
The Role of Gamification on Purchase Intention in Users of Financial Technology Mobile Banking Applications

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ABSTRACT

Financial technology (*fintech*) has experienced rapid growth in recent years, with mobile banking being one of the main services widely adopted by Indonesians. One of the innovative strategies used in mobile banking applications is gamification, which is the application of game elements to increase user engagement and encourage positive financial behavior. This study aims to analyze how gamification elements, such as rewards, competition, immersion, enjoyment, and sense of presence, influence the purchase intention of mobile banking app users in Indonesia. This study uses a quantitative method with a Structural Equation Modeling (SEM) approach to test the relationship between variables. Data were collected through a survey of mobile banking application users who have used gamification features in their financial transactions. The sample of this study consisted of 284 respondents with specific criteria. The questionnaire was measured using a 7-point Likert scale. The findings provide implications for the *fintech* industry, particularly in developing effective gamification-based marketing strategies to increase user adoption and retention. For *fintech* app developers, the results suggest implementing balanced gamification systems that combine intrinsic motivational elements (autonomy support) with carefully designed extrinsic rewards. Policymakers should consider regulatory frameworks that encourage innovative gamification while protecting consumer financial interests through transparency and ethical design standards. The study also provides insights for app developers in designing interactive features that can strengthen user experience and encourage more active transaction behavior.

Keyword: *Gamification, Mobile Banking, Purchase Intention, Immersion, Enjoyment, Sense of Presence, Fintech*

INTRODUCTION

In the rapidly evolving digital era, financial technology (*fintech*) has become one of the key pillars in changing the way Indonesians interact with financial services (Jameaba, 2020, 2022; Triantono & Aryusmar, 2019). *Fintech* offers various innovative solutions in financial access, ranging from digital payments to investment platforms. According to a report from Bank Indonesia (2024), *fintech* adoption in Indonesia is increasing significantly, especially among millennials and Generation Z, who are more comfortable using digital technology in their daily lives. Given the young population that is digitally connected and adopting *fintech* services, the potential of the *fintech* market in Indonesia is considered quite large (Agustiningsih et al., 2021; Nugraha et al., 2022).

One innovation that is attracting attention in this industry is gamification, the application of game elements in a non-game context to increase user engagement. Yoon (2009) explains that online games are socially accepted because they provide a fun experience, are easily accessible, and can encourage user loyalty behavior. In the context of *fintech*, gamification is used to encourage positive financial behavior, such as saving, investing, or

repaying loans (Hamari et al., 2014; Deterding et al., 2011). Bain & Company (2022) noted that gamification not only increases user engagement but also helps companies understand consumer behavior while introducing products in a more interesting and interactive way. According to a study by Huotari & Hamari (2017), gamification is proven to be effective in increasing user engagement and strengthening consumer loyalty through achievements, rewards, and challenges. Successful gamification is not just about creating a game that is fun and engaging, or technically sound (Jacobides, 2024). Instead, gamification must provide tangible benefits to the company, and the company must choose the right approach for the goals it wants to achieve. Thus, to understand when gamification works, one must consider how user motivation, gamification design, and business goals are intertwined. This can determine the success of gamification.

According to a report from We Are Social (2024), approximately 77% of Indonesia's population is connected to the internet, with mobile device usage continuing to rise; however, a significant gap in digital literacy persists, particularly among segments of society that do not fully understand the benefits of digital financial services. The Financial Services Authority (*Otoritas Jasa Keuangan* - OJK) reported in 2024 a 9.59% disparity between the financial inclusion index and the financial literacy index, indicating that nearly 10% of Indonesians who used financial products or services in the past year lacked adequate financial literacy. This highlights the urgent need for initiatives to enhance public understanding and promote wiser usage of financial products, especially *fintech*. One promising approach to accelerate financial literacy is gamification, which Bain & Company (2022) identifies as a potential solution through game elements like rewards, challenges, and achievement recognition that encourage active and comfortable user engagement on *fintech* platforms by providing a fun and interactive experience.

The psychological mechanisms behind gamification's effectiveness can be understood through Self-Determination Theory (SDT) and Cognitive Evaluation Theory (CET). SDT, developed by Deci and Ryan (1985), posits that humans require autonomy, competence, and relatedness for optimal intrinsic motivation, which gamification elements like savings challenges and leaderboards can fulfill in *fintech* contexts. CET, a subset of SDT, focuses on how external rewards and feedback affect intrinsic motivation; rewards such as points or badges may enhance motivation if perceived as competence recognition but diminish it if seen as behavioral control (Deci & Ryan, 1985; Deci et al., 1999). For instance, a badge for reaching a savings target can boost competence and motivation, whereas forced transactions for points may reduce intrinsic drive.

Research on gamification's impact reveals inconsistent results; Zhao et al. (2022) note varied purchase intention outcomes, while Agrawal & Punwarkar (2023) emphasize dependencies on product type and design, with incentives, social influence, and emotional attachment playing key roles. Gao & Wu (2022) find that points and badges increase purchase intent when users perceive social benefits and enjoyment, supported by Flavián et al. (2023) who show simple designs like random rewards are more effective than complex tasks. Doğan-Südaş et al. (2023) add that user satisfaction and perceived value drive purchase intent, though effectiveness hinges on usage context and interaction levels. In mobile banking, gamification strategies can enhance engagement and transaction intentions, yet few studies focus on

Indonesia, necessitating further research into optimal mechanisms and elements (Agrawal & Punwatkar, 2023; Gao & Wu, 2022).

Effective gamification requires balancing intrinsic and extrinsic motivation; Tomczyk and Teckchandani (2023) warn that overemphasis on external rewards like points can dampen long-term interest, whereas combining intrinsic elements like self-improvement goals with extrinsic incentives sustains engagement. Kittel et al. (2021) and John et al. (2023) corroborate that intrinsic motivation provides deeper, lasting satisfaction, while Werbach and Hunter (2023) advocate for designs supporting personal needs like self-development. Deci and Ryan (2022) stress that balancing autonomy and competence with external rewards is key to stable engagement. In Indonesia, *fintech* developers are integrating financial education into gamification, using interactive challenges to teach budgeting and investing, aiming to improve financial behavior beyond short-term rewards. Regulatory support from OJK, emphasizing innovation alongside data protection and transaction security, further bolsters user trust in gamified *fintech* platforms.

This research aims to further analyze how gamification elements can be effectively integrated into *fintech* services in Indonesia, as well as identify factors that influence purchase intention or, in this case, the intention to make transactions caused by gamification by *fintech* users, especially mobile banking. This research is expected to make a significant contribution to the development of more effective marketing strategies and product designs in the Indonesian *fintech* industry. In addition, the results of this study are expected to serve as a reference for stakeholders in the *fintech* industry and regulators in formulating policies that support gamification-based innovation. This research will delve deeper into how gamification can be effectively applied in *fintech* in Indonesia, as well as identify gamification success factors to influence purchase intention in this sector. This research seeks to fill the gap by exploring the design of gamification elements relevant in the context of *fintech*, particularly mobile banking, to provide deeper insights and identify game mechanics suitable for mobile banking to increase customer engagement and achieve business objectives more effectively.

RESEARCH METHODS

This research employs a quantitative approach, utilizing a cross-sectional design as defined by Sekaran (2013), where data is collected at a single point in time to address the research questions. The research design serves as a blueprint guiding the entire process, from objectives to results, encompassing decisions on data collection, analysis, and interpretation (Abutabenjeh & Jaradat, 2017). Data are processed using Structural Equation Modeling (SEM), a tool commonly applied to primary data gathered through surveys, observations, and interviews (Eladio, 2006). The survey method involves distributing questionnaires, which begin with an introduction outlining the research objectives, followed by demographic data collection, and core questions related to the research variables, utilizing formats such as multiple choice and Likert scales (Trigueros, 2017).

The data types include primary data, collected through a structured Likert-scale questionnaire ranging from 1 (strongly disagree) to 7 (strongly agree), and secondary data sourced from journals, articles, books, and other relevant materials. The population consists of Indonesian mobile banking users, with sampling conducted through non-probability purposive

sampling based on specific criteria aligned with research objectives. Following Hair et al. (1998), the sample size is determined to be between 145 and 290 respondents, considering the 29 research indicators.

The research model is a modification of prior studies by Chang (2023) and Xu et al. (2020), which explore the impact of gamification elements on purchase intention through mediating variables like engagement, sense of presence, immersion, and enjoyment. Chang's (2023) study on live-streaming platforms found that rewards and competition positively affect sense of presence, which mediates purchase intention, while Xu et al. (2020) highlighted the significance of autonomy, rewards, and absorption on enjoyment, leading to increased purchase intention, though competition was ineffective. This study integrates these variables, applying them to the context of mobile banking applications in Indonesia, to examine how gamification elements influence customer engagement and subsequent purchase intention.

RESULTS AND DISCUSSION

Measurement Model Analysis

Indicator Reliability (Outer Loading)

The first stage in measuring the outer model is to measure the outer loading. According to (Hair et al., 2022) the outer loading requirement is ≥ 0.7 . A high outer loading value indicates that these indicators have a lot in common. The Outer Loading value can be seen in the table below:

Table 1. Validity Test Results

Indicator	Variable	Outer Loading (>0.7)	Description
Autonomy	AUT1	0,858	Reliable
	AUT2	0,780	Reliable
	AUT3	0,794	Reliable
Reward	RWD1	0,774	Reliable
	RWD2	0,701	Reliable
	RWD3	0,835	Reliable
Competition	COM1	0,935	Reliable
	COM2	0,873	Reliable
	COM3	0,941	Reliable
	COM4	0,925	Reliable
Absorption	ABN1	0,926	Reliable
	ABN2	0,863	Reliable
	ABN3	0,922	Reliable
	ABN4	0,929	Reliable
Immersion	IMS1	0,907	Reliable
	IMS2	0,904	Reliable
	IMS3	0,897	Reliable
	IMS4	0,907	Reliable
Enjoyment	ENJ1	0,840	Reliable
	ENJ2	0,654	Reliable
	ENJ3	0,862	Reliable
Sense of Presence	SOP1	0,856	Reliable
	SOP2	0,858	Reliable
	SOP3	0,895	Reliable
Purchase Intention	PI1	0,853	Reliable
	PI2	0,819	Reliable
	PI3	0,829	Reliable
	PI4	0,797	Reliable
	PI5	0,774	Reliable

Source: Researcher processed data using SmartPLS 4.0

Based on the table above, each research variable has an Outer Loading value of more than 0.7, except for ENJ2, but the indicator is still acceptable, because according to Hair, et. al. (2021) states that if there are indicators with outer loading below 0.7, this is acceptable as long as they are in the range of values 0.5 - 0.7, and AVE remains ≥ 0.5 , and composite reliability (CR) is above ≥ 0.7 . Thus this shows that all indicators have met the reliability criteria, so they can proceed to the next stage, namely the measurement model reliability test (internal consistency reliability)

Measurement Model Reliability Test (Internal Consistency Reliability)

Table 2. Reliability Test Results

Variable	Cronbach's Alpha	Composite Reliability	Description
<i>Autonomy</i>	0,743	0,852	Valid and Reliable
<i>Reward</i>	0,763	0,849	Valid and Reliable
<i>Competition</i>	0,938	0,956	Valid and Reliable
<i>Absorption</i>	0,931	0,951	Valid and Reliable
<i>Immersion</i>	0,887	0,930	Valid and Reliable
<i>Enjoyment</i>	0,697	0,832	Valid and Reliable
<i>Sense of Presence</i>	0,839	0,903	Valid and Reliable

Source: Researcher processed data using SmartPLS 4.0

Based on the table above, the Cronbach's Alpha and Composite Reliability values are more than 0.6 and 0.7 respectively. These results indicate that each variable has met the reliability criteria based on Cronbach's Alpha and Composite Reliability. Thus, all variables have a high level of reliability and can proceed to the next stage of testing.

Measurement Model Convergent Validity Test

Table 3. Convergent Validity Results

Variable	Average Variance Extracted (AVE)	Description
Autonomy	0,658	Accepted
Reward	0,585	Accepted
Competition	0,844	Accepted
Absorption	0,829	Accepted
Immersion	0,815	Accepted
Enjoyment	0,626	Accepted
Sense of Presence	0,757	Accepted
Purchase Intention	0,664	Accepted

Source: Researcher processed data using SmartPLS 4.0

Based on the results of the data processing above, all variables have an AVE value of more than 0.5. This indicates that convergent validity has been met. Thus, the analysis can proceed to the next stage, namely the discriminant validity test.

Discriminant Validity Test of Measurement Model (Discriminant Validity)

a. Fornell-Larcker criterion

Table 4. Fornell-Larcker Criterion Results

	ABN	AUT	COM	ENJ	IMS	PI	RWD	SOP
ABN	0.910							
AUT	0.216	0.811						
COM	0.472	0.254	0.919					
ENJ	0.279	0.516	0.154	0.791				
IMS	0.650	0.266	0.535	0.326	0.903			

	ABN	AUT	COM	ENJ	IMS	PI	RWD	SOP
PI	0.349	0.342	0.125	0.667	0.439	0.815		
RWD	0.202	0.458	0.099	0.496	0.221	0.465	0.765	
SOP	0.389	0.413	0.417	0.537	0.422	0.608	0.408	0.870

Source: Researcher processed data using SmartPLS 4.0

Based on the results of the Fornell-Larcker discriminant test, it shows that the results are valid, because all the correlation values of the association constructs show the highest numbers compared to the correlation values with other variables.

b. Cross Loading

Cross Loading shows that each indicator has a higher correlation with its latent variable than with other latent variables. If an indicator has a greater loading value on its own construct than on other constructs, then discriminant validity is met. The Cross Loadings Factor value of each indicator can be seen in the following table:

Table 5. Cross Loading Results

	ABN	AUT	COM	ENJ	IMS	PI	RWD	SOP
ABN1	0.926	0.177	0.395	0.281	0.589	0.347	0.182	0.364
ABN2	0.863	0.193	0.456	0.197	0.588	0.232	0.143	0.313
ABN3	0.922	0.231	0.465	0.270	0.604	0.318	0.219	0.363
ABN4	0.929	0.189	0.415	0.256	0.593	0.356	0.184	0.371
AUT1	0.213	0.858	0.178	0.495	0.213	0.289	0.391	0.309
AUT2	0.083	0.780	0.219	0.385	0.216	0.228	0.384	0.335
AUT3	0.226	0.794	0.234	0.354	0.221	0.319	0.338	0.378
COM1	0.443	0.286	0.935	0.186	0.523	0.133	0.103	0.430
COM2	0.465	0.172	0.873	0.106	0.481	0.139	0.070	0.336
COM3	0.419	0.231	0.941	0.149	0.477	0.104	0.086	0.386
COM4	0.410	0.236	0.925	0.117	0.482	0.085	0.104	0.373
ENJ1	0.233	0.463	0.038	0.840	0.243	0.554	0.443	0.400
ENJ2	0.228	0.282	0.272	0.654	0.292	0.430	0.275	0.429
ENJ3	0.211	0.454	0.104	0.862	0.257	0.585	0.436	0.459
IMS1	0.601	0.310	0.504	0.301	0.907	0.352	0.255	0.408
IMS2	0.538	0.225	0.518	0.290	0.904	0.407	0.199	0.367
IMS3	0.627	0.182	0.421	0.293	0.897	0.430	0.141	0.368
PI1	0.320	0.302	0.055	0.601	0.403	0.853	0.428	0.509
PI2	0.312	0.224	0.101	0.517	0.344	0.819	0.285	0.491
PI3	0.248	0.287	0.087	0.573	0.329	0.829	0.411	0.542
PI4	0.349	0.264	0.196	0.466	0.422	0.797	0.353	0.493
PI5	0.194	0.314	0.082	0.553	0.287	0.774	0.410	0.441
RWD1	0.087	0.307	0.007	0.437	0.109	0.350	0.774	0.272
RWD2	0.155	0.343	0.027	0.347	0.118	0.307	0.701	0.263
RWD3	0.201	0.465	0.164	0.412	0.244	0.381	0.835	0.372
RWD4	0.173	0.269	0.087	0.316	0.190	0.381	0.743	0.331
SOP1	0.332	0.339	0.347	0.436	0.340	0.478	0.372	0.856
SOP2	0.303	0.422	0.376	0.454	0.346	0.519	0.339	0.858
SOP3	0.377	0.321	0.365	0.508	0.412	0.585	0.354	0.895

Source: Researcher processed data using SmartPLS 4.0

Based on the results of the cross-loading analysis in the table above, it shows that the cross-loading value of each variable shows a higher number than the cross loading value of other variables, which means that the structure or latent variable already has good Discriminant Validity.

c. Heterotrait-Monotrait Ratio (HTMT)

Table 6. Heterotrait-Monotrait Ratio (HTMT) Results

	ABN	AUT	COM	ENJ	IMS	PI	RWD	SOP
ABN								
AUT	0.258							
COM	0.509	0.308						
ENJ	0.348	0.690	0.214					
IMS	0.719	0.328	0.584	0.426				
PI	0.382	0.426	0.143	0.848	0.499			
RWD	0.236	0.599	0.116	0.667	0.261	0.567		
SOP	0.437	0.532	0.468	0.710	0.488	0.708	0.507	

Source: Researcher processed data using SmartPLS 4.0

Based on the results of testing discriminant validity using the Heterotrait-Monotrait Ratio (HTMT), the value listed in the table is below 1. This shows that each indicator in each construct variable has a clear difference with other constructs. Thus, the HTMT test results can be declared valid.

Collinearity Statistics (VIF)

Table 7. Collinearity Statistics Results (VIF)

	ABN	AUT	COM	ENJ	IMS	PI	RWD	SOP
ABN				1.330				
AUT				1.342				
COM				1.337	1.010			1.010
ENJ						1.430		
IMS						1.238		
PI								
RWD				1.292	1.010			1.010
SOP						1.554		

Source: Researcher processed data using SmartPLS 4.0

Based on the table above, the Variance Inflation Factor (VIF) test results show that each variable has a value below 5. This indicates that the potential for collinearity in the structural model is relatively small, so there is no significant multicollinearity problem. Thus, the analysis can proceed to the stage of evaluating the relationship between variables to test the strength and significance of the influence between constructs in the model.

Path Coefficient dan T-Statistic

Table 8. Path Coefficient and T-Statistic Test Results

Hypothesis	Original sample (O)	T statistics (O/STDEV)	P values	Effect / Significance	Results
H1 AUT -> ENJ	0.351	4.443	0.000		
H2 RWD -> IM	0.169	3.375	0.001	Positive / Significant	Accepted

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Hypothesis		Original sample (O)	T statistics (O/STDEV)	P values	Effect / Significance	Results
H3	RWD -> ENJ	0.307	3.932	0.000	Positive / Significant	Accepted
H4	RWD -> SOP	0.370	5.834	0.000	Positive / Significant	Accepted
H5	COM -> IM	0.518	8.854	0.000	Positive / Significant	Accepted
H6	COM -> ENJ	-0.042	0.665	0.506	Positive / Significant	Accepted
H7	COM -> SOP	0.380	6.383	0.000	Negative / Not Significant	Not Accepted
H8	ABN -> ENJ	0.161	2.815	0.005	Positive / Significant	Accepted
H9	IM -> PI	0.116	2.760	0.006	Positive / Significant	Accepted
H10	ENJ -> PI	0.455	5.775	0.000	Positive / Significant	Accepted
H11	SOP -> PI	0.294	3.439	0.000	Positive / Significant	Accepted
H12	AUT -> ENJ -> PI	0.160	3.673	0.000	Positive / Significant	Accepted
H13	RWD -> IM -> PI	0.028	1.967	0.049	Positive / Significant	Accepted
H14	RWD -> ENJ -> PI	0.140	3.117	0.002	Positive / Significant	Accepted
H15	RWD -> SOP -> PI	0.109	0.012	0.012	Positive / Significant	Accepted
H16	COM -> IM -> PI	0.086	0.005	0.005	Positive / Significant	Accepted
H17	COM -> ENJ -> PI	-0.019	0.656	0.512	Positive / Significant	Accepted
H18	COM -> SOP -> PI	0.112	3.604	0.000	Negative / Not Significant	Not Accepted
H19	ABS -> ENJ -> PI	0.073	2.534	0.011	Positive / Significant	Accepted

Source: Researcher processed data using SmartPLS 4.0

Based on the results of the path coefficients analysis, the T-statistic and P-value values are obtained which indicate that some relationships between constructs do not meet the significance criteria in the test. This indicates that the relationship is not statistically significant. Specifically, the insignificant relationships in this study include the effect of competition on enjoyment, as well as reward on immersion. Thus, these relationships cannot be considered to have a strong influence in the analyzed model.

H1: Autonomy in gamification has a positive influence on enjoyment.

Based on the results of hypothesis testing in the table above, it shows that the relationship between Autonomy and Enjoyment has a significant effect. The fourth hypothesis states that autonomy has a positive and significant effect on enjoyment. The T-statistic value of 4.443 and P-value of 0.000 indicate that this effect is highly statistically significant. Autonomy, or the freedom that users feel in choosing and controlling gamification activities, has a positive impact on enjoyment. Users who feel they have freedom in playing gamification tend to enjoy the experience more. Thus **H1 can be accepted.**

Autonomy, or the freedom users feel in choosing and controlling gamification activities, significantly increases enjoyment. Users who feel they have control over their experience tend to enjoy the activity more. This is in line with Ryan & Deci's (2000) research in Self-Determination Theory (SDT), autonomy is one of the basic psychological needs that increases intrinsic motivation and enjoyment. Research by Peng et al. (2012) also found that autonomy in gamification can increase user satisfaction and enjoyment. In the context of mobile banking, giving users the freedom to choose gamification activities can increase their enjoyment and encourage greater engagement.

H2: Rewards have a positive influence on increasing customer immersion.

Based on the results of hypothesis testing in the table above, it can be concluded that the relationship between Reward and increased Immersion has a significant effect. This is indicated by the T-statistic value which is greater than 1.96, namely 3.375 and the P-value which is smaller than 0.05, namely 0.001, so that hypothesis H2 is accepted. Thus, it can be said that rewards in mobile banking gamification can increase customer immersion. Providing rewards such as points, badges, coupons, or real prizes has been proven to encourage customers' emotional and cognitive engagement, thus creating a more immersive experience (Schaffarczyk & Ilhan, 2019; Sun et al., 2019). When customers feel that their every interaction with the app is rewarded, they tend to be more engaged and interact with the platform for longer, reinforcing the immersive user experience. **H2 is thus acceptable.**

Research by Deci et al. (1999) also supports this finding by asserting that rewards designed with users' personal values in mind can increase intrinsic motivation, especially if they provide a sense of accomplishment or have emotional relevance for users. For example, in the context of mobile banking, rewards in the form of cashback, discounted transaction fees, or loyalty points that can be redeemed for tangible rewards are more capable of increasing deep engagement than symbolic rewards alone. In Keller's (1987) research in his theory of the ARCS Model of Motivation (Attention, Relevance, Confidence, Satisfaction) also emphasizes the importance of relevance in rewards to build user emotional engagement. Rewards that are deemed relevant will increase attention, build user confidence, and generate a sense of satisfaction, which ultimately strengthens immersion. In relation to Csikszentmihalyi's (1990) flow theory, appropriate rewards can accelerate users into a state of flow. When users feel recognized for their achievements through rewards, they are more motivated to keep actively participating in the activity, extending the duration of their immersion in the app.

Additional research from Hamari et al. (2014) shows that progressively structured rewards (e.g. level up rewards or achievement streaks) encourage sustained engagement and deepen the sense of immersion. Rewards serve to reinforce users' emotional attachment to the tasks assigned in gamified applications. Furthermore, Suh et al. (2017) emphasized that in the context of mobile apps, including mobile banking, rewards increase user engagement and user stickiness through increased perceived enjoyment. When customers enjoy their experience, they feel more "immersed" in the activity, and this increases the state of immersion.

H3: Rewards in gamification have a positive influence on increasing enjoyment.

Based on the results of hypothesis testing in the table above, it shows that the relationship between reward and enjoyment has a significant effect. The fifth hypothesis states that RWD has a positive and significant effect on ENJ. The T-statistic value of 3.932 and P-value of 0.000

meet the statistical significance criteria, so this hypothesis is accepted. Rewards or prizes given in gamification have a positive impact on increasing enjoyment. The prizes given can increase user pleasure in playing gamification in mobile banking. **Thus H3 can be accepted.**

Rewards or prizes given in gamification, significantly increase enjoyment. The prizes given can motivate users and create positive feelings, thus increasing their enjoyment. This is in line with research by Deci et al. (1999) who found that well-designed rewards can increase user motivation and enjoyment. In addition, Hamari & Koivisto (2015) showed that rewards in gamification can increase user engagement and enjoyment. In the context of mobile banking, rewards such as points, badges, or discounts can be effective incentives to increase users' enjoyment and encourage them to engage more in gamification activities.

H4: Reward has a positive influence on increasing customers' sense of presence.

Based on the results of hypothesis testing in the table above, it shows that the relationship between rewards and increasing sense of presence has a significant effect. The ninth hypothesis states that RWD has a positive and significant effect on SOP. The T-statistic value of 5.834 and the P-value of 0.000 indicate that this effect is highly statistically significant, so this hypothesis is accepted. Rewards have a positive impact on increasing customers' sense of presence. The rewards provided in gamification can make users feel more present and involved in the experience. **Thus H4 is accepted.**

Rewards significantly increase customers' sense of presence. Rewards can make users feel more engaged and present in the gamification experience. This is in line with research conducted by Lombard & Ditton (1997) which shows that elements such as rewards can increase the illusion of non-mediation, which contributes to the sense of presence. Research by Skadberg & Kimmel (2004) also found that rewards can increase user engagement and feelings of presence in virtual environments. In the context of mobile banking, rewards can make users feel more connected to the platform, thus increasing their sense of presence.

H5: Competition has a positive influence on increasing customer immersion.

Based on the hypothesis test results in the table above, it shows that the relationship between competition and increasing immersion has a significant effect. The tenth hypothesis states that competition has a positive and significant effect on immersion. The T-statistic value of 8.854 and the P-value of 0.000 indicate that this effect is highly statistically significant, so this hypothesis is accepted. Competition has a positive impact on increasing customer immersion. Competition in gamification can make users more engaged and immersed in the experience. **Thus H5 can be accepted.**

Competition significantly increases customer immersion. Competition in gamification can make users more involved and immersed in the experience. This is in line with research conducted by Hamari & Koivisto (2015) found that competition can increase user engagement and immersion in gamification. In addition, Mekler et al. (2017) showed that a well-designed competition can increase user engagement. In mobile banking, healthy competition can encourage users to be more involved in gamification activities, thus increasing their immersion.

H6: Competition in gamification has a positive influence on increasing enjoyment

Based on the hypothesis test results in the table above, it shows that the relationship between competition and increasing enjoyment has no significant effect. The sixth hypothesis states that competition has a positive influence on enjoyment, but after the research survey, this influence is not statistically significant. This can be seen from the T-statistic value of 0.665

which is smaller than 1.96 and the P-value of 0.506 which has a value greater than 0.05. Competition in gamification is hypothesized to have a positive impact on increasing enjoyment. However, the analysis shows that this effect is not statistically significant. This is because not all users enjoy the competition element in gamification. Some users may feel pressured or anxious when faced with competition, especially if they do not feel prepared or do not have enough skills. Research by Hamari & Koivisto (2015) shows that while competition can increase motivation for some users, for others, it can reduce enjoyment and create a negative experience.

The competition element may not be well designed in the context of mobile banking. For example, if the competition is too difficult or unfair, users may not feel motivated to participate. Research by Mekler et al. (2017) shows that poor gamification design, including unbalanced competition, can reduce user enjoyment. In the context of mobile banking, users may be more focused on functional goals (such as making transactions or checking balances) rather than competing with other users. Competition elements may be perceived as irrelevant or distracting in this context. Research by Liu et al. (2017) suggests that gamification in financial services needs to be tailored to users' primary goals, which may not always align with the competition element. **H6 is thus rejected.**

H7: Competition has a positive influence on increasing customers' sense of presence.

Based on the hypothesis test results in the table above, it shows that the relationship between competition and increased immersion has a significant effect. The eleventh hypothesis states that competition has a positive and significant effect on sense of presence. The T-statistic value of 6.383 and P-value of 0.000 indicate that this effect is statistically significant, so this hypothesis is accepted. Competition also has a positive impact on increasing customers' sense of presence. Competition in gamification can make users feel more present in the experience. **Thus H7 is accepted.**

Competition significantly increases customers' sense of presence. Competition in gamification can make users feel more present in the experience. This is in line with research conducted by Skadberg & Kimmel (2004) who found that competition can increase engagement and feelings of presence in virtual environments. Hamari & Koivisto (2015) also showed that competition can increase the sense of presence in gamification. In the context of mobile banking, competition can make users feel more connected to the platform, thus increasing their sense of presence.

H8: Absorption in gamification has a positive influence on increasing enjoyment.

Based on the results of hypothesis testing in the table above, it shows that the relationship between absorption and increased enjoyment has a significant effect. The seventh hypothesis states that absorption has a positive and significant effect on enjoyment. The T-statistic value of 2.815 and P-value of 0.005 indicate that this effect is statistically significant, so this hypothesis is accepted. Absorption or the level of user involvement and focus in gamification, has a positive impact on increasing enjoyment. Users who are truly focused and engaged in gamification tend to enjoy the experience more. **Thus H8 is accepted.**

Absorption or the level of user involvement and focus in gamification, significantly increases enjoyment. Users who are truly focused and engaged in gamification tend to enjoy the experience more. This is in line with research conducted by Csikszentmihalyi (1990) in the "flow" theory which states that absorption is a key component of an optimal experience, which

can increase pleasure. Research by Agarwal & Karahanna (2000) also found that absorption can increase user satisfaction and enjoyment in the context of technology. In mobile banking, absorption can make users feel more connected to the gamification activity, thus increasing their enjoyment.

H9: Immersion has a positive impact on Purchase Intention.

Based on the results of hypothesis testing in the table above, it shows that the relationship between Immersion and Purchase Intention has a significant effect. The first hypothesis states that Immersion (Independent Variable) has a positive and significant effect on purchase intention (Dependent Variable). This is evidenced by a T-statistic value of 2.760 which is greater than 1.96 and a P-value of 0.006 which is smaller than 0.05. Thus, this hypothesis is accepted, indicating that immersion significantly affects purchase intention. Immersion, or deep user involvement in the gamification experience, has a positive impact on customer purchase intention. This suggests that the more users feel engaged and immersed in gamification features in mobile banking, the more likely they are to make a purchase or transaction. **H9 is thus accepted.**

Immersion, or deep user involvement in the gamification experience, significantly increases customer purchase intention. When users feel immersed in gamified activities in mobile banking, they tend to be more emotionally connected to the platform. This emotional engagement can encourage them to make a transaction or purchase. This is in line with the research of Jennett et al. (2008) showed that immersion creates an immersive and compelling experience, which can increase user attachment to a platform. In addition, Hamari et al. (2014) found that gamification that successfully creates immersion can increase user engagement and purchase intention. Thus, immersion is an important factor in driving positive user behavior.

H10: Consumer enjoyment has a positive influence on Purchase Intention.

Based on the hypothesis test results in the table above, it shows that the relationship between enjoyment and purchase intention has a significant effect. The second hypothesis indicates that ENJ has a positive and significant effect on PI. The T-statistic value of 5.775 and P-value of 0.000 support this, as both meet the statistical significance criteria (T-statistic > 1.96 and P-value < 0.05). Enjoyment, or the pleasure users feel when playing gamification, also has a positive effect on purchase intention. Users who enjoy the gamification experience are more likely to make transactions or purchases through mobile banking. Thus **H10 can be accepted.**

Enjoyment, or the pleasure users feel when playing gamification, significantly increases purchase intention. Users who enjoy the gamification experience tend to be more loyal and more likely to make repeat transactions. This is in line with the research of Davis et al. (1992) in the Technology Acceptance Model (TAM), enjoyment is a key factor influencing the acceptance and use of technology. In addition, Ryan & Deci (2000) in Self-Determination Theory (SDT) emphasize that enjoyment increases intrinsic motivation, which can encourage positive behavior such as purchase intention. Thus, the fun users feel in mobile banking gamification can be a key driver to increase purchase intention.

H11: Sense of presence has a positive influence on customer purchase intention.

Based on the hypothesis test results in the table above, it shows that the relationship between enjoyment and purchase intention has a significant effect. The third hypothesis states that sense of presence has a positive and significant effect on purchase intention. This is supported by a fairly high T-statistic value, which is 3.439, and a P-value of 0.000. These two

values indicate that the effect of sense of presence on purchase intention is very significant, so this hypothesis is accepted. Sense of presence, or the user's feeling that they are actually in a gamified environment, has a positive impact on purchase intention. The more users feel present in the gamification experience, the more likely they are to make a transaction. Thus **H11 is accepted.**

Based on the hypothesis test results in the table above, it shows that the relationship between enjoyment and purchase intention has a significant effect. The third hypothesis states that sense of presence has a positive and significant effect on purchase intention. This is supported by a fairly high T-statistic value, which is 3.439, and a P-value of 0.000. These two values indicate that the effect of sense of presence on purchase intention is very significant, so this hypothesis is accepted. Sense of presence, or the user's feeling that they are actually in a gamified environment, has a positive impact on purchase intention. The more users feel present in the gamification experience, the more likely they are to make a transaction. Sense of presence or users' feeling that they are truly in a gamified environment, significantly increases purchase intention. The more users feel present in the gamification experience, the more likely they are to be emotionally engaged and make a transaction. This is in line with Lombard & Ditton's (1997) research which defines sense of presence as a non-mediated illusion, where users feel as if they are in a virtual environment. Research by Skadberg & Kimmel (2004) found that sense of presence can increase user engagement and purchase intention. In the context of mobile banking, sense of presence can make users feel more connected to the platform, thus encouraging them to make transactions.

H12: Enjoyment mediates the effect of autonomy on purchase intention.

Based on the hypothesis test results in the table above, it shows that enjoyment mediates the effect of autonomy on purchase intention. The statistical test results show that the path of autonomy's influence on purchase intention through enjoyment has an Original Sample value of 0.160, a T-Statistic value of 3.673, and a P-Value of 0.000. The T-Statistic value which exceeds the 1.96 threshold and the P-Value which is smaller than 0.05 indicate that the effect is statistically significant. Thus, it can be concluded that enjoyment does play an important role as a mediator between autonomy and purchase intention. Conceptually, this result is in line with the Self-Determination theory proposed by Deci and Ryan (2000), which states that the fulfillment of basic needs such as autonomy will increase the intrinsic motivation of individuals. This intrinsic motivation, as further explained in Cognitive Evaluation Theory (Ryan et al., 2006), encourages individuals to feel enjoyment towards the activities they do voluntarily. In the context of mobile banking apps that use gamification elements, users who feel in control of their choices-such as choosing challenges, rewards, or ways of interacting-will more easily feel intrinsic pleasure in using the app. **H12 is thus accepted.**

Furthermore, enjoyment as a mediator strengthens the mechanism of how autonomy can drive users' intention to make a purchase or use additional in-app services. Previous literature, such as that of Gagné and Deci (2005) and Mitchell et al. (2020), shows that gamification experiences that provide autonomy strengthen users' sense of ownership and emotional engagement, leading to increased enjoyment. Other studies by Jacques (1995), Laurel (2013), and Tao and Yun (2019) also support that enjoyment in the use of digital technology is closely related to sustained motivation and positive attitudes towards the activities performed. In the

context of mobile banking applications, this enjoyment not only makes users feel comfortable and satisfied when using the application, but also increases their likelihood of exploring more features, responding to promotions, and ultimately increasing purchase intention. Research by Schaufeli et al. (2002) and Wang and Li (2016) confirmed that high levels of enjoyment encourage user retention and openness to financial transactions. Therefore, the empirical results in this study reinforce the assumption that without strong enjoyment, the effect of autonomy on purchase intention may not be optimized. Therefore, it can be concluded that it can reinforce the importance of designing gamification experiences in mobile banking applications and being able to fulfill users' autonomy needs to indirectly increase their purchase intention.

H13: Immersion mediates the effect of rewards on purchase intention.

Based on the hypothesis test results in the table above, it shows that immersion mediates the effect of rewards on purchase intention. The effect of rewards on purchase intention through immersion shows an Original Sample value of 0.156, a T-Statistic value of 3.415, and a P-Value of 0.001. The T-Statistic value far exceeds the minimum limit of 1.96 and the P-Value is smaller than 0.05, indicating that this mediation path is statistically significant. Conceptually, this result supports the findings of Sun et al. (2019) and Banks et al. (2021) who assert that rewards serve as a catalyst to increase user immersion, which in turn strengthens purchase intention. Rewards such as badges, points, and virtual achievements not only motivate users to stay engaged, but also build a deeper and more satisfying digital experience, where users feel emotionally and cognitively engaged with the app. The immersion created by these rewards then reinforces positive perceptions of the app, increases trust, and encourages users to purchase additional services or products. **H13 is thus accepted.**

Furthermore, the acceptance of this hypothesis is also consistent with the customer engagement theory proposed by Hollebeek et al. (2019), which states that immersion is an important dimension in building meaningful customer engagement. In the context of mobile banking that adopts gamification, reward-driven immersion creates a psychological state where users feel they have control, competence, and an emotional connection to the app (Oh et al., 2020). This state not only extends the duration of app usage, but also increases the perceived value of the features and services offered, as expressed by Ang et al. (2018). Therefore, rewards function not just as a momentary incentive, but as a strategic mechanism to build immersion that ultimately transforms positive experiences into stronger purchase intentions. Thus, the results of this study reinforce the argument that to effectively increase purchase intention through gamification, reward management must be designed in such a way as to create deep immersion in the user experience.

H14: Enjoyment mediates the effect of rewards on purchase intention.

Based on the hypothesis test results in the table above, it shows that enjoyment mediates the effect of rewards on purchase intention. The path of reward influence on purchase intention through enjoyment shows an Original Sample value of 0.134, a T-Statistic value of 2.978, and a P-Value of 0.003. The T-Statistic value that exceeds the minimum limit of 1.96 and the P-Value that is below 0.05 indicate that this mediation path is statistically significant. Theoretically, this finding is in line with the principle of Cognitive Evaluation Theory (Deci and Ryan, 2000) which states that rewards can strengthen intrinsic motivation through fulfilling basic psychological needs such as competence and autonomy, resulting in enjoyment. Previous research by Francisco-Aparicio et al. (2013) and Johnson et al. (2018) also support that the

experience of earning rewards increases the sense of satisfaction and pleasure, which strengthens users' emotional attachment to the platform. In other words, rewards encourage the formation of a sense of enjoyment, which then contributes significantly to increasing user purchase intention. Thus, **H14 can be accepted.**

Furthermore, the acceptance of this hypothesis strengthens the understanding of the importance of enjoyment as an emotional factor in building users' relationship with gamification-based mobile banking apps. Based on the intrinsic motivation theory developed by Gagné and Deci (2005) and Tao and Yun (2019), enjoyment not only increases the frequency of user engagement, but also enriches their experience to form a positive perception of the app. This increases users' propensity to make purchases, as also confirmed by Wang and Li (2016) in a study related to gamified platforms. Therefore, this result confirms that in order to effectively increase purchase intention, it is not enough to rely on the provision of rewards alone, but rewards must also be able to create an enjoyable experience for users. With increased enjoyment as a reaction to rewards, users feel intrinsic satisfaction that deepens loyalty and increases their likelihood of making a purchase. Therefore, hypothesis H14 is accepted with strong support both statistically and theoretically.

H15: Sense of presence mediates the effect of rewards on purchase intention.

Based on the hypothesis test results in the table above, it shows that sense of presence mediates the effect of rewards on purchase intention. The test results show that the path of reward influence on purchase intention through sense of presence has an Original Sample value of 0.121, a T-Statistic of 2.694, and a P-Value of 0.007. Since the T-Statistic value exceeds the threshold of 1.96 and the P-Value is smaller than 0.05, this mediation relationship is statistically significant. This means that rewards not only affect purchase intention directly, but also work indirectly through increasing users' sense of presence. This finding supports the views of Schaffarczyk and Ilhan (2019) who emphasize that rewards can strengthen users' emotional and cognitive engagement, thereby increasing their sense of presence on digital platforms. In addition, Stanney and Salvendy (1998) also explained that activity-based incentives deepen users' sense of presence in virtual environments. Therefore, the rewards provided in the context of mobile banking gamification are able to stimulate more intense engagement, increase the sense of achievement, and ultimately strengthen users' emotional attachment to the application, all of which lead to an increase in purchase intention. **H15 is thus accepted.**

Furthermore, this result is also in line with the findings of Lee and Park (2014) and Bogicevic et al. (2019), which state that sense of presence strengthens users' trust and emotional engagement, which in turn drives purchase behavior. Sense of presence serves as a psychological bridge that makes digital interactions feel more real and personalized, strengthening the emotional connection between users and applications (Sun et al., 2020). In addition, research by Gao et al. (2018) revealed that sense of presence increases perceived value and user satisfaction, which are key factors in increasing purchase intention. In the context of mobile banking apps that adopt gamification, rewards such as badges, exclusive discounts, or well-designed leaderboards not only provide external incentives, but also build a deep engagement experience that makes users feel “present” and actively interact in the app. With this increased sense of presence, users become more trusting and comfortable to make purchase transactions, as explained by Kim et al. (2017) and Lu and Fan (2016) in their studies on Human-Computer Interaction (HCI).

Overall, these results confirm that the effect of rewards on purchase intention in mobile banking applications is not only direct, but significantly strengthened through the mediation of sense of presence. Rewards encourage deeper emotional and cognitive engagement, strengthen users' trust and emotional attachment to the app, and shape a more immersive digital experience (Sun et al., 2020; Zhang et al., 2022). Therefore, gamification strategies that focus on optimizing rewards to increase sense of presence are crucial in driving consumptive behavior in today's digital era.

H16: Immersion mediates the effect of competition on purchase intention.

Based on the hypothesis test results in the table above, it shows that immersion mediates the effect of competition on the purchase intention of mobile banking application users, accepted based on the results of the analysis using SmartPLS 4.0. The test results show that the effect of competition on purchase intention through immersion has an Original Sample value of 0.116, a T-Statistic of 2.937, and a P-Value of 0.003. The T-Statistic value greater than 1.96 and the P-Value smaller than 0.05 indicate that this mediation relationship is statistically significant. This finding supports the research of Dissanayake et al. (2019) and Schaffarczyk and Ilhan (2019), who assert that competition in a gamified environment deepens users' focus, motivation, and engagement with the platform. Through competition elements such as leaderboards, challenges, or performance-based rewards, users are encouraged to enter a state of flow (Oh et al., 2020), which is a key foundation for immersion, a state where users are completely immersed in a digital activity without external distractions. **H16 is thus acceptable**

Furthermore, these results are in line with the immersion theory proposed by Sun et al. (2019) and Hollebeek et al. (2019), which describe immersion as deep emotional, cognitive and behavioral engagement with digital experiences. Immersion strengthens users' trust, sense of control, competence, and social connections, as described by Kim et al. (2020) and Oh et al. (2020). With increased immersion due to competition, users become more emotionally engaged, feel more satisfied, and perceive their interactions with apps as enjoyable and meaningful experiences (Zhang et al., 2022). This condition then positively drives purchase intention, as users feel comfortable to continue the interaction to the stage of purchasing a product or service. This is also reinforced by Hollebeek et al. (2019) and Ang et al. (2018), which show that immersion contributes greatly to purchase behavior in the context of digital engagement.

Thus, it can be concluded that the effect of competition on purchase intention of mobile banking application users is not direct, but significantly strengthened through the mediation of immersion. Competition increases user immersion by creating a more intense, focused, and enjoyable experience, which in turn strengthens trust and emotional engagement, encouraging users to make in-app purchase decisions. Therefore, competition-based gamification elements should be designed to optimize user immersion levels, in order to increase the app's effectiveness in driving consumptive behavior.

H17: Enjoyment mediates the effect of rewards on purchase intention.

Based on the hypothesis test results in the table above, it shows that enjoyment does not mediate the effect of rewards on purchase intention in the context of mobile banking application gamification. The test results show that the path of reward influence on purchase intention through enjoyment has an Original Sample value of -0.019, a T-Statistic of 0.656, and a P-Value of 0.512. Since the T-Statistic value is smaller than the threshold of 1.96 and the

P-Value is much greater than 0.05, this mediation relationship is statistically insignificant. This means that although rewards can increase enjoyment, the increase is not strong enough to indirectly affect purchase intention through the mediation mechanism. This finding is consistent with the views of Johnson et al. (2018) and Hofacker et al. (2016) which suggest that in the context of transaction-based applications such as mobile banking, emotional factors such as enjoyment have a weaker influence on purchasing behavior than utilitarian or functional factors. Thus **H17 is rejected**.

Furthermore, this result can also be explained through the perspective of Cognitive Evaluation Theory (Deci & Ryan, 2000), which emphasizes that intrinsic motivation derived from a sense of enjoyment is more influential in activities that are exploratory or entertainment in nature, not in transactional activities such as purchasing financial products. Research from Wang and Li (2016) also revealed that in a mobile banking environment, users tend to focus on security, convenience, and direct benefits rather than emotional pleasure aspects. Therefore, although rewards are able to foster positive feelings through enjoyment, in this context enjoyment is not the main driving factor in shaping purchase intention. This is also reinforced by the findings of Przybylski et al. (2010) which state that fun and emotional pleasure need to be combined with perceived value or utilitarian benefits in order to have a significant effect on purchasing decisions.

Overall, these results confirm that the effect of reward on purchase intention in mobile banking applications is more effective through direct channels or through other mediators such as sense of presence, rather than through enjoyment alone. In the context of transaction-oriented mobile banking gamification, strategies that rely solely on increasing enjoyment are not strong enough to drive users' consumptive behavior (Sun et al., 2020; Zhang et al., 2022). Therefore, gamification optimization needs to integrate reward elements that are not only fun, but also reinforce users' sense of value, real engagement, and perceived benefits of the app.

H18: Sense of presence mediates the effect of rewards on purchase intention.

Based on the hypothesis test results in the table above, it shows that sense of presence mediates the effect of rewards on purchase intention. The test results show that the path of reward influence on purchase intention through sense of presence has an Original Sample value of 0.121, a T-Statistic of 2.694, and a P-Value of 0.007. Since the T-Statistic value exceeds the threshold of 1.96 and the P-Value is smaller than 0.05, this mediation relationship is statistically significant. This means that rewards not only affect purchase intention directly, but also work indirectly through increasing users' sense of presence. This finding supports the views of Schaffarczyk and Ilhan (2019) who emphasize that rewards can strengthen users' emotional and cognitive engagement, thereby increasing their sense of presence on digital platforms. In addition, Stanney and Salvendy (1998) also explained that activity-based incentives deepen users' sense of presence in virtual environments. Therefore, rewards provided in the context of mobile banking gamification are able to stimulate more intense engagement, increase a sense of accomplishment, and ultimately strengthen users' emotional attachment to the application, all of which lead to increased purchase intention. **H18 is thus accepted**.

Furthermore, this result is also in line with the findings of Lee and Park (2014) and Bogicevic et al. (2019), which state that sense of presence strengthens users' trust and emotional engagement, which in turn drives purchase behavior. Sense of presence serves as a psychological bridge that makes digital interactions feel more real and personalized,

strengthening the emotional connection between users and applications (Sun et al., 2020). In addition, research by Gao et al. (2018) revealed that sense of presence increases perceived value and user satisfaction, which are key factors in increasing purchase intention. In the context of mobile banking apps that adopt gamification, rewards such as badges, exclusive discounts, or well-designed leaderboards not only provide external incentives, but also build a deep engagement experience that makes users feel “present” and actively interact in the app. With this increased sense of presence, users become more trusting and comfortable to make purchase transactions, as explained by Kim et al. (2017) and Lu and Fan (2016) in their studies on Human-Computer Interaction (HCI).

Overall, these results confirm that the effect of rewards on purchase intention in mobile banking applications is not only direct, but significantly strengthened through the mediation of sense of presence. Rewards encourage deeper emotional and cognitive engagement, strengthen users' trust and emotional attachment to the app, and shape a more immersive digital experience (Sun et al., 2020; Zhang et al., 2022). Therefore, gamification strategies that focus on optimizing rewards to increase sense of presence are crucial in driving consumptive behavior in today's digital era.

H19: Enjoyment mediates the effect of absorption on purchase intention

Based on the hypothesis test results in the table above, it shows that enjoyment mediates the effect of absorption on purchase intention. The test results show that the path of absorption's influence on purchase intention through enjoyment has an Original Sample value of 0.145, a T-Statistic of 3.214, and a P-Value of 0.001. Because the T-Statistic value exceeds the threshold of 1.96 and the P-Value is smaller than 0.05, this mediation relationship is statistically significant. This means that absorption not only affects purchase intention directly, but also works indirectly through increasing user enjoyment. This finding supports Silic and Lowry's (2020) view that absorption is key in building a deep and intrinsic experience in digital platforms. In addition, Mauri et al. (2011) also explained that the flow state resulting from absorption strengthens users' emotional engagement, which increases emotional satisfaction and enjoyment. Therefore, when mobile banking app users experience high absorption in gamification activities, they also feel greater enjoyment, which ultimately leads to increased purchase intention. Thus, H19 is accepted.

Furthermore, this result is also in line with the findings of Yang et al. (2020) and Laurel (2013), who emphasize that enjoyment is an important emotional response that arises from active engagement and positive experiences in digital activities. Enjoyment strengthens users' intrinsic motivation to continue using the app, which in turn increases their propensity to make purchases or transactions within the platform (Bunchball, 2010; Wang and Li, 2016). In the context of mobile banking gamification, activities such as collecting points, achieving badges, or completing daily challenges are designed to generate enjoyment through active user engagement. With increased enjoyment, users feel more satisfied, more comfortable, and more emotionally connected with the application, thus more encouraged to use the service repeatedly or make more transactions, as expressed by Schaufeli et al. (2002).

Overall, these results confirm that the effect of absorption on purchase intention in mobile banking applications is not only direct, but also significantly strengthened through the mediation of enjoyment. Absorption creates a deep engagement experience that increases emotional satisfaction, strengthens the sense of pleasure in using the app, and forms a closer

relationship between the user and the platform (Silic and Lowry, 2020; Yang et al., 2020). Therefore, a gamification strategy that focuses on creating an optimal absorption experience and encouraging enjoyment is very important in increasing user purchase intention in today's digital era.

CONCLUSIONS

This study aims to analyze the influence of gamification elements on the purchase intention of mobile banking application users in Indonesia, using an approach based on Self-Determination Theory (SDT) and Cognitive Evaluation Theory (CET). The main findings show that enjoyment is the most significant mediating variable, where the pleasure and emotional satisfaction felt by users play an important role in increasing purchase intention. Immersion and sense of presence also showed significant influence on purchase intention, with reward and competition being the main elements shaping both variables. Reward proved to be the dominant factor driving enjoyment, immersion, and sense of presence. This study concludes that the success of gamification in increasing purchase intention depends on the app's ability to create a user experience that is fun, immersive, and presents a strong sense of engagement. From a managerial perspective, this research provides recommendations that mobile banking app developers should focus on developing gamification features that strengthen users' emotional experiences, such as personalized reward systems, balanced competition, and freedom in choosing financial goals. In addition, it is important for the marketing team to promote gamification features through clear education in order to maximize their benefits. Overall, gamification is not just entertainment but a strategic tool to increase customer loyalty and transaction conversion in the *fintech* sector.

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