Unfinished Business: Mechanisms for Balancing Consumer Engagement and Value in Early Access Games

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Cite as:
Kim Yujin, Bernritter Stefan, de Ruyter Ko (2025), Unfinished Business: Mechanisms for Balancing Consumer Engagement and Value in Early Access Games. *Proceedings of the European Marketing Academy*, 54th, (126152)

Paper from the 54th Annual EMAC Conference, Madrid, Spain, May 25-30, 2025

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Abstract:

Early access (EA) games, representing a growing business model in the gaming industry, enable consumers to purchase and engage with titles that are still being developed. While this approach encourages early engagement, it also presents a dilemma for the business: finding a balance between the need for immediate funding and the risk of potential loss of future revenue due to low EA prices. This research examines mechanisms to mitigate such challenges by examining how perceived risk (PR), dynamic evolution perception (DEP), and stewardship affect willingness to pay (WTP). Across two studies, we show that PR negatively mediates the relationship, lowering WTP, while DEP and stewardship positively mediate it. By signaling ongoing development, DEP increases WTP, whereas stewardship cultivates a sense of shared responsibility, which reduces PR and further increases WTP. These findings offer actionable insights for developers aiming to engage consumers early, enhance perceived value, and secure the long-term market potential of their games.

Keywords: early access game, consumer behavior, perceived value
Track: Innovation Management & New Product Development

1. Introduction

Approximately 2500 games on Steam, a leading PC game distribution platform, utilized the early access (EA) funding model in 2024, reflecting its popularity (Steam, 2024). In EA, consumers pay less to access in-development games, providing developers with early funding (Lin, Bezemer & Hassan, 2018). However, EA pricing poses a dilemma for developers, as they forgo potential future income for immediate funds. This shifts conventional product lifecycles - where EA is priced at a premium- reinforcing uncertainty. Media criticism about quality, project abandonment, and delays further highlights consumer risks (Dyan, 2024; Gravelle, 2019). These tensions challenge developers to manage mixed signals and secure long-term consumer value perception.

EA's incomplete nature introduces unique risks and opportunities affecting consumer value perception. While past research on EA examined feedback and iterative improvements (Lin et al., 2018; Arafat & Al-Taher, 2019), less attention has been given to mechanisms stemming from its incompleteness, such as perceived risk (PR), dynamic evolution perception (DEP), and stewardship. This study examines these mechanisms and offers actionable recommendations to balance consumer engagement with price value, applicable to other industries adopting EA. Next, section 2 addresses the theoretical framework, section 3 discusses methodology and results, and section 4 concludes with future study direction.

2. Literature Review

2.1 Willingness to pay for EA games

Previous literature on EA games has highlighted the risks related to uncertainties. For example, only 34% of EA games were found to reach the final release, leaving consumers vulnerable to abandonment risks and unmet expectations (Lin et al., 2018; Arafat & Al-Taher, 2019). These uncertainties also complicate pricing strategies, weakening consumer trust (Consalvo & Paul, 2018). To identify a relevant dependent variable reflecting consumers' perceived value, Latent Dirichlet Allocation (LDA) topic modeling was conducted on

approximately 850 gaming subreddit posts. Results showed that monetary value is a key topic around EA games, making the willingness to pay (WTP) a relevant dependent variable.

PR refers to uncertainties driven by delays, quality concerns, and abandonment, acting as a barrier to consumer engagement (Lin et al., 2018; Chen, Lee & Wang, 2012; Shneor & Munim, 2019). Broader research on digital products indicates that heightened risk perception discourages consumer investment by amplifying financial, time, and psychological concerns (Hamari, 2015; Hsiao & Chen, 2016). Consequently, PR reduces WTP for EA games, as consumers hesitate to invest in products that may not meet their expectations. Thus, we propose - H1: Consumers are willing to pay less for EA games compared to non-EA games. H2: Compared to non-EA games, PR negatively mediates the effect of EA games on WTP, resulting in lower WTP as PR increases.

2.3 Enhancing WTP: Mediating roles of DEP and stewardship

DEP refers to consumers' awareness of a product's ability to evolve through updates, signaling progress and growth potential (Arafat et al., 2019). Studies show that updates build consumer trust by setting expectations for future improvements, which influence their purchase intentions (Sheng et al., 2023; Rayi & Aras, 2021; Aibar-Guzman & Somohano-Rodriguez, 2021; Aksoy, 2017). As such, regular updates in EA games promote DEP, thereby increasing consumers' WTP. Thus, we hypothesize H3: Compared to non-EA games, DEP positively mediates the effect of EA on WTP, resulting in higher WTP as DEP increases.

Stewardship represents a key mechanism of EA games on WTP, conceptualized as a collaborative framework where mutual trust, shared goals, and accountability foster collective, long-term success over individual self-interest (Schepers et al., 2012). EA games promote stewardship by involving consumers through feedback and financial support, aligning their objectives with developers (Lin et al., 2018; Arafat & Al-Taher, 2019; Smith, 2015). This shared purpose mitigates PR, allowing consumers to view their involvement as a counterbalance to concerns regarding quality and completion (Bhattacharya et al., 2020). Reduced PR enhances security, positively impacting WTP (Chen, Lee & Wang, 2012; Hamari,

2015; Dahabiyeh, Najjar & Agrawal, 2020). Thus, H4 proposes that compared to non-EA games, EA games indirectly increase WTP through stewardship, as stewardship reduces PR.

3. Study 1: Main effect of EA on WTP

Study 1 tested the H1 with an online, between-subjects experiment (EA vs. non-EA game). After attention checks and screening for three weekly gaming hours, 192 Prolific participants completed the study. They were randomly assigned to view screenshots of the upcoming RPG, "REBORN: Survival," with the EA condition featuring a blue banner (mirroring Steam's EA disclosure) and the non-EA condition omitting the banner. To minimize genre bias, both groups received a scenario framed as 'You are particularly interested in action-adventure RPG.' WTP was measured using the Gabor-Granger pricing method (Gabor & Granger, 1996; Lipovetsky, Magnan & Polzi, 2011), where participants were presented with a randomly selected price (£0-£50, £1 increments) and asked whether they would purchase the game at that price. Based on their responses (yes or no), the price was adjusted until a final value was reached, representing their maximum willingness to pay. A manipulation check confirmed the EA manipulation ($t(190)=7.409$, $p<.001$).

3.1 Study 1 results

A Poisson regression was used to test the main effect of early access on WTP. This model was chosen because WTP is a discrete integer variable with zero-inflated data (Greene, 2001; Khattak et al., 2003). Results supported H1, showing that participants reported lower WTP for EAGs ($M = 14.88$, $SD = 11.64$) compared to non-early access games ($M = 17.79$, $SD = 12.81$), a statistically significant effect ($\beta = -0.162$, $\exp(\beta) = 0.85$, $p < 0.001$). This indicates a 15% lower WTP for EA games.

4. Study 2: Mediation effect of DEP, stewardship, and PR

Study 2 extended Study 1 by testing the mediation effect of DEP, stewardship, and PR on WTP. After an attention check, data from 284 participants were analyzed. The experiment

replicated Study 1's design, using the same stimulus ("REBORN: Survival") for EA and non-EA conditions, pre-screening condition, and Gabor-Granger pricing method (Gabor & Granger, 1966; Lipovetsky, Magnan & Polzi, 2011) to measure WTP. For better visibility, the EA banner was relocated to the top of the screenshot. DEP, stewardship, and PR were measured as mediators of WTP. A manipulation check confirmed the EA manipulation's effectiveness ($t(282) = -9.404$, $p < 0.001$, Cohen's $d = 1.27$).

4.1 Mediator measurements

4.1.1 Perceived risk (PR)

PR was measured using a 5-item, 7-point Likert scale (1 (strongly disagree) to 7 (strongly agree)) adapted from established risk measures (Stone & Grønhaug, 1993; Fuchs & Reichel, 2006; Kupeli & Ozer, 2020) and adapted for the EA game. The full measurement items are in the appendix (Appendix A).

4.1.2 Stewardship

Stewardship was measured using an 8-item, 7-point Likert scale (1 (strongly disagree) to 7 (strongly agree)) adapted from stewardship and market-shaping literature (Hensen et al., 2016; Nenonen et al., 2019) and tailored to the EA game context. The full measurement items are in the appendix (Appendix A).

4.1.3 Dynamic evolution perception (DEP)

DEP was measured using a 6-item, 7-point Likert scale (1 (strongly disagree) to 7 (strongly agree)) that captured perceptions of the game's ongoing development, potential future updates, and players' engagement with its evolving features. The full measurement items are in the appendix (Appendix A).

4.2 Study 2 results

Using the same Poisson regression as in Study 1, Study 2 also confirmed the main effect (H1). Participants reported lower WTP for EA games (M = 14.88, SD = 11.64) than non-EA games (M = 17.79, SD = 12.81), a statistically significant effect (B = 0.137, Exp(B) = 1.147, $p < 0.001$). This indicates a 14.7% lower WTP for EA games. To test H2, we used PROCESS macro Model 4 (Hayes, 2022). As shown in Table 1, the indirect effect of EA on WTP through PR was significant, supporting H2 (b = -1.2800, 95% CI: [-2.3814, -0.3724]).

Table 1

Mediation effect of PR

Path	Coefficient (b)	SE	p	BootLLCI	BootULCI
EA—> PR	0.4313	0.1450	0.0036	-	-
PR —> WTP	-2.9677	0.3490	< 0.0001	-	-
Indirect effect (EA —> PR —> WTP)	-1.2800	0.5050	-	-2.3814	-0.3724

Using PROCESS macro Model 6 (Hayes, 2022), we tested H3 and H4. Supporting H3, DEP positively mediated the EA effect on WTP (b = 2.0527, 95% CI: [0.9132, 3.4460]). EA status significantly increased DEP (b = 0.4472, p = 0.0002), and DEP positively influenced WTP ((b = 4.5903, $p < 0.0001$). Supporting H4, the sequential mediation via stewardship and PR was also significant (b = 0.3007, 95% CI: [0.0845, 0.6526]). EA significantly increased stewardship (b = 0.5198, p = 0.0002), reducing PR (b = -2.379, p = 0.0001). Lower PR was associated with higher WTP (b = -2.4318, p = 0.0001). This confirmed that EA game indirectly boosts WTP by fostering stewardship and mitigating PR.

5. Conclusion

This study identifies PR, DEP, and stewardship as key mechanisms influencing WTP for EA games. DEP directly enhances WTP, while stewardship reduces perceived risk and indirectly affects WTP. By employing these mechanisms, this paper will later propose actionable interventions for developers to leverage the market value of EA games.

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Appendix A: Measurement items

1. Perceived risk

I'm concerned that this game might never be completed and might remain unfinished forever.

I'm concerned about this game might lack quality assurance, causing the game to not function as expected.

I'm concerned that this game might have frequent bugs and instability, affecting my overall game experience.

I'm worried that this game might remain underdeveloped without delivering core features.

I'm concerned that the game might be in an unpolished state, which might disrupt gameplay and create ongoing issues.

2. Stewardship

Buying this game enables me to have an influence on the gaming market as a single gamer.

Buying this game allows me to have an impact on the gaming industry.

Buying this game makes me realize that I should support developers of games that challenge the status quo of the gaming market

I am willing to forgo a completely polished gaming experience because buying this game enables me to influence the gaming market.

Buying this game in a potentially unpolished state is worth it.

Buying this game supports game developers who create novel gaming experiences.

Through buying this game, I can support devel┬┬opers to create games that otherwise might not be developed.

Supporting game developers through buying this game might inspire developers to create more novel gaming experiences like this.

3. DEP

This game enables me to stay engaged in evolving its features.

This game gives me insight into its development and how this impacts gameplay.

This game draws my attention to the subtle changes that come with each update.

I see this game as having significant growth potential for new content.

This game presents an experience that continually evolves and offers a sense of progress.

This game encourages me to look forward to its upcoming updates and new features