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Determinants of In-App Purchase Behavior in Augmented Reality Mobile Games: An Empirical Study of Pokémon Go Players in Indonesia

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Abstract

In-app purchases (IAPs) are the primary revenue source for mobile games; however, sustaining player spending remains challenging, particularly in augmented reality (AR) games in emerging markets. While prior studies have examined IAP behavior in conventional mobile games, empirical evidence in AR contexts remains limited. This study investigates the determinants of in-app purchase intention among Pokémon GO players in Indonesia by integrating the Theory of Planned Behavior with expectation-confirmation and price fairness perspectives, while incorporating event design as a contextual factor. By positioning event design as a contextual antecedent within the Theory of Planned Behavior framework, this study extends prior TPB applications in mobile gaming by capturing how event-based features shape attitudinal and control-related evaluations in AR games. Data were collected via an online survey of 337 Indonesian players who had made at least one in-app purchase in the previous 12 months. The proposed research model was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results indicate that attitude toward purchase is the strongest predictor of purchase intention, followed by perceived behavioral control and subjective norm. Event design and price fairness significantly influence attitude toward purchase, while event design also enhances perceived behavioral control. In contrast, expectation confirmation does not have a significant effect on attitude toward purchase. The findings highlight the importance of event-based value delivery and perceived fairness in sustaining monetization in AR mobile games.

Keywords: in-app purchase; augmented reality games; event design; purchase intention; Pokémon GO; emerging market

A. INTRODUCTION

In-app purchases (IAPs) have become the dominant revenue mechanism in the global mobile gaming industry. Under the freemium model, games are free to play, while developers rely on players' voluntary purchases of virtual goods, premium features, or access to special events. Although this model supports rapid user acquisition, many developers struggle to sustain player spending over time, especially as games mature and competition intensifies (Hamari et al., 2017; Lehdonvirta, 2009).

Augmented reality (AR) mobile games represent a distinct segment within this industry. Unlike conventional screen-based games, AR games integrate digital gameplay with real-world movement, location-based interaction, and social participation. Pokémon GO, developed by Niantic, is the most prominent example of this genre. Since its global release in 2016, the game has generated more than USD 8 billion in lifetime revenue (Business of Apps, 2024; Game World Observer, 2024). However, despite maintaining a large and active player base, Pokémon GO has experienced declining year-on-year revenue in recent years. This trend suggests increasing difficulty in sustaining monetization as the game reaches a mature stage of its lifecycle (Sensor Tower, 2023).

These challenges are more pronounced in emerging markets such as Indonesia. Indonesia is one of Southeast Asia's largest mobile gaming markets, with high levels of player engagement but relatively low spending on virtual goods (AllCorrect Games, 2023). Indonesian Pokémon GO players frequently participate in in-game events and community activities, yet only a small proportion consistently make in-app purchases. This gap between engagement and monetization indicates that participation alone does not explain purchase behavior and highlights the need to examine the factors that shape spending decisions in this context.

Although prior studies have examined in-app purchase behavior extensively, several gaps remain. From an empirical perspective, most existing research focuses on developed markets, where purchasing power and spending norms differ from those in emerging economies. As a result, current findings offer limited insight into

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markets such as Indonesia, where engagement is high but monetization remains modest. From a theoretical perspective, studies applying the Theory of Planned Behavior (TPB) to gaming contexts largely focus on conventional mobile games and pay limited attention to the unique characteristics of AR environments. From a conceptual perspective, many monetization studies treat purchase decisions as responses to static game features, while overlooking the central role of event-driven mechanisms in AR games.

In AR mobile games such as Pokémon GO, time-limited events, location-based challenges, and socially coordinated activities play a central role in shaping player behavior. These event-based features create moments where players evaluate value, fairness, and control at the point of decision-making. However, existing research has not sufficiently explained how event design interacts with established behavioral determinants to influence purchase intention in AR gaming contexts.

To address these gaps, this study examines the determinants of in-app purchase intention among Pokémon GO players in Indonesia. The study integrates the Theory of Planned Behavior (TPB) (Ajzen, 1991) with Expectation-Confirmation Theory (Bhattacherjee, 2001), price fairness perceptions (Xia et al., 2004), and event design characteristics relevant to AR mobile games. Specifically, it analyzes how attitude toward purchase, subjective norm, and perceived behavioral control influence purchase intention, and how players' perceptions of event design quality, price fairness, and expectation confirmation shape these relationships in an event-driven AR gaming environment.

By focusing on an AR mobile game in an emerging market, this research makes two key contributions. First, it extends behavioral intention models by incorporating event design as a contextual driver of purchase decisions in AR games. Second, it provides empirical evidence from Indonesia, offering insights into player purchase behavior in markets where high engagement does not necessarily lead to high monetization. These contributions advance the literature on digital consumption and inform monetization strategies for event-driven digital platforms.

B. LITERATURE REVIEW

Literature Review

In-app purchases (IAPs) allow players to spend real money on virtual goods, premium features, or access to special in-game events. Under the freemium model, developers rely on a small proportion of paying users to generate most of their revenue. As a result, purchase intention plays a central role in sustaining monetization (Lehdonvirta, 2009). Previous studies show that IAP behavior depends on cognitive evaluations, emotional responses, and social influence, including perceived value, enjoyment, fairness, and peer norms (Hamari, 2015; Hamari et al., 2017). The Theory of Planned Behavior (TPB) explains how individuals form behavioral intentions (Ajzen, 1991). According to TPB, attitude toward the behavior, subjective norm, and perceived behavioral control jointly shape intention. Research in digital consumption contexts confirms that these factors strongly influence intention-based behaviors, including mobile app usage and online transactions (Hsu & Lin, 2016; Venkatesh et al., 2003). In the context of IAPs, attitude reflects players' evaluation of whether spending money in a game is worthwhile, subjective norm captures social pressure from peers or communities, and perceived behavioral control reflects perceived affordability and ease of purchase.

Augmented reality (AR) mobile games introduce additional experiential and contextual elements into the purchase decision process. These games combine digital gameplay with physical movement, location-based interaction, and social participation. In AR games such as Pokémon GO, developers closely tie monetization to time-limited events and socially coordinated activities. This structure suggests that event-related factors play a key role in shaping players' purchase decisions (Koivisto & Hamari, 2019).

Price fairness represents an important contextual factor in mobile gaming. It refers to players' perceptions of whether in-game prices reasonably match the value they receive (Xia et al., 2004). When players perceive prices as fair, they evaluate purchases more positively and show less resistance to spending (Hamari, 2015). In socially embedded gaming environments, fairness perceptions also influence shared norms and shape social acceptance of purchasing behavior within player communities (Hsu & Lin, 2016). Event design is another critical factor in AR games. It refers to the structure and experience of time-limited in-game activities, including reward attractiveness, exclusivity, pacing, and opportunities for social interaction. Well-designed events increase perceived value and enjoyment, which strengthens positive attitudes toward purchasing. Event design can also enhance perceived behavioral control by reducing uncertainty and increasing players' confidence in expected outcomes (Koivisto & Hamari, 2019).

Expectation-Confirmation Theory explains how prior experiences influence later evaluations (Bhattacherjee, 2001). In mobile gaming, players compare expected outcomes with the rewards they receive from events or purchases. When experiences meet or exceed expectations, players form more favorable evaluations of purchasing behavior and develop stronger attitudes toward future spending (Hsu & Lin, 2016).

These perspectives complement one another in explaining in-app purchase behavior in AR games. TPB explains how attitudes, social influence, and perceived control shape purchase intention. Expectation confirmation captures how past experiences influence players' evaluations of purchasing outcomes, while price fairness shapes both individual attitudes and shared norms regarding acceptable spending. In AR mobile games, these mechanisms operate within event-driven contexts. Time-limited events create moments where players evaluate fairness, confirm expectations, and reassess their willingness and ability to spend. Event design, therefore, acts as a contextual mechanism that links experiential evaluation, fairness perception, and intention formation in AR gaming environments.

Conceptual Framework

This study proposes a conceptual framework to explain in-app purchase intention in augmented reality (AR) mobile games by integrating the Theory of Planned Behavior (TPB) with contextual and experiential factors relevant to event-driven game environments. Consistent with TPB, attitude toward purchase, subjective norm, and perceived behavioral control are positioned as direct predictors of in-app purchase intention (Ajzen, 1991). Attitude toward purchase reflects players' overall evaluation of whether spending money in the game is worthwhile. In AR games, this evaluation is shaped not only by perceived value but also by the situational context in which purchases occur. Subjective norm captures perceived social influence from peers and player communities, which is particularly salient in socially embedded games. Perceived behavioral control reflects players' perceived affordability and ease of making in-app purchases, as well as their confidence in completing transactions. Prior research consistently shows that these three factors strongly influence intention in digital consumption contexts (Hsu & Lin, 2016; Venkatesh et al., 2003).

Price fairness is conceptualized as a factor that shapes both individual and social evaluations of purchasing behavior. When players perceive in-game pricing as fair and reasonable, they are more likely to develop positive attitudes toward purchasing. Fair pricing may also strengthen subjective norms by increasing the social acceptance of spending within player communities (Xia et al., 2004; Hamari, 2015). Accordingly, price fairness is expected to influence both attitude toward purchase and subjective norm. Event design is a key contextual factor in AR mobile games, where monetization often centers on time-limited events rather than routine gameplay. Well-designed events can enhance perceived value and enjoyment, thereby strengthening positive attitudes toward purchasing. Clear event structures and attractive rewards may also reduce uncertainty, helping players feel more capable of making purchase decisions and increasing perceived behavioral control (Koivisto & Hamari, 2019). Expectation confirmation reflects players' evaluations of whether prior gameplay and event experiences meet their expectations. When expectations are confirmed, players are more likely to form favorable evaluations of purchasing behavior. In line with Expectation-Confirmation Theory, such positive experiences are expected to strengthen attitude toward purchase (Bhattacherjee, 2001).

Based on the proposed framework, the following hypotheses are formulated:

H1: Attitude toward purchase has a positive effect on in-app purchase intention.
H2: Subjective norm has a positive effect on in-app purchase intention.
H3: Perceived behavioral control has a positive effect on in-app purchase intention.
H4: Price fairness has a positive effect on attitude toward purchase.
H5: Price fairness has a positive effect on subjective norm.
H6: Event design has a positive effect on attitude toward purchase.
H7: Event design has a positive effect on perceived behavioral control.
H8: Expectation confirmation has a positive effect on attitude toward purchase.

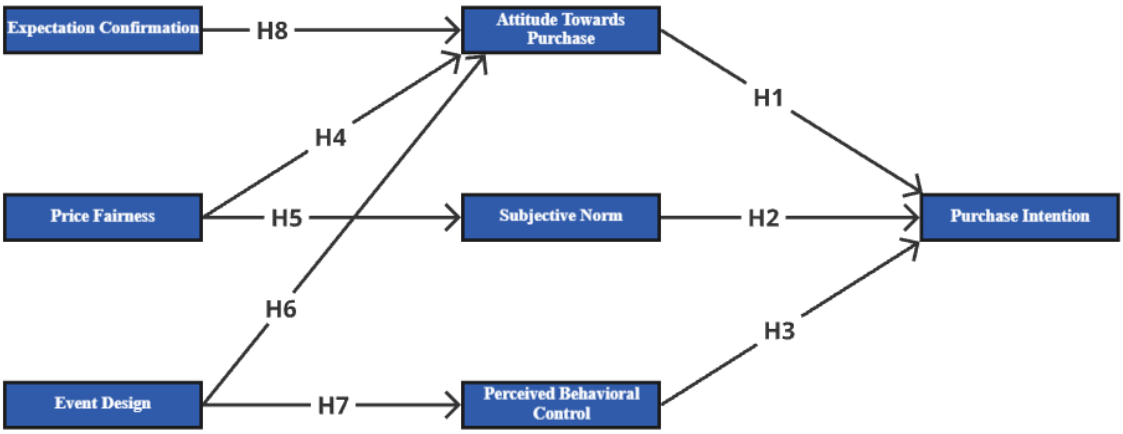


Figure 1. Conceptual Framework of the Study
Source: Research data, 2025

C. METHODS

Research Design

This study adopts a quantitative, cross-sectional research design to examine factors influencing in-app purchase intention in augmented reality (AR) mobile games. A survey-based approach was used to capture players' perceptions and behavioral intentions, which aligns with the objective of testing theoretically grounded relationships derived from the Theory of Planned Behavior and related frameworks. The quantitative design allows the measurement of latent constructs using validated indicators and enables statistical testing of the proposed hypotheses. A cross-sectional approach was selected because the study focuses on explaining associative relationships among constructs rather than observing behavioral changes over time. To test the proposed conceptual framework and assess predictive relationships among multiple constructs, this study employs Partial Least Squares Structural Equation Modeling (PLS-SEM) as the main analytical technique.

Data Collection

Data were collected through an online questionnaire targeting Pokémon GO players in Indonesia. This method was appropriate given the digital nature of the gaming context and the geographically dispersed player population. The questionnaire was distributed through online gaming communities, social media platforms, and player networks to reach respondents who were actively engaged with the game. To ensure data relevance, several screening criteria were applied at the beginning of the survey. Respondents were required to be at least 18 years old, to have played Pokémon GO within the past twelve months, and to have made at least one in-app purchase during the same period. These criteria ensured that respondents had recent gameplay and purchasing experience, enabling them to provide informed evaluations. Following recommendations for PLS-SEM analysis, sample adequacy was assessed using the ten-times rule, which suggests that the minimum sample size should exceed ten times the maximum number of structural paths directed at any endogenous construct (Hair et al., 2017). This guideline served as a benchmark during data collection to ensure sufficient statistical power. To minimize missing data and response errors, all survey items were mandatory, and clear instructions were provided before completion.

Common Method Bias and Respondent Profile

As the data were collected via a self-reported survey, potential common-method bias (CMB) was assessed. Harman's single-factor test was conducted by examining whether a single factor accounted for the majority of the variance in the measurement items. The results indicated that no single factor dominated the variance, suggesting that common method bias was unlikely to pose a serious concern in this study. To address potential non-response bias, the distribution of responses was examined across key demographic characteristics. No extreme concentration was observed within specific respondent groups, indicating that the sample reasonably represents the target population of active Pokémon GO players who have engaged in in-app purchases. The final sample consisted of 337 valid responses. The respondents varied by gender, age group, and gameplay duration, reflecting

diversity in player characteristics. Most respondents reported regular gameplay activity and participation in in-game events, indicating a high level of engagement with the game environment.

Data Analysis

The collected data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS software. PLS-SEM was selected for its suitability for predictive research objectives, its ability to handle complex models with multiple latent constructs, and its robustness to non-normal data distributions commonly encountered in survey research (Hair et al., 2017). The analysis followed a two-stage procedure. First, the measurement model was evaluated by assessing indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Second, the structural model was examined by analyzing path coefficients, coefficients of determination (R^2), and the statistical significance of the hypothesized relationships. The results of these analyses provide empirical support for the proposed conceptual framework and are presented in the following section.

D. RESULTS AND DISCUSSIONS

Measurement Model Assessment

Prior to testing the structural relationships, the measurement model was evaluated to ensure the reliability and validity of the constructs. The assessment followed established guidelines for Partial Least Squares Structural Equation Modeling (PLS-SEM) as recommended by Hair et al. (2017). Indicator reliability was confirmed, as all measurement items exhibited factor loadings above the recommended threshold of 0.70, indicating that the indicators adequately represented their respective latent constructs. Internal consistency reliability was also satisfactory, with composite reliability values for all constructs exceeding 0.70 (see Table 1).

Table 1. Indicator Loadings

	ATP	EC	ED	PBC	PF	PI	SN
ATP3	0,867						
ATP2	0,862						
ATP1	0,854						
EC2		0,884					
EC3		0,855					
EC1		0,824					
ED1			0,855				
ED2			0,866				
ED3			0,595				
PBC1				0,896			
PBC2				0,906			
PBC3				0,706			
PF1					0,915		
PF2					0,919		
PF3					0,963		
PI1						0,830	
PI2						0,870	
PI3						0,847	
SN1							0,768
SN2							0,722
SN3							0,851

Source: Research data, 2025

Convergent validity was assessed using the average variance extracted (AVE). All constructs achieved AVE values greater than 0.50, demonstrating that each construct explained more than half of the variance of its indicators, as depicted in Table 2.

Table 2. Cronbach's Alpha, CR, AVE Value

	Cronbach's α	Composite Reliability (ρ_a)	Composite Reliability (ρ_c)	AVE
ATP	0,826	0,831	0,896	0,742
EC	0,815	0,819	0,890	0,730
ED	0,678	0,741	0,822	0,612

	Cronbach's α	Composite Reliability (ρ_a)	Composite Reliability (ρ_c)	AVE
PBC	0,786	0,804	0,878	0,708
PF	0,925	0,928	0,952	0,870
PI	0,807	0,812	0,886	0,722
SN	0,702	0,774	0,825	0,612

Source: Research data, 2025

Discriminant validity was evaluated using the heterotrait–monotrait ratio (HTMT). All HTMT values were below the conservative threshold of 0.85, confirming that the constructs were empirically distinct (Table 3). Overall, the results indicate that the measurement model demonstrates adequate reliability, convergent validity, and discriminant validity. These findings support the suitability of the measurement instruments for subsequent structural model analysis.

Table 3. HTMT RATIO

	ATP	EC	ED	PBC	PF	PI
EC	0,405					
ED	0,468	0,820				
PBC	0,412	0,421	0,449			
PF	0,489	0,500	0,452	0,308		
PI	0,800	0,330	0,389	0,419	0,388	
SN	0,413	0,169	0,267	0,202	0,200	0,457

Source: Research data, 2025

Structural Model Assessment

After establishing the adequacy of the measurement model, the structural model was evaluated to examine the relationships among constructs. The assessment focused on explanatory power, predictive relevance, effect size, and potential collinearity issues, following the guidelines proposed by (Hair et al., 2017). The model's explanatory power was assessed using the coefficient of determination (R^2). The results indicate that the model explains a meaningful proportion of variance in the endogenous constructs, suggesting adequate explanatory strength for behavioral intention research. The R^2 value for purchase intention indicates that attitude toward purchase, subjective norm, and perceived behavioral control jointly explain a substantial share of variance in players' intention to make in-app purchases (see Table 4). Predictive relevance was assessed using the Stone–Geisser Q^2 value obtained through the blindfolding procedure. All endogenous constructs achieved Q^2 values greater than zero, indicating that the model demonstrates satisfactory predictive relevance. In particular, the Q^2 value for purchase intention suggests that the model has strong out-of-sample predictive capability in explaining players' purchasing intentions in the AR gaming context.

Table 3. R^2 VALUE

	Original Sample (O)	Sample Mean (M)	Standard Deviation	T statistics	P-values
ATP	0,234	0,244	0,041	5,698	0,000
PBC	0,113	0,119	0,038	2,969	0,003
PI	0,474	0,483	0,041	11,682	0,000
SN	0,035	0,040	0,021	1,677	0,094

Source: Research data, 2025

Effect size (f^2) analysis was conducted to evaluate the relative contribution of each exogenous construct. Attitude toward purchase exhibits the largest effect on purchase intention, indicating its dominant role in shaping players' spending intentions. Subjective norm and perceived behavioral control show smaller but meaningful effects, suggesting that social influence and perceived ease of purchasing also contribute to intention formation. Event design and price fairness demonstrate notable effects on attitude toward purchase and perceived behavioral control, highlighting their importance as contextual drivers in AR games, as depicted in Table 4.

Table 4. f^2 Values

	Original sample (O)	Sample mean (M)	2.50%	97.50%
ATP -> PI	1,242	1,258	1,144	1,402
EC -> ATP	1,791	1,813	1,555	2,119
ED -> ATP	1,694	1,715	1,464	2,024
ED -> PBC	1,000	1,000	1,000	1,000
PBC -> PI	1,124	1,134	1,056	1,243

	Original sample (O)	Sample mean (M)	2.50%	97.50%
PF -> ATP	1,265	1,277	1,154	1,434
PF -> SN	1,000	1,000	1,000	1,000
SN -> PI	1,119	1,131	1,056	1,230

Source: Research data, 2025

Potential multicollinearity was examined using the variance inflation factor (VIF) values. All VIF values were below the recommended threshold of 5.0, indicating that collinearity does not pose a concern in the structural model. Overall, the structural model demonstrates adequate explanatory power, strong predictive relevance, meaningful effect sizes, and no multicollinearity issues, supporting the robustness of the proposed framework.

Hypothesis Testing

Hypothesis testing was conducted using path coefficients, t-values, and p-values obtained through bootstrapping procedures in PLS-SEM (Hair et al., 2017). The results are summarized in Table 8. Attitude toward purchase has a strong, significant positive effect on purchase intention ($\beta = 0.561$, $p < 0.001$), indicating that players with more favorable evaluations of in-app purchases are substantially more likely to intend to spend. This construct emerges as the strongest predictor of purchase intention in the model. Subjective norm also has a significant positive effect on purchase intention ($\beta = 0.169$, $p < 0.001$), suggesting that perceived social approval and peer influence increase players' willingness to make purchases. Perceived behavioral control further contributes positively to purchase intention ($\beta = 0.129$, $p = 0.006$), indicating that perceived affordability and ease of transaction support spending intentions.

Price fairness significantly influences both attitude toward purchase ($\beta = 0.330$, $p < 0.001$) and subjective norm ($\beta = 0.187$, $p = 0.001$). When players perceive in-game pricing as fair, they evaluate purchasing more positively and perceive it as more socially acceptable. Event design also plays a critical role by positively affecting attitude toward purchase ($\beta = 0.189$, $p = 0.001$) and perceived behavioral control ($\beta = 0.335$, $p < 0.001$). Well-designed events enhance perceived value and reduce uncertainty, strengthening players' confidence in making purchase decisions. In contrast, expectation confirmation does not have a significant effect on attitude toward purchase ($\beta = 0.071$, $p = 0.294$), as depicted in Table 5. This finding suggests that players evaluate each purchase decision independently, rather than relying heavily on prior satisfaction or past experiences.

Table 5. Path Coefficient

	Original sample	Sample mean	Standard deviation	T statistics	P values
ATP -> PI	0,561	0,561	0,047	12,044	0,000
EC -> ATP	0,071	0,073	0,068	1,050	0,294
ED -> ATP	0,189	0,191	0,058	3,276	0,001
ED -> PBC	0,335	0,341	0,056	6,038	0,000
PBC -> PI	0,129	0,128	0,047	2,769	0,006
PF -> ATP	0,330	0,329	0,055	6,047	0,000
PF -> SN	0,187	0,193	0,054	3,470	0,001
SN -> PI	0,169	0,172	0,047	3,608	0,000

Source: Research data, 2025

Discussion

This study extends the understanding of in-app purchase behavior in augmented reality (AR) mobile games by highlighting how behavioral intentions are shaped not only by individual evaluations, as proposed in the Theory of Planned Behavior (TPB), but also by event-driven and experiential contexts unique to AR gaming. The findings show that purchase intention in Pokémon GO is primarily driven by attitude toward purchase, with contextual factors such as event design and price fairness supporting it, while retrospective evaluations play a limited role. These results suggest that TPB operates differently in AR games compared to conventional digital services.

Attitude as the Central Mechanism in AR Game Monetization

Attitude toward purchase emerges as the strongest predictor of in-app purchase intention, reinforcing TPB's core proposition that evaluative judgments are central to intention formation. However, this study extends TPB by showing that in AR games, attitudes are shaped less by stable product evaluations and more by situational value perceptions. Purchases in Pokémon GO are discretionary and tied closely to specific events, challenges, or rewards rather than to ongoing access to core functionality. This finding aligns with gamification literature, which

emphasizes hedonic motivation and perceived experiential value as key drivers of user engagement and spending in playful digital environments. In AR games, players assess whether a purchase enhances immersion, social participation, or event outcomes. As a result, attitudes toward purchasing remain fluid and context-dependent, rather than being formed once and reinforced over time. This insight extends TPB by positioning attitude as a dynamic construct influenced by event-based motivational affordances.

Event Design as a Contextual Extension of TPB

One of the key contributions of this study lies in integrating event design into the TPB framework. Event design significantly influences both attitude toward purchase and perceived behavioral control, indicating that events function as more than engagement tools—they actively shape decision-making conditions. Well-designed events enhance perceived value, clarify reward structures, and reduce uncertainty, thereby strengthening positive evaluations and perceived capability to act. From a theoretical perspective, this finding extends TPB by demonstrating how contextual affordances embedded in digital environments shape core TPB constructs. In AR games, event structure time pressure, exclusivity, and social coordination influence how players evaluate purchases and assess their ability to participate. This supports the view that behavioral intention models must account for situational design elements when applied to event-driven platforms.

Price Fairness and Social Acceptance in Digital Consumption

Price fairness significantly affects both attitude toward purchase and subjective norm, highlighting its dual role in individual evaluation and social legitimization. Unlike utilitarian digital services, where pricing may be evaluated privately, AR games operate within socially visible environments where purchases are often discussed, compared, and normalized within player communities. This finding contributes to social consumption literature by showing that fairness perceptions shape not only willingness to pay but also perceived social acceptance of spending behavior. When prices align with perceived value and effort, purchasing becomes socially legitimate rather than indulgent. This reinforces TPB's subjective norm construct while emphasizing that social influence in gaming contexts operates through shared perceptions of fairness rather than direct peer pressure.

Perceived Behavioral Control as an Enabling Condition

Perceived behavioral control shows a significant but secondary effect on purchase intention, suggesting that ease and affordability act as enabling conditions rather than primary motivators. In AR games, purchases often occur spontaneously during events, making perceived convenience and transactional simplicity essential for converting positive attitudes into intention. This finding supports TPB while refining its application in digital contexts: perceived behavioral control does not drive desire; rather, it facilitates action. Event design further amplifies this effect by reducing cognitive and procedural barriers, reinforcing the interaction between contextual design and perceived control.

Limited Role of Expectation Confirmation in AR Games

Contrary to expectation-confirmation theory, expectation confirmation does not significantly influence attitude toward purchase. This finding challenges assumptions commonly observed in subscription-based or utilitarian digital services, where cumulative satisfaction plays a central role in post-adoption behavior. In Pokémon GO, frequent changes in event formats, rewards, and gameplay mechanics encourage players to evaluate purchases based on current offerings rather than past experiences. This suggests that AR games operate under a present-focused evaluation logic, where novelty and situational value outweigh retrospective satisfaction. The result refines the applicability of Expectation-Confirmation Theory in highly dynamic, gamified environments.

E. CONCLUSION

This study examines the factors influencing in-app purchase intention in an augmented reality (AR) mobile game, using Pokémon GO as the research context. By extending the Theory of Planned Behavior (TPB) with event design and price fairness, this study provides a more context-sensitive explanation of purchasing behavior in event-driven AR games. Using survey data from Indonesian players and Partial Least Squares Structural

Equation Modeling (PLS-SEM), the study offers both theoretical and practical insights into digital consumption behavior.

Theoretical Contributions

This study makes several theoretical contributions. First, it extends TPB to AR mobile games by demonstrating that purchase intention is primarily driven by attitude toward purchase, with social influence and perceived behavioral control playing supporting roles. This finding confirms TPB's relevance in digital gaming contexts but also highlights differences in how its core constructs operate in experiential and event-based environments. Second, this study contributes by integrating event design as a contextual antecedent within the TPB framework. The results show that event design shapes both attitudinal evaluations and perceived behavioral control, suggesting that situational design features actively influence intention formation in AR games. This extends existing behavioral models by demonstrating that event-based affordances are central to decision-making in AR gaming contexts. Third, the findings refine the role of expectation-confirmation theory in dynamic digital environments. Unlike subscription-based services, expectation confirmation does not significantly influence purchasing attitudes in Pokémon GO. This suggests that players evaluate purchases based on the perceived value of current events rather than on cumulative past experiences, highlighting the limits of retrospective satisfaction models in highly gamified settings.

Managerial Implications

The findings offer several implications for game developers and platform managers. First, developers should prioritize strategies that strengthen positive purchase attitudes by ensuring in-app purchases deliver clear, consistent experiential value. Purchases should be closely aligned with gameplay enhancement rather than perceived as mandatory or exploitative. Second, event design should be treated as a core monetization mechanism rather than a secondary engagement tool. Well-structured events with clear rewards, balanced effort-to-reward ratios, and transparent mechanics can enhance both perceived value and players' confidence in making purchase decisions. Third, price fairness should be emphasized to maintain both individual willingness to pay and social acceptance within player communities. Transparent pricing structures and predictable value delivery can reduce resistance to spending and support sustainable monetization. Finally, developers should minimize friction in the purchasing process. Simplifying payment flows and reducing transaction barriers can help convert positive attitudes into actual purchase intentions, especially during time-sensitive events.

Recommendations for Future Research

Future research may build on this study in several ways. First, longitudinal research designs could examine how players evaluate purchases across multiple events over time, providing deeper insight into the limited role of expectation confirmation observed in this study. Second, future studies may incorporate additional motivational constructs, such as perceived enjoyment, fear of missing out (FOMO), immersion, or exclusivity, to further the explanatory power of extended TPB models in AR games. Third, testing the proposed framework in different cultural and market contexts would improve the generalizability of the findings. Finally, combining survey-based data with actual in-game behavioral data could offer a more comprehensive understanding of purchase behavior and reduce reliance on self-reported measures.

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