



## The Effect of Gamification toward Customer Engagement in Shopee E-Commerce

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**ABSTRACT:** Customer engagement is one of the factors that influences a company's overall performance, this aspect reflects the interaction between customers and brands. Gamification is one method that can be used to increase customer engagement. This research examines the influence of gamification on customer engagement on the Shopee e-commerce platform. In the rapidly evolving digital era, gamification has become a popular strategy to increase customer engagement by creating fun and interactive experiences. Shopee, as one of the leading e-commerce platforms in Indonesia, has implemented various gamification elements to attract customer attention. This research uses a quantitative approach with an online survey method involving 212 active Shopee user respondents from Jakarta and Bandung aged between 18 - 35 years. The data collected was analyzed using the Partial Least Squares Structural Equation Modelling (PLS-SEM) technique to test the relationship between the constructs of gameful experience, game satisfaction, and customer engagement. The research results show that all dimensions of the gameful experience, which include achievement, challenge, competition, immersion, fun, and social experience, have a positive influence on game satisfaction. Furthermore, game satisfaction also has a strong positive influence on customer engagement. This research provides insight for Shopee and other e-commerce about the importance of gamification to increase customer satisfaction and engagement. Effective implementation of gamification strategies can encourage e-commerce platforms to create more engaging user experiences.

**KEYWORDS:** Customer Experience, Customer Satisfaction, Customer Engagement, E-Commerce, Gamification.

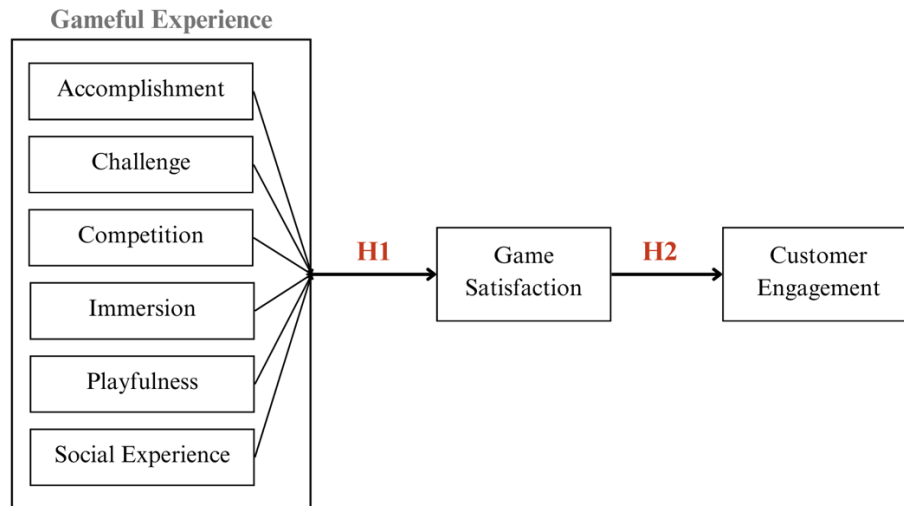
### INTRODUCTION

The rapid advancement of technology has transformed how people access information and engage with digital platforms. According to Petrosyan (2024), 66% of the global population, or 5.35 billion people, have internet access, with Indonesia being one of the leading countries in terms of internet usage. Shopee has emerged as a dominant e-commerce platform in Indonesia, surpassing competitors like Tokopedia in user visits and transaction volumes (Business of Apps, 2024). However, maintaining high levels of customer engagement remains a challenge, as indicated by metrics such as bounce rates and average visit durations (Revou, 2024).

Customer engagement is crucial for e-commerce success, as it fosters emotional connections between customers and brands, enhancing loyalty and profitability (Bansal, 2020). Research shows that retaining existing customers is more cost-effective than acquiring new ones, with engaged customers spending significantly more than their less-engaged counterparts (Kumar, n.d.). In this context, gamification has emerged as a powerful strategy to boost customer engagement. By incorporating game design elements like points, badges, and leaderboards into non-game contexts, businesses can create interactive and enjoyable experiences that captivate users (Deterding, 2011; Huotari & Hamari, 2015).

Shopee has adopted gamification to enhance customer engagement, offering a variety of games with different mechanics and strategies, such as Shopee Tanam and Shopee Capit (Snapcart, 2023). These are designed to attract users and encourage longer interaction times on the platform. Shopee's gamification strategy aims to create a more enjoyable shopping experience, motivating users to return frequently and engage more deeply with the platform. Studies have shown that gamification elements can significantly improve user satisfaction and engagement (Busalim et al., 2021; Wallius et al., 2023).

This research employs a quantitative approach using an online survey method, collecting data from 212 active Shopee users in Jakarta and Bandung, aged 18 to 35 years. The data analysis utilizes Partial Least Squares Structural Equation Modelling (PLS-SEM) to test the relationships between various constructs and provide insights into how gamification influences customer behavior. Understanding these dynamics can guide e-commerce businesses in developing more effective gamification initiatives to enhance customer satisfaction and engagement (Bitrian et al., 2022).

**Figure 1. Conceptual Framework**

Source: Adapted from Wallius et al. (2023); (Ha, 2021); (Agyei et al., 2021)

## Hypotheses

Game experience significantly influences user satisfaction through elements such as accomplishment, challenge, competition, immersion, playfulness, and social experience. *Accomplishment* provides users with a sense of achievement, fulfilling intrinsic motivations and reinforcing the value of their efforts (Deci & Ryan, 2009; Högberg et al., 2019). When users achieve goals, their satisfaction with the product or service increases.

**H1a:** *Accomplishment has a positive effect on Game Satisfaction.*

*Challenge* requires users to overcome obstacles, tapping into their intrinsic motivation to solve problems and make progress (Kim & Ahn, 2017). This sense of overcoming difficulties, often accompanied by rewards or recognition, enhances satisfaction by validating their efforts (Högberg et al., 2019).

**H1b:** *Challenge has a positive effect on Game Satisfaction.*

*Competition* fosters a sense of rivalry, providing satisfaction through winning and outperforming others (Hamari & Koivisto, 2015). The thrill of competing can make the gaming experience more engaging and enjoyable, driving users to improve and achieve higher ranks (Kim & Ahn, 2017).

**H1c:** *Competition has a positive effect on Game Satisfaction.*

*Immersion* involves users being deeply absorbed in the game, often losing track of time. This creates a captivating experience that leaves a lasting impression, enhancing user satisfaction (Batat, 2019; Novak et al., 2020). Immersive experiences strengthen brand connections by providing memorable interactions.

**H1d:** *Immersion has a positive effect on Game Satisfaction.*

*Playfulness* generates positive emotions such as joy and excitement, encouraging exploration and curiosity (Barnes & Coates, 2016; Kim & Ahn, 2017). Playful experiences foster emotional connections with the brand, enhancing satisfaction and user loyalty.

**H1e:** *Playfulness has a positive effect on Game Satisfaction.*

*Social experiences* involve interactions between users, fulfilling social needs and fostering community (Chandler & Lusch, 2014; Hollebeek et al., 2019). Satisfied users are likely to share positive experiences, further promoting engagement and loyalty.

**H1f:** *Social Experience has a positive effect on Game Satisfaction.*

Positive emotions generated through these elements lead to increased satisfaction and engagement (Chen & Lin, 2015). Studies have shown that a balanced combination of interactive and satisfying experiences contributes significantly to customer satisfaction and loyalty (Sabrina et al., 2023; Ha, 2021).

**H1:** *Gameful Experience has a positive effect on Game Satisfaction*



Customer satisfaction is a key driver of engagement, reflecting how well user expectations are met (Higgins & Scholer, 2009). Higher satisfaction levels encourage users to continue interacting with the platform, leading to increased engagement (Agyei, 2021).

In e-commerce, satisfied customers are more likely to revisit and engage with the platform, while dissatisfied ones may seek alternatives (Thakur, 2018; Monferrer, 2019). Engaged customers actively participate in brand activities, often influenced by their satisfaction with the experience (Busalim, 2021).

Game satisfaction, derived from a positive gaming experience, enhances customer engagement by motivating users to interact more frequently with the brand (Kumar & Shah, 2004). Satisfied users are also more likely to engage in word-of-mouth marketing, promoting the brand and attracting new users (Hollebeek et al., 2019).

**H2:** *Game Satisfaction has a positive effect on Customer Engagement.*

**METHODOLOGY**

Based on the research design, this study employs a quantitative research approach to investigate the impact of gamification on customer engagement in Shopee's e-commerce platform. The primary method involves collecting data through online surveys using Google Forms, targeting specific demographic groups to test the proposed hypotheses. The quantitative approach allows for efficient data collection and analysis of relationships between variables, utilizing hypothesis testing to draw conclusions (Tahir, n.d.). Online surveys are favored for their systematic nature, ensuring respondents complete questions sequentially, which helps maintain data integrity and reduces inappropriate responses (Healey, 2016).

The study's sample comprises Shopee e-commerce users aged 18-35, with data collection starting in October 2023 and concluding in June 2024. The survey utilizes a non-probability sampling technique, specifically purposive sampling, to ensure respondents meet the research criteria. Questions are designed around variables identified in the literature review, and the data collected is analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) and descriptive statistics. This analysis aims to uncover the causal relationships between gamification elements, game satisfaction, and customer engagement, helping Shopee Indonesia refine its gamification strategies to enhance user engagement (Bryman et al., 2021; Rana, 2021).

**Table 1. Research Measurement**

Variables	Indicators Variables	Label	Item	Sources
Gameful Experience	Accomplishment	GE1	Shopee Games gives me the feeling that I need to reach goals	(Högberg et al., 2019)
	Accomplishment	GE2	Shopee Games motivates me to progress and get better	(Högberg et al., 2019)
	Challenge	GE3	Shopee Games calls for a lot of effort in order for me to be successful	(Högberg et al., 2019)
	Challenge	GE4	Shopee Games makes me push my limits	(Högberg et al., 2019)
	Competition	GE5	Shopee Games makes me feel that I need to win to succeed	(Högberg et al., 2019)
	Competition	GE6	Shopee Games makes me want to be in first place	(Högberg et al., 2019)
	Immersion	GE7	Shopee Games gives me the feeling that time passes quickly	(Högberg et al., 2019)
	Immersion	GE8	Shopee Games gets me fully emotionally involved	(Högberg et al., 2019)
	Playfulness	GE9	Shopee Games gives me an overall	(Högberg et al., 2019)



			playful experience	
	Playfulness	GE10	Shopee Games makes me feel like I discover new things	(Högberg et al., 2019)
	Social Experience	GE11	Shopee Games gives me a feeling of being connected to others	(Högberg et al., 2019)
	Social Experience	GE12	Shopee Games gives me a sense of being noticed for what I have achieved	(Högberg et al., 2019)
Game Satisfaction		CS1	I enjoy playing Shopee Games	(Cankül et al., 2024)
		CS2	I am satisfied with Shopee Games	(Monferrer et al., 2019)
		CS3	Shopee Games meets my expectations.	(Ngubelanga & Duffett, 2021)
		CS4	My experience with Shopee Games is positive	(Ngubelanga & Duffett, 2021)
Customer Engagement		CE1	I feel enthusiastic every time I open the Shopee app.	(Vinerean & Opreana, 2021)
		CE2	I enjoy spending time on the Shopee application.	(Liputri & Gosal, 2024)
		CE3	I am an active member of Shopee	(Busalim et al., 2021)
		CE4	I find it difficult to detach myself when I am interacting with Shopee	(Agyei et al., 2021)

**DATA ANALYSIS**

Chapter 3 outlines the methodology used to study the impact of gameful experiences on customer engagement within Shopee Indonesia's platform. A quantitative research approach was adopted, utilizing online surveys to collect data from 212 Shopee users aged 18 to 35 who engage with Shopee Games. The survey comprised two sections: one for demographic and behavioral data, and another for assessing key variables related to gameful experiences, such as accomplishment, challenge, competition, immersion, playfulness, and social experience. The data was analyzed using Partial Least Square Structural Equation Modeling (PLS-SEM) to explore the relationships between game satisfaction and customer engagement.

The sample was drawn from major Indonesian cities, including Jakarta and Bandung, to ensure representation across diverse demographic segments. Descriptive statistics were used to analyze demographic data, revealing a balanced gender distribution and a predominance of respondents in the 18-25 age range. This demographic profile reflects a youthful user base engaged with gamified elements on Shopee. The socioeconomic background of respondents varied, with diverse occupations and income levels, providing a comprehensive understanding of the Shopee Games' consumer base.

Behavioral analysis showed that users frequently played Shopee Games during their leisure time, offering insights into their motivations and preferences. These findings highlight how various dimensions of the gaming experience contribute to overall satisfaction and engagement with Shopee. The methodology provided a robust framework for understanding the significant role of gamification in enhancing user interaction and engagement on the platform.



**Table 2. Internal Consistency Reliability**

Variable	Composite Reliability	Reliability
Accomplishment	0.807	Reliable
Challenge	0.831	Reliable
Competition	0.801	Reliable
Immersion	0.861	Reliable
Playfulness	0.819	Reliable
Social Experience	0.812	Reliable
Game Satisfaction	0.862	Reliable
Customer Engagement	0.813	Reliable

Values in the range of 0.60 to 0.70 in composite reliability are considered acceptable, while values in the range of 0.70 to 0.95 might be considered enough to have good reliability levels. If the values are more than 0.95, it could cause concern (Sarstedt et al., 2021). This research has composite reliability that’s above 0.70, with the lowest being 0.801 in the competition variable, and the highest is 0.862 in the game satisfaction variable. The composite reliability result indicates that they are all reliable.

**Table 3. Convergent Validity**

Variable	Average Variance Extracted (AVE)	Validity
Accomplishment	0.676	Valid
Challenge	0.711	Valid
Competition	0.668	Valid
Immersion	0.609	Valid
Playfulness	0.530	Valid
Social Experience	0.684	Valid
Game Satisfaction	0.758	Valid
Customer Engagement	0.684	Valid

The convergent validity is using the AVE in order to see the result. For the variables to be considered valid, the AVE values have to be more than 0.50 (Wong, 2013). The result of Average Variance Extracted (AVE) in Table 4.4 below shows that they are all above the value of 0.50, showing that they can be considered valid.



Table 4. Discriminant Validity

	AC	CH	CO	CE	CS	IM	PL	SE
<b>Accomplishment</b>	<b>0.822</b>							
<b>Challenge</b>	0.494	<b>0.843</b>						
<b>Competition</b>	0.463	0.586	<b>0.817</b>					
<b>Customer Experience</b>	0.445	0.54	0.623	<b>0.780</b>				
<b>Customer Satisfaction</b>	0.559	0.618	0.656	0.677	<b>0.728</b>			
<b>Immersion</b>	0.552	0.535	0.558	0.586	0.629	<b>0.827</b>		
<b>Playfulness</b>	0.491	0.537	0.515	0.415	0.617	0.527	<b>0.871</b>	
<b>Social Experience</b>	0.391	0.457	0.546	0.603	0.631	0.547	0.496	<b>0.827</b>

Discriminant validity was assessed by comparing the square roots of the AVE values, ensuring they are greater than the correlations between the respective constructs (Triwidyati & Tentama, 2020). This research uses the Fornell-Larcker criterion to analyze the discriminant validity. This method involves comparing the square root of the average variance extracted (AVE) with the correlations between latent constructs. A latent construct should account for more variance in its own indicators than in the indicators of other latent constructs (Hamid et al., 2017). Table 4 showing the result of discriminant validity with the number being bold being higher than the other correlations shows that they are valid.

Table 5. Structural Path Significant

Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T statistics
Accomplishment → Game Satisfaction	0.134	0.139	0.062	2.158
Challenge → Game Satisfaction	0.157	0.155	0.063	2.484
Competition → Game Satisfaction	0.212	0.213	0.071	2.984
Immersion → Game Satisfaction	0.135	0.136	0.059	2.277
Playfulness → Game Satisfaction	0.171	0.171	0.056	3.047
Social Experience → Game Satisfaction	0.233	0.228	0.071	3.267
Game Satisfaction → Customer Engagement	0.677	0.680	0.049	13.716

According to Hair (2010), the significance of structural paths in bootstrapping is a method used to statistically determine the coefficient and importance of each variable within the model structure. The structural path significance is done with bootstrapping analysis. Researchers can assess the significance of both internal and external models to obtain T-statistics. According to Wong (2013), the resulting T-value must exceed 1.96 to confirm the significance of the path coefficient.

Table 6. Goodness of Fit

Variable	Coefficient of Determination (R <sup>2</sup> )	Cross-validated Redundancy (Q <sup>2</sup> )
Customer Engagement	0.458	0.454
Game Satisfaction	0.648	0.615
Average	0.553	0.534
<b>GoF</b>	<b>0.397</b>	

According to Dufour (2011), R-squared (R<sup>2</sup>) is a statistical measure that indicates the proportion of variance in a dependent variable that can be explained by the relationship with two or more independent variables in a regression model. Meanwhile, the Stone-Geisser test, or predictive analysis, uses a blindfolding procedure to measure the accuracy of the produced observation value through the Q-square value (Vartak & Sapre, 2020). The goodness of fit result can be obtained by multiplying the square root of R<sup>2</sup> average with Q<sup>2</sup> (Wong, 2013)

Table 7. Hypothesis Testing

Hypothesis	Path	T-Statistics	P Value	Result
H1a	Accomplishment → Game Satisfaction	2.158	0.031	Accepted
H1b	Challenge → Game Satisfaction	2.484	0.013	Accepted
H1c	Competition → Game Satisfaction	2.984	0.003	Accepted
H1d	Immersion → Game Satisfaction	2.277	0.023	Accepted
H1e	Playfulness → Game Satisfaction	3.047	0.002	Accepted
H1f	Social Experience → Game Satisfaction	3.267	0.001	Accepted
H2	Game Satisfaction → Customer Engagement	13.716	0.000	Accepted

## DISCUSSION

### *H1a: Accomplishment has a positive effect on Game Satisfaction*

The hypothesis H1a, which states that accomplishment has a positive effect on game satisfaction, is supported by a T-statistic of 2.158 and a p-value of 0.031. This indicates that the sense of achievement from games like Shopee Tanam and Shopee Capit significantly contributes to game satisfaction, aligning with previous research by Chen & Lin (2015), Kim (2005), Klaus (2013), Sabrina et al. (2023), and Ha (2021). Users are motivated by reaching goals and completing tasks, which enhances their satisfaction with the gaming experience.

### *H1b: Challenge has a positive effect on Game Satisfaction*

Hypothesis H1b, which posits that challenge positively affects game satisfaction, is confirmed with a T-statistic of 2.484 and a p-value of 0.013. This finding is consistent with studies by Chen & Lin (2015), Kim (2005), and Ha (2021), demonstrating that users are drawn to games offering a balanced level of challenge. Regular engagement with Shopee games suggests users find game challenges both stimulating and satisfying, supporting the hypothesis that challenge enhances game satisfaction.



## *H1c: Competition has a positive effect on Game Satisfaction*

The hypothesis H1c states that competition positively impacts game satisfaction, supported by a T-statistic of 2.984 and a p-value of 0.003. This aligns with prior research on the motivational effects of competition in gamified environments, such as those by Hamari & Koivisto (2015) and Kim & Ahn (2017), highlighting its role in boosting engagement and satisfaction. The popularity of competitive games like Shopee Capit suggests that users are motivated by competition, reinforcing the hypothesis that competition enhances satisfaction.

## *H1d: Immersion has a positive effect on Game Satisfaction*

Hypothesis H1d, suggesting that immersion positively affects game satisfaction, is validated by a T-statistic of 2.277 and a p-value of 0.023. Immersive experiences that captivate users and make them lose track of time significantly enhance game satisfaction, as supported by studies from Batat (2019) and Novak et al. (2020). Users spending 11-15 minutes daily on Shopee games indicate a level of immersion that supports the hypothesis.

## *H1e: Playfulness has a positive effect on Game Satisfaction*

Hypothesis H1e, which suggests that playfulness positively affects game satisfaction, is supported by a T-statistic of 3.047 and a p-value of 0.002. This result aligns with research by Barnes & Coates (2016) and Kim & Ahn (2017) that highlights the role of playfulness in enhancing user experiences and satisfaction. Users' preference for playing games during leisure time indicates a desire for playful and enjoyable experiences, supporting the hypothesis.

## *H1f: Customer Satisfaction has a significant effect on Customer Loyalty.*

Hypothesis H1f, stating that social experience positively impacts game satisfaction, is confirmed by a T-statistic of 3.267 and a p-value of 0.001. Social interactions in Shopee games, such as forming teams or competing with friends, are crucial for enhancing satisfaction, consistent with prior studies by Chandler & Lusch (2014) and Hollebeek et al. (2019). The social aspects of Shopee games contribute significantly to user satisfaction.

## *H2: Game Satisfaction has a positive effect on Customer Engagement*

The hypothesis H2, which posits that game satisfaction positively influences customer engagement, is strongly supported by a T-statistic of 13.716 and a p-value of 0.000. Higher satisfaction levels with Shopee games lead to increased engagement, as satisfied users are more likely to interact frequently and deeply with the platform (Higgins & Scholer, 2009; Agyei, 2021). Users' motivations, such as earning Shopee Coins and obtaining discounts, indicate satisfaction with the rewards, fostering greater engagement with Shopee.

## CONCLUSION

This research aimed to explore the impact of gameful experiences in Shopee Games on game satisfaction and subsequent customer engagement within Shopee Indonesia's e-commerce platform. The study revealed that various dimensions of gameful experience, such as accomplishment, challenge, competition, immersion, playfulness, and social interaction, significantly enhance game satisfaction. The sense of accomplishment was particularly influential, with a T-statistic of 2.158 and a p-value of 0.031, affirming its positive contribution to game satisfaction. Similarly, challenges and competitive elements with T-statistics of 2.484 and 2.984 respectively, along with respective p-values of 0.013 and 0.003, were found to enhance satisfaction by providing engaging and stimulating experiences.

Moreover, immersion and playfulness also played vital roles in increasing satisfaction, as indicated by T-statistics of 2.277 and 3.047, and p-values of 0.023 and 0.002, respectively. The social experience, which facilitates interaction among players, further boosted satisfaction, supported by a T-statistic of 3.267 and a p-value of 0.001. These findings align with existing literature, reinforcing the idea that diverse gameful experiences significantly contribute to player satisfaction.

The study further established a robust positive relationship between game satisfaction and customer engagement, as evidenced by a T-statistic of 13.716 and a p-value of 0.000. Higher satisfaction levels drive increased interaction and engagement with the Shopee platform, demonstrating that satisfied users are more inclined to return and engage frequently. This supports previous research that links satisfaction with enhanced customer engagement and highlights the importance of integrating well-designed gamification elements to sustain user interest and participation.





In conclusion, the integration of thoughtfully designed gamification elements in e-commerce platforms like Shopee not only enhances game satisfaction but also fosters deeper customer engagement, thereby offering valuable insights for businesses looking to improve user experience and engagement metrics.

## RECOMMENDATION

The study highlights that a positive game experience significantly influences customer engagement via increased game satisfaction. Therefore, enhancing the game experience can lead to better customer retention and engagement. Here are several recommendations for Shopee to improve their gamification strategy:

1. **Achievement Badges:** Introduce a badge feature for player achievements, allowing users to showcase their progress on their profiles, which can motivate continued engagement and competition.
2. **Time-Limited Challenges:** Implement time-limited mechanics with additional rewards for completing tasks quickly, adding urgency and excitement to the gaming experience.
3. **Competitive Systems:** Develop a 1vs1 competitive system with an elimination feature and spectate option to increase excitement and user participation.
4. **Augmented Reality Games:** Create treasure hunt games that use augmented reality, leveraging the user's phone camera for a realistic treasure hunting experience with rewards like Shopee Coins or Coupons.
5. **Virtual Pets:** Design light games with engaging mechanics, such as virtual pets that grow with user interaction, encouraging daily logins and sharing.
6. **Virtual Spaces:** Develop virtual spaces where users can meet online to engage in activities such as building houses, playing games, or watching movies together, fostering community and interaction.

This research focused on specific variables like game experience, game satisfaction, and customer engagement within a limited geographical scope of Jakarta and Bandung. Future research could expand the scope to include more diverse variables and encompass a broader geographic area across Indonesia to capture a wider range of user behaviors. Additionally, exploring different age groups could provide insights into varying engagement patterns, offering valuable input for enhancing gamification strategies.

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