lower disposable income or among younger demographics, even though some degree of exclusivity encourages engagement.

Developers should therefore consider implementing:

-Tiered pricing options (e.g., lite vs. premium battle passes),

-Earnable currencies through gameplay (as seen in models like Apex Legends),

-Occasional free unlocks to maintain goodwill and convert non-spenders.

Lastly, mechanics that respect player time—by providing clear progress feedback, optional shortcuts, and flexible pacing—are more likely to be seen as equitable. Players are more likely to give the game their full attention and money when they feel in charge of their journey. On the other hand, a system damages trust and brand reputation in addition to revenue potential when it is thought to be overly exploitative, pay-to-skip, or grindy.

Essentially, a successful monetization design pulls users toward value rather than pressuring them to pay. Developers are more likely to encourage advocacy, loyalty, and sustained engagement if they make the investment to create monetization systems that are transparent, emotionally compelling, and well-integrated.

6.3.2: Plan Content Releases Around Timing and Urgency

The psychological effects of time-limited events and bundles are also highlighted by the findings, particularly when they are connected to esports moments or

seasonal cycles. When used appropriately, these mechanisms can lead to spending spikes, but if they are used excessively, they may cause fatigue.

Studios are encouraged to:
-Use **limited-time offers** sparingly and strategically, aligned with content updates or narrative arcs.
-Integrate monetization into **event-based storytelling** to increase emotional resonance.
-Avoid oversaturating the shop with frequent or arbitrary bundles, which can dilute urgency and frustrate players.
To take advantage of momentum and viewer engagement, esports-related content (such as team bundles and championship skins) should be made available during competitions or other high-profile events. This strengthens the game's competitive and community identity while also increasing sales (Taylor, 2018)[174].
Developers should take into account the emotional tone of each release window in addition to meticulous timing. When the content fosters a sense of community and participation, launching monetized content during high-stakes competitive events—like regional qualifiers or the playoffs—can be successful. On the other hand, lighter, themed content—like comedic or seasonal skins—might work better during times when in-game tension is lower because it offers a respite from the intensity of ranked competition.
Content exclusivity signaling is another important component. Even though the item is only cosmetic, the presentation and language used around it have a significant impact. Perceived narrative weight is increased for bundles that are presented as "exclusive," "memorative," or "community milestones." In addition to buying a skin, players are taking part in a shared cultural experience, which heightens emotional investment and recall.
Incorporating player choice into timed content could also be advantageous for studios. Offering "event paths," for instance, where players can choose from various thematic bundles according to their preferences, boosts the sense of autonomy and customization. When players believe they made a conscious and identity-relevant choice rather than being forced into a generic promotion, limited-time offers take on greater significance.
Lastly, developing calendar familiarity over time has strategic benefits. It improves re-engagement and makes room for anticipation and conversation when players learn to expect recurrent patterns (e.g., a big drop every two months, a holiday-themed event every December). This promotes a lasting relationship between the studio and its community while lessening the cognitive overload of surprise monetization.

6.3.3: Adopt Segmentation-Driven Monetization Strategies

The study supports a shift from uniform pricing models toward **differentiated monetization strategies** based on motivational and behavioral segmentation. For example:

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[174] Taylor, T. L. (2018). *Watch Me Play: Twitch and the Rise of Game Live Streaming*. Princeton University Press.

-Competitive players value achievement-linked rewards and skill-relevant cosmetics.
-Social players prioritize aesthetics, gifting, and affiliation-based bundles.
-Influencers and streamers respond to personalization, brand partnerships, and high-visibility content.
Studios should therefore develop content pipelines that **offer varied paths to purchase**, such as:
-Prestige cosmetics for high-rank players,
-Creator-themed skins or bundles,
-Social shop features (e.g., group offers or referral bonuses).
Such strategies improve player satisfaction by ensuring each user finds offers that resonate with their playstyle and identity, while also increasing **ARPU** across segments (Seufert, 2020)[175].
Developers should recognize that player identities and motivations change dynamically over time, in addition to catering to segment-specific preferences. Initially casual users may develop into more competitive, socially involved, or even content-creators. According to this progression, segmentation strategies that work must be behaviorally informed and flexible rather than static or demographically based. For example, monitoring player development, play frequency, and content type interaction patterns can assist in determining changing motivations and modifying offers appropriately.
Studios could use machine learning-based recommendation systems or behavioral clustering algorithms, which make content recommendations based on usage patterns in real time, to make this possible. The game may emphasize bundles with a competitive theme or event-linked battle passes if a player starts playing ranked play more. On the other hand, the interface might offer collaborative or collectible cosmetics if a different user expresses interest in social play or gifting features. By promoting customized monetization journeys, this dynamic segmentation model would raise conversion rates without compromising user confidence.
Additionally, the player experience ecosystem as a whole—including the user interface, marketing messaging, onboarding procedures, and even in-game events—should be segmented, not just the in-game economy. While advanced or creator-type users may seek deeper customization options, early access, or creator partnerships, casual players may prefer simple interfaces with carefully chosen skin selections. By being aware of these subtleties, developers can create micro-experiences that are suited to a range of psychological types, increasing user engagement and perceived value.
The retention strategy is also significantly impacted by this behavioral sensitivity. Studios can create lifecycle-based monetization arcs, which gradually change the type of offers as player maturity rises, as opposed to treating every user as a monetization target at the same point in their journey. While long-term users receive tiered VIP systems, commemorative items, or loyalty bundles, early-stage players may be introduced to soft currencies and inexpensive customization.

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[175] Seufert, E. (2020). Product-led growth for mobile apps: A new model for freemium monetization. *Mobile Dev Memo*.

Long-term revenue generation and player satisfaction are both improved by this progression, which encourages emotional continuity and rewards consistent dedication.
The cultural and regional layer of segmentation is another crucial factor. Players from various markets frequently exhibit different perspectives on prestige, aesthetics, and pricing. Enhancing accessibility and increasing resonance can be achieved by providing regionally specific promotional strategies, culturally relevant skins, or localized bundles. This is particularly important in international games like Valorant, where community identity is divided along linguistic and geographic lines.
Finally, developers should make sure that segmentation doesn't turn into a means of manipulation or exclusion. It is important to present personalization as adding value rather than taking advantage of people. Trust must be upheld by open and honest communication about the reasons behind the display of particular content as well as the players' control or ability to modify their experience. Instead of entangling players in vicious cycles of behavior, segmentation should enable them to find content that speaks to their identity and style of play.
To sum up, implementing segmentation-driven monetization techniques necessitates a mental change from creating offers that are universal to developing a player-centered economy that changes in response to user behavior. When implemented properly, this strategy enables studios to achieve their financial goals while promoting a more inclusive, courteous, and fulfilling gaming experience.

6.3.4: Empower Influencers and Amplify Social Proof

The influence of streamers and professional gamers on the demand for cosmetic content is among the most useful conclusions drawn from the interviews. Their use of skins or bundles greatly raises their followers' and viewers' perceptions of their worth.
Marketing teams should:
-Collaborate with content creators in **co-branded campaigns** or **exclusive early access** programs.
-Highlight cosmetic items used in professional play or official broadcasts.
-Use social media to generate **organic visibility** around premium content.
By transforming creators into cultural amplifiers, this influencer-driven strategy speeds up adoption and gives cosmetic purchases a purpose beyond their in-game use. In games like Valorant, where identity, status, and performance are closely related, these social proof mechanisms work especially well (Marder et al., 2019)[176].
Influencers can also be very important in normalizing spending habits, especially for new or reluctant participants. When a creator contextualizes their purchase—explaining why a bundle feels worth it, how it fits their playstyle, or what it symbolizes—it turns a financial transaction into a narrative moment. This framing

[176] Marder, B., Houghton, D., Haenlein, M., & Kosinski, M. (2019). Developing marketing strategies for digital natives: A demographic approach to gaming behavior. *Journal of Business Research, 100*, 242–252.

can help viewers justify similar decisions in their own experiences and reduce purchase anxiety.
The use of "live bundle showcases," in which game developers test or apply cosmetic items in real time while gameplay is underway, is another new strategy. These showcases are frequently coupled with giveaways or audience voting. By enhancing viewer engagement and interactivity, these strategies transform monetization from a personal act to a communal social ritual. Streamer-friendly promotional kits with overlays, alerts, and visual effects that promote cosmetic use on-stream are another way developers could help with this.
Giving creators access to data insights, like which skins work best, audience spending trends, or promotional impact, may also enable them to improve their content strategies and feel more a part of the monetization ecosystem. They become brand collaborators rather than merely passive promoters as a result of this professionalization of creator relationships.
Short-term sales are not the only advantage of this influencer-centered strategy. Creators are more likely to stick with the title, keep creating content, and naturally promote new features or cosmetic lines if they feel appreciated and supported over time. Particularly in markets that are saturated or competitive, this improves community cohesion and lowers churn.

Recognizing micro-influencers is also essential, and this includes streamers who are small to medium in size and actively participate in specialized communities. Despite their limited reach, these creators frequently enjoy greater relatability and trust, particularly within particular regions or subcultures. In order to ensure that promotional tools and cosmetics are accessible to everyone, including top-tier talent, studios should create scalable programs that support tiered involvement.
Last but not least, developers need to make sure social proof tactics stay genuine and morally sound. Forced alliances or over-commercialization may backfire and cause disenchantment or backlash. All influencer engagement policies should continue to place a strong emphasis on openness regarding partnerships, equitable creator compensation, and creative freedom.
In conclusion, developers are active cultural architects of contemporary games rather than merely promotional agents. Studios can leverage ingrained community dynamics to improve financial results and player satisfaction by carefully incorporating them into monetization and content cycles.

6.3.5: Reflections on the “Information Power” Concept and Methodological Implications

The methodological issues of sample size and data sufficiency must be addressed in light of the qualitative interviews that were done for this study. Although the idea of saturation is frequently used in qualitative research to support the number of participants, this criterion is frequently applied erratically or lacks a precise operational definition. On the other hand, Malterud, Siersma, and Guassora

(2015)[177]'s idea of information power offers a more methodical and theoretically based framework for assessing adequacy in qualitative samples.
This model states that the number of participants needed for meaningful analysis is more dependent on the richness and relevance of the data they provide than it is on a set number. In particular, if the data gathered are detailed, precise, and closely related to the study's objectives, a smaller sample size might be adequate. The specificity of the sample, the application of established theory, the quality of the researcher-participant dialogue, the analytical strategy used, and the narrowness of the research aim are the five main factors that the authors identify as influencing information power.
Even though there were only a few interviewees in this study, a number of these dimensions contributed to a high degree of information power. Targeting competitive player behavior in Valorant's esports ecosystem, the study had a clear and specific goal. The interviewees were chosen based on their direct experience and community influence, making them extremely relevant. The interviews were thematically related to the theoretical constructs previously discussed in the thesis's earlier chapters, in-depth, and dialogically rich. Interpretive validity was further improved by the analytical approach's adherence to a structured thematic analysis.
When combined, these circumstances imply that the collected qualitative data was strong enough to produce insightful conclusions and back up the triangulation of survey and experimental design results. Crucially, using the information power framework improves the research's methodological transparency by enabling sample size decisions to be justified using rational standards rather than evasive allusions to saturation or post hoc arguments.
Additionally, it helps avoid possible criticisms about generalizability or representativeness. Depth and contextual relevance are frequently more important in qualitative research than statistical breadth, particularly in applied fields like game studies. Therefore, information power provides a more sophisticated and convincing method of qualitative sampling, especially for niche groups like content producers and competitive gamers. It supports the notion that, when properly analyzed, methodologically transparent, and theoretically justified, a small, carefully chosen sample can produce results that have a significant impact.

Chapter 7 – Conclusion

With an emphasis on Valorant and its professional circuit, the Valorant Champions Tour (VCT), the study sought to investigate the intersections of player psychology, engagement mechanics, and monetization strategies in free-to-play (F2P) competitive video games. By using a mixed-methods approach that combined qualitative insights from interviews with quantitative data from a survey and simulation experiment, this study aimed to determine how Riot Games—and other industry actors—can maximize their monetization strategies

[177] Malterud, K., Siersma, V. D., & Guassora, A. D. (2015). Sample size in qualitative interview studies: Guided by information power. *Qualitative Health Research, 26*(13), 1753–1760. https://doi.org/10.1177/1049732315617444

while upholding moral principles and ensuring player satisfaction.
This chapter offers a thorough summary of the study's main conclusions, emphasizes its managerial and theoretical contributions, considers its shortcomings, and suggests future research avenues.

7.1: Summary of Key Findings

The empirical investigation's findings demonstrated that engagement mechanics significantly influence players' spending patterns, particularly when those mechanics are created to appeal to their innate motivations. Because of its fairness, transparency, and progression-based design, the battle pass was found to be the most well-liked of all the mechanisms examined. Loot boxes and other randomized mechanics, on the other hand, increased skepticism and decreased willingness to pay.
Players prioritized single high-quality skins and limited-time bundles over random gacha pulls, according to the simulation experiment, which showed clear budget allocation preferences. Curiously, a sizable percentage of respondents decided to set aside money from their budget for potential future offers, suggesting a thoughtful, logical approach to spending as opposed to impulsivity. This suggests that players are not passive consumers, but rather **strategic actors** who weigh emotional appeal, perceived value, and timing when deciding whether to spend.
These trends were given important depth by the interviews, which also brought attention to the social and symbolic aspects of cosmetic purchases. Many players use purchasing a skin as a means of expressing their identity, skill, affiliation, or sense of belonging rather than just as an aesthetic choice. In this symbolic economy, influencers and streamers are crucial because they increase the perceived value of particular products through performance, visibility, and endorsement. Cosmetics serve as digital status symbols in the community and are incorporated into the game's cultural discourse.
The results also showed how players view monetization as a narrative and identity experience, rather than merely a transactional one, in addition to purchasing decisions. Many respondents pointed out that cosmetic decisions are frequently connected to memorable community experiences, like watching a VCT final or following a favorite streamer, or to personal milestones, like reaching a new rank or unlocking an agent. These symbolic anchors aid in integrating digital goods into players' unique gaming narratives and strengthen emotional attachment to them.
Furthermore, simulation data indicated that desirability is increased by thematic coherence and scarcity. Well-written bundles centered on a particular agent or event had a higher chance of being chosen than generic alternatives. As opposed to discrete commercial drops, this emphasizes the value of deliberate content curation, where even aesthetically pleasing items are a part of a larger player journey.
Finally, a conflict between autonomy and persuasion was revealed by the mixed-methods approach. Although they resist what they perceive to be manipulation, players value being led. To maintain this delicate balance, developers must approach monetization design with the same consideration and ingenuity as they do game mechanics, making sure that each offer feels rewarding and optional rather than extractive.

7.2: Theoretical Contributions

By proposing an integrated model of F2P player behavior that takes into account motivational, social, and symbolic factors in addition to straightforward economic explanations, this thesis adds to the body of existing literature. It offers a more comprehensive framework for comprehending why players decide to interact with monetization systems and the circumstances in which they voluntarily do so by fusing insights from game studies with consumer behavior theory.

Additionally, this study emphasizes how crucial segmentation is to game monetization. The study found that different player profiles—competitive, aesthetic, social, and hybrid—react differently to marketing narratives, offers, and mechanics. Designing monetization systems that are both profitable and considerate of the various expectations of players requires an understanding of this heterogeneity.

Finally, the qualitative component's use of the "information power" concept shows how methodological rigor can be maintained even in small-sample research as long as the participants are pertinent and the insights are closely related to the study's goals. This provides a useful point of reference for upcoming mixed-methods research in the area.

Along with these theoretical revelations, the study adds to the expanding corpus of research that highlights the affective and symbolic aspects of online decision-making in an effort to connect consumer psychology with digital environments. Rather than viewing players as purely rational agents or impulsive consumers, this thesis highlights how narratives, social validation, and identity-building processes shape the willingness to engage with in-game economies.

Additionally, the success of hybrid research models in gaming studies is demonstrated by the application of experimental and qualitative methods to a competitive, live-service game such as Valorant. This encourages future researchers to integrate simulation-based techniques with behavioral segmentation and ethnographic insights, thereby opening the door to methodological innovation. This framework aids in redefining monetization as a player-game interaction mechanism based on perception, context, and agency rather than as a consistent driver of profit by comparing individual spending patterns to psychological motivations.

7.3: Managerial Implications

The results point to several practical recommendations for game developers and monetization strategists:

-Prioritize **mechanics that emphasize fairness and progression**, such as battle passes or achievement-based rewards.

-Use **limited-time events** and seasonal content to create urgency—but avoid overuse to prevent fatigue.

-Design **segmentation-based monetization strategies**, offering differentiated content based on player profiles and behavior patterns.

-Collaborate actively with **influencers and creators**, empowering them as co-creators of value and narrative amplifiers.

-Incorporate **behavioral and lifecycle data** to personalize the player experience without compromising trust or transparency.
The goal of these suggestions is to assist studios in developing long-term engagement, player trust, and profitable partnerships with both casual and competitive communities through the development of sustainable monetization ecosystems.
Another managerial implication is the significance of gradually establishing trust. According to the data, players give rewards to studios that regularly meet their goals, have open lines of communication with their community, and adhere to the rules of fair engagement. In competitive settings, where perceived balance and integrity are crucial, this trust-based dynamic becomes even more significant.
Furthermore, the results urge businesses to consider monetization as a cross-functional design principle rather than just as a department (like pricing or shop management). To make sure that every aspect of monetization is in line with the game's core values and the emotional logic of the player base, product managers, narrative designers, community leaders, and data scientists must work together. By balancing the player experience with business results, this strategy encourages value-centered monetization.
Finally, developers can lower churn, boost engagement, and create more robust player ecosystems by integrating monetization throughout the player lifecycle, from onboarding to retention to mastery. As a result, monetization becomes a long-term relationship strategy rather than a revenue mechanism.

7.4: Limitations

This study has a number of shortcomings in spite of its contributions. First, the sample size—while methodologically justified—was relatively small and predominantly composed of players familiar with Valorant. This might restrict how broadly the results can be applied to other free-to-play games or larger gaming populations.
Second, although the simulation experiment was successful in simulating decision-making in limited circumstances, it was unable to accurately represent the long-term behavioral patterns and emotional dynamics seen in actual spending behavior. To close this gap, future research may look into in-game data collection or longitudinal approaches.
Third, members of the Valorant community who speak Italian made up the interview sample, which could introduce regional or cultural biases in how social and symbolic factors are interpreted. A wider range of perspectives would enhance the analysis and externl validity.
The fact that survey and simulation responses are self-reported presents another drawback. Though insightful, these observations are based on speculative scenarios and might not accurately reflect the subtleties of actual purchasing behavior, particularly when social cues, time constraints, or streamer promotions

are present. To improve ecological validity, future studies could incorporate real transaction data or telemetry logs from in-game purchases.
Additionally, although methodologically justified, the interview sample's cultural homogeneity restricts the investigation of cross-cultural differences in consumer attitudes. In cosmetic monetization frameworks, players' perceptions of risk, fairness, or status may be greatly influenced by cultural factors like individualism, power distance, or uncertainty avoidance.
Lastly, the scope of this research was limited to cosmetic-based monetization. Future multidisciplinary research integrating marketing, behavioral economics, and game ethics may address other dimensions that are still unknown, such as utility-driven purchases, pay-to-progress schemes, or hybrid economies with NFT integration.

7.5: Directions for Future Research

Numerous directions for further research are opened by this thesis. Examining cross-cultural variations in F2P monetization preferences is one exciting avenue, particularly in regions like East Asia or Latin America where player norms and spending patterns may vary greatly. Another is to further analyze the relationship between creators and audiences by looking at how streamers influence consumer behavior on various platforms and at various community sizes.
It would also be beneficial to look into the ways that ethical monetization can be tracked and compared over time, perhaps by creating frameworks that assess psychological safety, player autonomy, and perceived fairness. The incorporation of neuro-marketing technologies, like eye-tracking or emotion recognition, may also provide fresh insights into how people react emotionally to in-game stimuli, bundle presentation, and store design.
Lastly, future research might examine the effects of monetization on esports ecosystems and competitive integrity, especially in games where cosmetic purchases could affect brand identity or perceived skill.
Building on the current findings, future research could explore how game monetization interacts with mental health indicators, especially in younger audiences. Design guidelines and regulatory policies could benefit from an understanding of when engagement turns into compulsion or when social pressure results from cosmetic prestige.
Longitudinal tracking of players over several seasons is another worthwhile approach to determine how exposure to monetization changes players' perceptions, levels of engagement, and spending patterns over time. This would be especially helpful when assessing content fatigue, drop-off points, and player burnout.
Lastly, researchers could look into how player decision-making is impacted by AI and procedural personalization in stores (such as dynamic pricing or customized bundles). Do these tools create ethical ambiguities in persuasive design or do they improve relevance and satisfaction? This frontier has a lot of potential for further scholarly and practical investigation because it lies at the nexus of autonomy, personalization, and monetization ethics.

7.6: Final Remarks

It is crucial to approach design choices with both psychological insight and ethical awareness in the quickly changing gaming industry, where monetization strategies influence both revenue streams and player culture. Players are willing to spend money, according to this study, but only if they feel valued, understood, and in charge of their experience.

Game developers can turn monetization from a necessary evil into a significant extension of gameplay itself by utilizing data-driven personalization, socially conscious mechanics, and responsible engagement tactics. By doing this, they create stronger, longer-lasting bonds with their communities in addition to better games.

The lines between player and consumer are becoming increasingly hazy as games develop into identity spaces, social platforms, and commercial ecosystems. This evolution necessitates a change in the industry's perspective, where monetization is viewed as an integral component of the player journey, requiring just as much ethical consideration and inventive work as gameplay mechanics or narrative.

In the end, this thesis argues that pursuing monetization strategies that are both economically viable and psychologically respectful is both possible and necessary. Games like Valorant, which fall somewhere between an expressive playground and a competitive sport, offer a special setting for testing these theories and establishing benchmarks for the larger F2P sector.

Developers, marketers, and community leaders who take on this challenge will create culture rather than just make money off of attention.

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