Between Profit and Player: Behavioral Monetization and the Reconfiguration of Player Agency in Free-to-Play Economies

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ABSTRACT

Free-to-Play (F2P) monetization has evolved from a simple economic model into a sophisticated behavioral design system embedded within the core gameplay experience. This paper investigates the ethical boundaries of monetization through the lens of player agency. Drawing on the theory of surveillance capitalism and behavioral psychology, the author argues that contemporary models—such as loot boxes, battle passes, and temporal constraints—systematically exploit cognitive biases to create a state of "managed autonomy." The study proposes an ethical design framework based on transparency and respect for user volition, asserting that the long-term sustainability of the industry depends on restoring trust between players and platforms.

Keywords

Free-to-Play, Player Agency, Behavioral Economics, Dark Patterns, Game Economies, DiGRA.

INTRODUCTION

Free-to-Play is no longer merely a distribution method; it is a paradigm for designing the play experience itself. Historically, players engaged with a "closed" system after a one-time purchase. In the current GaaS (Games-as-a-Service) landscape, monetization is distributed across time and woven into the feedback loops of gameplay. This shift has transformed the game into a dynamic service where design elements are filtered through the metrics of retention and monetization efficiency.

THE TRANSFORMATION OF THE VIDEO GAME ECONOMY

Free-to-play today is not just a way to earn money from games. It's a way to design the game experience itself. Previously, a player paid once and then interacted with an already "closed" system, but now monetization is distributed over time and integrated into the daily dynamics of the game. The purchase decision is made not in the calm environment of the store, but at the moment of emotional engagement, inside the interface, events and social interactions.

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This transformation has changed the very nature of choice. The player is no longer just a consumer of a completed product — he is a participant in a constantly updated service ecosystem. A key question arises: where is the boundary between legitimate engagement design and practices that systematically encourage impulsive or unconscious spending?
This work does not seek to morally evaluate the F2P model, but rather to analyze specific design structures that can enhance or, conversely, support the player's autonomy.

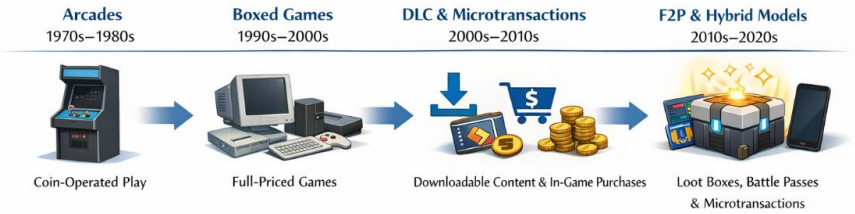

Figure 1: The evolution of business models in the video game industry: from boxed products to hybrid monetization models.

Before delving into the ethical assessment, it is important to make a methodological reservation. Recent studies show that video games in general are not reliably correlated with a decrease in well-being and may even have a positive effect on it under certain conditions (Johannes, Vuorre & Przybylski 2021).

Characteristic	**Traditional model (boxed / premium product)**	**Free-to-play model (microtransaction**
Barrier of entry	High: the full price is paid before the start of the game experience	Low or no access: Basic access is provided free of charge
The temporary structure of monetization	Monetization precedes gameplay	Monetization is distributed over time and integrated into the gameplay.
The economic contract	The transaction is completed before the interaction begins	Recurring or optional transactions during the interaction
The player's position in the economic system	The buyer of the completed product	A user of the service; a participant in a dynamic economic ecosystem
Source of income	One-time sale (DLC is possible)	Microtransactions, probabilistic mechanics, seasonal passes, cosmetics
The relationship between progression and payments	The progression is mostly independent of additional payments	The progression can be accelerated or partially modified through payments.
Behavioral architecture	Limited use of economic triggers after purchase	Systematic use of behavioral stimuli and temporal mechanisms

Characteristic	Traditional model (boxed / premium product)	Free-to-play model (microtransaction
The main risks for the player	The financial risk of buying a product that does not meet expectations	The risk of impulsive, repetitive, or compulsive spending
Regulatory focus	Content, age ratings, protection of minors	Transparency of probabilities, protection from manipulative practices, data protection
The temporality of interaction	A complete product with limited post-release dynamics	Long-term service with regular updates and events
Infrastructure dependence	Relatively autonomous distribution	Strong reliance on platform ecosystems and algorithmic visibility

Table 1. Comparison of traditional and free-to-play monetization models

Before delving into the ethical assessment, it is important to make a methodological reservation. Recent studies show that video games in general are not reliably correlated with a decrease in well-being and may even have a positive effect on it under certain conditions (Johannes Vuorre & Przybylski 2021). Recent data from 2025 confirms that player motivation is the strongest predictor of spending, and the perceived simplicity of the purchase process is the second most important factor (Bakni 2025).

This means that the ethical problem lies not in monetization per se, but in the specific design structures through which it is implemented. To understand these structures, we need to turn to behavioral psychology and economics.

THEORETICAL FRAMEWORK: BEHAVIORAL ECONOMICS AND CHOICE DESIGN

Modern research on digital games is increasingly looking at monetization through the lens of behavioral architecture. The key element here is the uncertainty of the outcome. Recent studies have shown that loot box mechanics activate behavioral patterns similar to gambling behavior, primarily due to the structure of random rewards and the "near-win" effect (Larche et al. 2021; Kristiansen & Severin 2020).

Petrovskaya and Zendle (2021) propose the concept of "predatory monetization" — practices that use aggressive or misleading design elements. It is important that we are not talking about any microtransaction, but about a combination of factors: opacity of probabilities, artificial scarcity, complicated refusal to purchase.

In parallel, regulatory compliance studies show that industry self-regulation is often less effective than mandatory probability disclosure requirements (Xiao et al., 2022). This points to a structural transparency issue rather than individual exceptions.

Special attention should be paid to the 2024-2025 studies demonstrating the link between loot boxes and financial difficulties, even when other risk factors are controlled (Garea et al. 2024). These data do not prove direct causation, but strengthen the argument about the systemic coincidence of risky mechanics and vulnerable behavior.

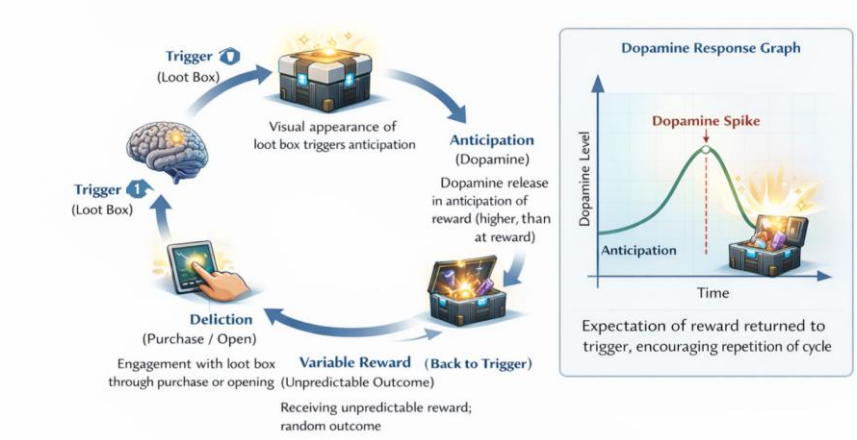

Figure 2: The mechanism of variable reinforcement in loot boxes: the neurobiological basis of behavioral impact (Generated by DALL-E 3 based on author's prompt).

The study by Drummond and Sauer (2018) marked a turning point in the scientific understanding of this problem, demonstrating that loot boxes are psychologically related to gambling. Larche et al. (2021) went further, showing that the phenomenon of "proximity to winning" in loot boxes activates the same neurobiological mechanisms as in slot machines. When these mechanisms are combined with a lack of transparency regarding the likelihood of rewards, a situation is created that researchers call "predatory monetization."

The concept of predatory monetization, introduced by Petrovskaya and Zendle (2021), describes techniques that are aggressive, misleading, or exploitative in nature. These practices overlap with the broader concept of "dark patterns" in interface design.

RESULTS AND DISCUSSION

Our analysis shows that monetization systems based on artificial scarcity, time pressure, and opaque probabilistic structures can indeed drive short-term revenue growth (Hamari 2015). However, it is important to understand the cost of this growth. Such approaches are inextricably linked to increased reputational risks, increased regulatory control, and, most critically, the potential erosion of player confidence (Petrovskaya & Zendle 2021).

Monetization Mechanic	**Activated Cognitive and Motivational Mechanisms**	**Intensity of Behavioral Pressure**	**Potential Risks for Players**	**Degree of Epistemic Transparency**
Loot boxes (probabilistic rewards)	Variable ratio reinforcement, illusion of control, near-miss effect, overestimation of low probabilities	High	Development of gambling-like behavioral patterns; repeated impulsive spending	Low without probability disclosure; moderate when odds are transparently published
Battle passes	Sunk cost effect, goal-setting motivation, fear of	Moderate	Stress related to the need for regular participation to	Moderate: price and rewards are known, but

Monetization Mechanic	Activated Cognitive and Motivational Mechanisms	Intensity of Behavioral Pressure	Potential Risks for Players	Degree of Epistemic Transparency
	missing out (FOMO), temporal discipline		"justify" the purchase	temporal pressure is present
Direct purchase of cosmetic items	Social comparison, self-presentation, symbolic capital	Low	Limited financial risk; minimal impact on gameplay competence	High: item and price are clearly known prior to purchase
Premium in-game currency	Currency abstraction, cognitive difficulty in translating virtual currency into real-world value	Moderate	Unintended overspending due to distorted perception of actual cost	Low when real-world price equivalents are not displayed
Pay-to-win elements (direct gameplay advantage)	Social pressure, frustration from inequality, competitive anxiety	High	Financial pressure to remain competitive; erosion of perceived fairness	Moderate: the mechanic is visible, but alternative progression paths may be limited

Table 2: Comparative analysis of the behavioral impact of various monetization mechanics.

Empirical studies confirm the link between probabilistic monetization and risky behavior. Recent studies have shown that involvement in loot boxes correlates with problematic gambling, especially among teenagers and young players who may have lower levels of financial literacy and self-control (Kristiansen & Severin 2020; Petrovskaya & Zendle 2021). We are not talking about proven causation, but about a stable coincidence of behavioral patterns and the structure of mechanics.

The regulatory reaction is intensifying. In 2025, European consumer protection authorities required mandatory display of the real value of items purchased with premium currency (Bird & Bird 2025). At the same time, the national antimonopoly authorities have launched investigations against major publishers regarding the use of dark patterns and the protection of minors.

New mechanics also require attention. Combat passes, although less associated with gambling uncertainty, create pressure through the effect of non-refundable costs and the fear of lost profits (Gordon-Petrovskaya 2024). Moreover, recent evidence indicates that external factors, such as alcohol consumption during gaming, may increase risky interactions with loot boxes (Garea et al. 2024). This expands the discussion: the question concerns not only individual mechanics, but also the responsibility of design in a broader behavioral environment.

"LIGHT DESIGN" OF MONETIZATION: PRINCIPLES AND EXAMPLES

However, criticism of predatory practices does not mean that there are no alternatives. In contrast, we can talk about "ethical monetization," a model based on transparency, proportionality, and respect for player autonomy.

Transparency involves displaying real prices, clear disclosure of probabilities, and clear purchase conditions. Research shows that players are sensitive to the developer's honesty and are able to recognize manipulative elements (Gordon-Petrovskaya 2024), and mandatory regulation increases compliance with transparency standards (Xiao et al. 2022).

Value proportionality means that the player gets exactly the digital object or advantage he pays for, without hidden cost escalation. Some indie studios consciously choose models with permanent unlocks instead of endless monetization cycles, forming a more stable community loyalty (Joseph 2022).

Finally, respect for autonomy suggests that buying remains a voluntary choice, rather than a way to eliminate artificially created frustration. From the point of view of motivation psychology, satisfaction and a sense of autonomy are more stable drivers of engagement and spending than pressure and scarcity (Bakni 2025).

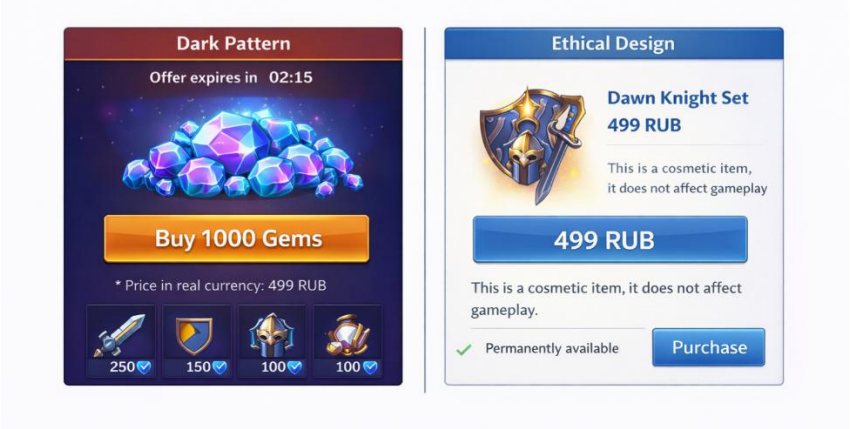

Figure 3: Interface comparison: Dark pattern (left) vs ethical design (right) (Generated by DALL-E 3 based on author's prompt).

It is important to emphasize that ethical design is not a theoretical construct. There are practical examples confirming its viability. Squido Studio, the developer of the DigiGods VR game, has achieved significant revenue growth by integrating purchases into the game world diegetically (items can be "touched" in virtual reality before purchase) and focusing on player retention rather than aggressive sales from day one (Meta Horizon Developers 2025). Their success demonstrates the key thesis of this study: deep integration of monetization into the gaming experience and respect for the player can be more effective in the long run than obsessive tactics and dark patterns.

CONCLUSION: ETHICAL EVOLUTION AS A STRATEGIC IMPERATIVE

Let's summarize our research. The free-to-play industry is currently at a point of ethical and institutional reassessment. A growing body of empirical research, public debate, and regulatory interventions indicate a fundamental shift: monetization design is no longer solely an internal business matter, but is becoming the subject of broad social responsibility (King & Delfabbro 2019; Xiao et al. 2022).

Stage	**Key Actions**	**Expected Institutional and Behavioral Outcomes**
I. Diagnostic Audit (0–3 months)	Comprehensive review of interfaces for manipulative patterns; assessment of	Development of a behavioral and regulatory risk map;

Stage	Key Actions	Expected Institutional and Behavioral Outcomes
	pricing transparency; verification of probability disclosures; audit of temporal pressure mechanisms; evaluation of the dependence of progression on payments	identification of redesign priorities; establishment of baseline trust and satisfaction metrics
II. Design Transformation (3–9 months)	Replacement of abstract premium currency with real-price display or dual pricing; mandatory probability disclosure; removal of unjustified artificial timers; rebalancing of free progression; introduction of alternative pathways to obtain key rewards	Increased epistemic transparency; reduction of impulsive purchases; strengthened perceptions of fairness and player autonomy
III. Communication Strategy (6–12 months)	Public explanation of changes; dialogue with the community; publication of responsible design principles; educational materials on monetization mechanics; regular transparency reporting	Growth of institutional trust; development of a reputation for responsible design; strengthened long-term player loyalty
IV. Ongoing Monitoring (continuous)	Implementation of player well-being metrics (e.g., retention without excessive session length, voluntary repeat purchases, complaint reduction); analysis of problematic behavioral patterns; collaboration with academic researchers; internal ethics review committee	Stabilization of a sustainable business model; reduction of regulatory risks; balance between commercial performance and social responsibility

Table 3: Roadmap for the transition to ethical monetization for game studios.

Based on the analysis, we formulate a key thesis: ethical monetization design should be understood not as a moral concession to public pressure, but as a strategic evolution of the business model. The transition from short-term profit extraction models to fair value exchange models is not a limitation of profitability, but a maturation of digital design practice.

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