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The Influence of Gamification and Perceived Value on Purchase and Continuance Use Intention towards Shopee in Indonesia

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ABSTRACT

This study investigates gamification's impact on purchase intention, continuance use intention, and perceived value in Indonesian e-commerce, focusing on Shopee Cocoki. Using quantitative methods and SEM-CB analysis, 340 active Shopee users who played Shopee Cocoki were surveyed. Results show that gamification positively affects purchase and continuance use intentions, though some findings differ from previous studies, such as that social value does not significantly impact game use intention. Recommendations include emphasizing game use intention as an intermediary for consumer decisions and focusing on utilitarian, social, and hedonic values influencing purchase and continuance use intentions. These insights can formulate marketing strategies to enhance platform satisfaction by understanding consumer value priorities.

Keywords: Continuance Use Intention, E-Commerce, Game Use Intention, Gamification, Marketing, Perceived Value, Purchase Intention

SARI PATI

Penelitian ini meneliti dampak gamifikasi terhadap niat beli, niat untuk terus menggunakan, dan nilai yang dirasakan pada platform e-commerce Indonesia, Shopee, khususnya Shopee Cocoki. Menggunakan metode kuantitatif dengan analisis SEM-CB, penelitian ini mensurvei 340 pengguna aktif Shopee yang memainkan Shopee Cocoki. Hasil penelitian menunjukkan adanya pengaruh positif dari gamifikasi terhadap niat pembelian dan penggunaan berkelanjutan. Namun, beberapa temuan berbeda dari penelitian sebelumnya, seperti nilai sosial yang tidak secara signifikan mempengaruhi niat penggunaan game. Rekomendasi yang diberikan antara lain berfokus pada niat penggunaan game sebagai perantara keputusan konsumen dan menekankan pada nilai yang dirasakan yang mempengaruhi niat pembelian dan penggunaan game secara terus-menerus, terutama nilai utilitarian, sosial, dan hedonis. Temuan ini dapat memformulasikan strategi pemasaran untuk meningkatkan kepuasan platform berdasarkan pemahaman prioritas nilai konsumen.

***Kata Kunci**: E-Dagang, Intensi Menggunakan Game, Gamifikasi, Pemasaran, Nilai yang Dirasakan Intensi membeli*

INTRODUCTION

E-commerce represents the widespread technological advancement across populations. In Indonesia, there has been a notable shift from traditional in-person shopping to online transactions, particularly in urban areas. Indonesia now ranks among the fastest-growing e-commerce markets globally (Kominfo, 2019). This trend is expected to persist due to ongoing developments, innovations, and competition in the e-commerce sector. A significant innovation in this field is gamification, which began gaining traction in 2016 when Alibaba introduced ‘‘Ant Forest.’’

Gamification involves applying game elements in non-game contexts (Gatautis et al., 2021; Hsu and Chen, 2018). Studies suggest that gamification can improve customer experience during app interactions (Poncin et al., 2017). Thus, gamification not only boosts platform traffic but also creates an engaging user environment with rewards like discounts (Yu & Huang, 2021). Consequently, e-commerce platforms incorporate gamification to increase consumer interest through a Unique Selling Point (Kusumawardani, Widyanto, & Tambunan, 2023).

Shopee, a prominent Indonesian e-commerce platform, incorporates games like Shopee Cocoki to foster positive consumer behavior (Deterding et al., 2016; Mitchell et al., 2020), thereby enhancing engagement and retention (Kusumawardani, Widyanto, & Tambunan, 2023). Shopee has outperformed other platforms in generating public interest in these games. Recently, gamification has advanced to feature more complex games, such as puzzles, offering users coins, cash, and other rewards (Yu & Huang, 2021).

Current gamification features include games that reward players with coins redeemable for various vouchers or products on the platform (Sukmaningsih et al., 2020). Shopee has introduced several appealing gamification features that have become popular trends. One such game is ‘‘Shopee Cocoki,” a puzzle game requiring consumers to match three picture cards to win. Below is a more detailed explanation of how to play this game:

- Clear cards by matching three cards into slots to complete the level.
- Players lose if the slot capacity is full.
- The difficulty level increases as they progress to level 2.
- In the game, users can use ‘‘Boosters” or aids to complete levels more easily.

Based on the explanation of the “Shopee Cocoki” game, it has features aimed at helping players complete the game. These features include «boosters» and ‘‘extra lives”. First, «boosters» consist of three types:

- “remove”: Players can remove three cards from the slot.
- “undo”: Players can undo the last move.
- “shuffle”: Players can shuffle the remaining cards to change their positions.

Then, the second aid feature in “Shopee Cocoki” is that if players want to get an extra ‘‘life” when they haven’t won the game, they can get a second chance (maximum once) and are allowed to remove three cards from the slot. These aid features can be obtained by watching ads featuring various product choices according to the player’s recorded product searches on Shopee, displayed for thirty seconds, and players are required to keep scrolling through the displayed products to get the ‘‘life”. Although with these aids, it may not have a significant impact if the cards displayed to the player are not uniform picture cards. According to various studies, the implementation of these gamification features has positive potential for positive user actions such as engagement and increased sales conversion rates (Fathian et al., 2019; Hwang & Choi, 2020; Jang et al., 2018).

The study conducted by Yu & Huang (2021) demonstrates that the intention to use a game acts as a crucial intermediary factor linking perceived value to the likelihood of purchasing a platform. Specifically, it elucidates that users' propensity to engage with games on mobile commerce platforms significantly influences their likelihood of making purchases. The findings indicate that elevated levels of utilitarian, hedonic, and social values contribute to increased game use intention, which subsequently exerts a positive influence on users' purchase intentions on the platform.

While the present study addresses initial engagement and purchase intentions, there remains a gap of comprehensive research on the factors that influence long-term continuance use intention (Yu & Huang, 2021). Therefore, subsequent investigations could examine how sustained engagement with gamified elements affects user loyalty and retention over extended periods to the platform. The second gap concerns the cultural and regional differences. Various platforms may cater to diverse cultural and regional audiences, which can potentially influence user preferences and behaviors. Future research should investigate how regional factors affect continuance use intention on different platforms, thereby facilitating the customization of gamification strategies for specific user demographics.

Moreover, the study conducted by Maduku & Thusi (2023) suggests that fostering continuance use intention in mobile shopping necessitates the enhancement of both utilitarian and hedonic values. Specifically, it emphasizes that perceived usefulness is the most significant determinant of continuance intention, indicating that mobile shopping platforms should prioritize increasing customers' perceptions of usefulness, satisfaction, and the overall utilitarian value of the service. While the study does not explicitly mention gamification affordance, it implies that integrating elements that enhance user experience—such as gamification—could potentially strengthen both hedonic and utilitarian values. By providing engaging and enjoyable experiences (hedonic value) in conjunction with functional benefits (utilitarian value), platforms can present a more compelling case for users to continue utilizing mobile shopping services.

Meanwhile, to develop utilitarian value and hedonic value necessitates gamification affordance (Shi, Leung, and Munelli, 2022). For instance, achievement affordance enables users to attain a sense of accomplishment and rewards while completing tasks in games, thereby enhancing their perception of economic utility during online shopping. The OTA platforms should implement mechanisms that facilitate meaningful self-expression and appropriate competition structures, which can foster emotional connections and enhance the overall enjoyment, thus contributing to the hedonic value.

The concept of achievement affordance enables users to attain a sense of accomplishment and recognition through completing tasks and earning rewards. This not only satisfies utilitarian needs by providing tangible benefits (such as discounts and coupons) but also fulfills hedonic needs by enhancing users' self-esteem and social status within the platform. The study suggests that gamification can motivate users to participate more actively in the OTA platform by aligning with their psychological needs for achievement, social interaction, and self-expression. This dual focus on utilitarian and hedonic values can result in increased loyalty and sustained engagement with the platform (Shi, Leung, and Munelli, 2022).

This study addresses significant gaps in the existing literature on gamification in e-commerce. While Yu and Huang (2021)

explored gamification in the Chinese e-commerce context, their research did not encompass gamification affordances or continuance use intention. The present study expands upon this foundation by incorporating these crucial elements into a comprehensive conceptual model. Drawing on Maduku and Thusi's (2023) work, we integrate continuance use intention to elucidate the long-term impact of gamification on consumer behavior. Furthermore, we adopt the gamification affordance framework proposed by Shi, Leung, and Munelli (2022) to provide a nuanced understanding of how specific gamification elements influence consumer-perceived value. This integrated approach aims to offer a more holistic perspective on the relationship between gamification, purchase intention, and sustained platform engagement in the e-commerce ecosystem.

This study aims to adapt and validate a research model originally used in China and South Africa, for the Indonesian context. It examines the influence of gamification elements on consumer perceived value and its subsequent effects on purchase intention and continuance use intention in Indonesian e-commerce. The research question addresses how gamification elements in Shopee Cocoki impact consumer perceived value (utilitarian and hedonic) and how this perceived value affects purchase intention and continuance use intention among Indonesian e-commerce consumers.

THEORETICAL BACKGROUND

The theoretical frameworks applied in this investigation are listed below. These include Customer Perceived Value, Game Use Intention, Continuity Use Intention, and Platform Purchase Intention, in addition to gamification. Each construct is thoroughly explained in the sub-chapters below.

Gamification

Gamification is the integration of game elements into non-game contexts to enhance the user experience and create value (Deterding et al., 2016; Huotari & Hamari, 2016). It can be viewed from two perspectives: satisfying intrinsic desires through the experience of playing (Högberg, Hamari, & Wästlund, 2019) and the game design elements that can be implemented (Deterding, Dixon, Khaled, & Nacke, 2011). Gamification aims to design positive, game-like experiences to influence consumer behavior (Hamari, 2019; Huotari & Hamari, 2016), balancing functionality and enjoyable experiences to increase engagement (Morschheuser et al., 2017; R. Saha et al., 2012; D. Liu et al., 2017). It involves elements such as points, levels, and classifications (Zichermann & Cunningham, 2011; Hamari et al., 2014; Seaborn & Fels, 2015; Chou, 2015), and broader features such as goals, challenges, rewards, and game themes (Cugelman, 2013). Common mechanisms include exploration, competition, and collaboration (Werbach & Hunter, 2012) applied in sectors such as education (Wilson et al., 2009), business, and healthcare (Johnson et al., 2016).

In business, gamification integrates game elements into websites, customer services, and marketing to boost participation and engagement (Hsu and Chen, 2018). It is based on the belief that gamification can enhance engagement and behavior (Kuo & Chuang, 2016). Offering rewards for completing goals increases user enthusiasm and engagement (Koivisto & Hamari, 2014). On platforms, gamification enhances participation and satisfaction, especially in retail (Fathian et al., 2019; Hwang & Choi, 2020) and is linked to increased intention to use (Baptista & Oliveira, 2017). It also elicits emotional and cognitive responses, such as addiction and enjoyment (Bittner & Shipper, 2014), and boosts brand awareness and motivation (Witt et al., 2011).

Gamification features, known as affordances, enhance the shopping experience by adding value for consumers (Huotari and Hamari, 2012).

Affordance refers to possible behaviors in a given context (Gibson, 2013). This study identified three types of Gamification Affordances.

1. Achievement Affordance: Provides a sense of accomplishment through rewards for completing challenges (Shen et al., 2020). Examples include points, virtual currency, discounts, power ups, coupons, and visual and haptic feedback. In ''hopee Cocoki," these are bonuses, rewards, power-ups, discounts, virtual currency (Shopee Coins), points, and coupons.
2. Identity Affordances: Enhances users' perception of their identity or reputation through interaction with the platform, often by achieving targets or levels (Hammedi et al., 2019). Examples include points, scores, levels, leaderboards, progression bars, badges, and trophies. In ''Shopee Cocoki," these are costumes (characters), points, scores, levels, leaderboards, and trophies.
3. Competition affordances: allow users to express competitive aspirations (Zichermann & Cunningham, 2011). Examples include countdowns, rankings, interactive conversations, team battles and leaderboards. In ''Shopee Cocoki," these are rankings and leaderboards.

Customer Perceived Value

Customer Perceived Value (CPV) is defined as a consumer's evaluation of a product's utility versus the costs incurred (Zeithaml, 1988). CPV substantially shapes customer attitudes, satisfaction loyalty behaviors (Sarkar et al., 2020). In this study, CPV was divided into utilitarian, hedonic, social, and time/energy dimensions (de Kerviler et al., 2016; Bölen & Özen, 2020).

1. Utilitarian value: The practical benefits gained from using a product or service such as efficiency, convenience, and functionality (Barry et al. 1994; Zeithaml 1988).
2. Hedonic Value: The feeling of enjoyment and emotional gratification users derive from a product or service (Zeithaml, 1988; Yang, 2009). Hedonic Value plays a significant role in shaping consumer attitudes and intentions, especially in entertainment and leisure activities (Barry et al., 1994).
3. Social Value: Social Value is a crucial dimension of CPV, reflecting the extent to which a product or service enhances a user's social interactions (Zeithaml, 1988). Social Value includes elements of communication, social exchange, and community building facilitated by consumption experience (Zeithaml, 1988). Studies have highlighted the positive impact of social value on consumer behavior, particularly in online multiplayer gaming environments (Hsiao & Chiou, 2012).
4. Time/Energy: Time/Energy, in the context of CPV, refers to the time and energy resources consumers spend acquiring a product or service (Zeithaml, 1988; Becker, 1965). Consumers often consider time pressure and effort sacrifices in the consumption process (Suri & Monroe, 2003). Understanding the time and effort required by consumers for a product or service is crucial for marketers to optimize value propositions and enhance customer experience (Gallarza et al., 2006).

Game Use Intention

Game Use Intention denotes an individual's propensity or inclination to participate in gaming activities. It includes all the variables that affect a player's choice to begin, continue, or end a gaming session. According to Sarkar et al. (2020), consumers' intentions regarding game use are significantly influenced by their perceived value.

Platform Purchase Intention

Platform purchase intention (Yu & Huang, 2021) denotes the inclination of customers to acquire products or services from a specific platform or supplier, primarily shaped by various psychological and behavioral aspects. Research indi-

cates that gamification services can profoundly influence psychological responses, resulting in particular behavioral outcomes, including attitudes, purchasing and repurchasing behavior, and brand engagement (Huotari & Hamari, 2016; Helmefalk & Marcusson, 2019; Balakrishnan & Griffiths, 2018).

Consumers with gaming experience show higher purchase willingness due to game incentives (Bittner & Shipper, 2014). Long-term gamification strategies positively affect marketing outcomes by increasing customer interest (Jang et al., 2018). M-commerce activities with entertainment elements like games increase the likelihood of purchase (Feng et al., 2020).

Continuance Use Intention

Continuance Use Intention refers to the tendency of users to continue using a product or service. This intention is influenced by various factors, such as user satisfaction, perceived benefits, and the overall value proposition of the product or service (Bhattacherjee, 2001; Davis et al., 1989).

HYPOTHESIS DEVELOPMENT

Table 1 presents the hypotheses proposed in this study along with their respective sources.

Table 1. Hypothesis Development

Hypothesis	Source
H1: Utilitarian Value positively influences Game Use Intention.	(Baptista & Oliveira, 2019; Ltifi, 2018; Saprikis et al., 2018; Sharma et al., 2020; Yu & Huang, 2021)
H2: Utilitarian Value positively influences Platform Purchase Intention.	(Ltifi, 2018; Saprikis et al., 2018; Yu & Huang, 2021)
H3: Hedonic Value positively influences Game Use Intention.	(Baptista & Oliveira, 2019; Sharma et al., 2020; Huotari & Hamari, 2016)
H4: Hedonic Value positively influences Platform Purchase Intention.	(Karjaluoto et al., 2019; Yu & Huang, 2021; Ltifi, 2018; Saprikis et al., 2018)
H5: Social Value positively influences Game Use Intention.	(Hsiao & Chiou, 2012; Wang et al., 2020; Hamari & Koivisto, 2013; Rauschnabel et al., 2017; Rodrigues et al., 2016)
H6: Social Value positively influences Platform Purchase Intention.	(Yu & Huang, 2021; Hamari & Koivisto, 2013; Rauschnabel et al., 2017; Rodrigues et al., 2016)
H7: Less Time/Effort spent on playing games positively influences Game Use Intention.	(Mohd-Any et al., 2014; Suri & Monroe, 2003; Helmefalk & Marcusson, 2019)
H8: Less Time/Effort spent on playing games positively influences Platform Purchase Intention.	(Suri & Monroe, 2003; Helmefalk & Marcusson, 2019)
H9: Game Use Intention positively influences Platform Purchase Intention.	(Helmefalk & Marcusson, 2019; Raman, 2020; Catalan et al., 2019; Hildebrand et al., 2014; Feng et al., 2020)
H10: Utilitarian Value positively influences Continuance Use Intention.	(Maduku & Thusi, 2023; Kautish & Sharma, 2018; Hamid & Suzianti, 2020)
H11: Hedonic Value positively influences Continuance Use Intention.	(Arnold & Reynolds, 2003; Yang, 2009; ener et al., 2018; Picot-Coupey et al., 2021)
H12: Achievement Affordance positively influences Utilitarian Value.	(Shen et al., 2020; Högberg et al., 2019; Yu & Huang, 2021)
H13: Identity Affordance positively influences Utilitarian Value.	(Hammedi et al., 2019; Shi et al., 2022; Xi & Hamari, 2019)
H14: Identity Affordance positively influences Social Value.	(Gatautis et al., 2016; Hammedi, 2019)
H15: Competition Affordance positively influences Hedonic Value.	(Zichermann & Cunningham, 2011; Conaway & Garay, 2014; Chiu et al., 2014)
H16: Competition Affordance positively influences Social Value.	(Leclercq et al., 2017; Dietrich et al., 2018)

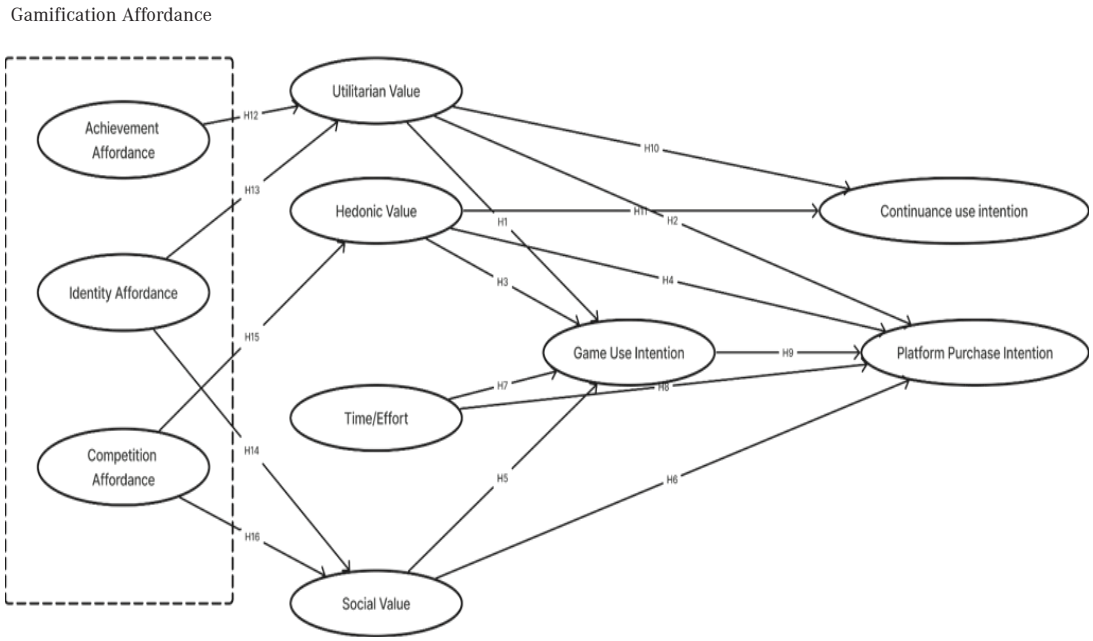

Figure 1. Conceptual Model

Each hypothesis is labeled (H1, H2, etc.) and describes a specific relationship between different variables. The «Source» column lists the academic references that support each hypothesis, providing the foundation for the suggested relationships.

METHODS

Research Design

This study employed a confirmatory research design, utilizing a quantitative approach to investigate the research questions. The data collection method involved administering a questionnaire with a Likert scale to a sample of respondents. This research design was chosen to capture trends in attitudes, opinions, behaviors, or characteristics of a broader population, providing insights into societal views without directly testing the associations between variables. The quantitative approach enabled the collection of numerical data, which was then analyzed to identify patterns and trends. The use of a Likert scale in the questionnaire allowed for the measurement of respondents' attitudes and opinions on a continuum, providing a more nuanced understanding of their perspectives. By adopting a confirmatory research design, this study aimed to provide a comprehensive understanding of the phenomenon under investigation, while also contributing to the existing body of knowledge in the field (Creswell, J.W., 2021). Table 4 in the appendix presents the variables used in the design of the research question in Bahasa Indonesia to ensure the respondent understanding.

Data Collection Method

This study employed a probability sampling method, specifically cluster sampling technique, to select the respondents. The clustering was based on 10 community units found on Facebook and Telegram, each with a minimum of 500 active Shopee Cocoki players across Indonesia. Furthermore, to ensure that the respondents were frequent and engaged players, two additional criteria were applied: (1) players had to have played Shopee Cocoki at least three times, and (2) they had to have utilized in-game features such as «booster» and «extra life» at least once. Through this sampling approach, a total

of 340 respondents were selected, providing a representative sample of the target population (Hair, J. F., et al., 2019). The questionnaire was distributed via social media platforms like Facebook and Telegram, and through personal networks to access the community groups.

Ethical considerations were integrated throughout the process, with informed consent obtained from all respondents and strict confidentiality assurances. A pilot test with 100 participants refined the questionnaire prior to the main study, following established recommendations for pilot study sample sizes (Cooper & Schindler, 2011; Ramayah et al., 2018). Insights from the pilot test led to necessary modifications, enhancing the questionnaire's effectiveness and clarity for the target demographic.

Measurement and Analysis

In this research, we are using Structural Equation Modeling (SEM) analysis techniques. The SEM-PLS use during the pilot test to test our conceptual model before moving on to the main research phase with the additional use of SPSS Statistics 27 and SEM-CB of AMOS 26 using Maximum likelihood Estimation.

Convergent validity measures ensure a research instrument accurately captures the intended construct, while discriminant validity ensures distinct factors remain separate. In SEM, convergent validity is assessed through Composite Reliability (CR) and Average Variance Extracted (AVE). A CR value above 0.7 and an AVE value above 0.5 indicate good reliability and convergent validity, respectively (Fornell & Larcker, 1981). Standard factor loadings above 0.7 are also expected (Hair et al., 2017). Discriminant validity is evaluated by comparing the square root of AVE for each construct with the correlations between constructs, following the Fornell-Larcker criteria (Hair et al., 2017; Fornell & Larcker, 1981; Henseler et al., 2015).

Reliability assesses the consistency of the research instrument, with internal consistency evaluated through Cronbach's Alpha and CR. Both values must meet established thresholds for reliability (Hair et al., 2017). Cronbach's Alpha values above 0.7 indicate adequate reliability. After validating the measurement model, the structural model is evaluated by examining the R-square value and model fit using Absolute Fit Measure, Incremental Fit Measure, and Parsimonious Fit Measure. Structural model evaluation in SEM-PLS during pilot test ensures the research model's reliability and validity (Hair et al., 2013).

Model quality assessment is crucial when utilizing SEM-CB. When some endogenous variables require adequate fit measures and cannot be fully explained by exogenous variables, Confirmatory Factor Analysis (CFA) becomes necessary. RMSEA is used as the Absolute Fit Measure to assess model fit concerning the population covariance matrix, with values below 0.05 indicating a good fit and values between 0.05 and 0.08 being acceptable. Values over 0.10 suggest significant approximation errors. CFI, an Incremental Fit Measure, compares the hypothesized model with a null model, with values above 0.90 or closer to 0.95 indicating significant explanatory power. PNFI, a Parsimonious Fit Measure, balances explanatory power and model complexity, with high values indicating a good balance. These methods allow comprehensive evaluation of the structural model's quality, ensuring clear and accurate interpretation of results (Byrne, 2010).

RESULTS

The survey is conducted between May 29 and June 8, 2024. The population of interest comprised Indonesian e-commerce consumers aged 16 and above who had previously engaged with Shopee Cocoki. An examination of the demographic characteristics of the sample reveals that most respondents were female

(75.3%), with a notable proportion (58.2%) reporting monthly expenditures on Shopee ranging from Rp. 500,000 to Rp. 1,000,000. In terms of gaming habits, most respondents reported playing Shopee Cocoki several times a week (52.4%), with a significant proportion (80.6%) also frequently playing Shopee Tanam on the platform. The primary motivations for playing Shopee Cocoki were the prizes offered (85.3%) and the entertainment/enjoyable gaming experience (75.9%). A detailed breakdown of the sample's demographic characteristics is presented in Table 2.

Data analysis revealed eight factors explaining 67.408% of the variance. High variable correlation was confirmed by a Kaiser-Meyer-Olkin value of 0.930 and significant Bartlett's test ($p < 0.001$). Cronbach's alpha values (0.772 to 0.903) confirmed reliability, and variance inflation factors (1.271 to 1.999) indicated no multi-collinearity issues.

We evaluated our measurement model using CFA. Table 3 shows the specific results for each construct and its corresponding items. The analysis results showed RMSEA = 0.081, CFI = 0.819, and PNFI = 0.692. An RMSEA value of 0.081 indicates a reasonable approximation error within the model, suggesting the model is fairly good at estimating the extent to which the hypothesized model fits the actual data. This value shows that there is a reasonable level of error in approximation, indicating the model's capability to predict how well it aligns with real data.

A CFI value of 0.819 indicates that the model shows moderate adjustment with the observed data. However, with a CFI value below 0.90, it implies that the model only achieves marginal or suboptimal fit. This moderate level of fit suggests that the model does not completely conform to the data, indicating potential areas for improvement. A PNFI value of 0.692 indicates that the model may be too complex or

Table 2. Demographic Characteristics of Respondent

Variable	Category	Number	Percentage
Age	Average	16 - 50 y/o	14.7% of 21 y/o
Gender	Men	84	24.7%
	Women	256	75.3%
Total Monthly Spending on Shopee	< Rp 500.000	95	27.9%
	Rp 500.000 - Rp 1.000.000	198	58.2%
	Rp 1.000.001 - Rp 2.000.000	37	10.9%
	Rp 2.000.001 - Rp 3.000.000	9	2.6%
	> Rp 3.000.000	1	0.3%
How often did you play "Shopee Cocoki" in one week?	Every day	56	16.5%
	A few times a week	178	52.4%
	Once a week	85	25%
	Once every few weeks	17	5%
	Not sure	4	1.2%
Other than "Shopee Cocoki", what games do you play the most on Shopee?	Shopee Candy	171	50.3%
	Shopee "Tanam"	274	80.6%
	Shopee Fruity	70	20.6%
	Shopee Bubble	121	35.6%
	Shopee "Capit"	178	52.4%
	Shopee "Tebak Kata"	118	34.7%
What made you interested in playing "Shopee Cocoki"?	Prizes on offer	290	85.3%
	Fun entertainment and gaming experience	258	75.9%
	Social interaction with friends or other players	41	12.1%
	Being able to win "Shopee Cocoki"	64	18.8%

imbalanced in explaining the data adequately. While values above 0.5 are considered adequate, a lower PNFI suggests that the model needs simplification to improve its fit with the data. This lower-than-ideal value points to the need for reducing the model's complexity to enhance its explanatory power and balance.

Overall, the analysis results indicate that in contexts where not all endogenous variables are explained by exogenous variables, the model requires further adjustments, particularly in reducing complexity and improving fit with the observed data. These findings highlight the necessity for refining the model to achieve a better alignment with the actual data, thereby enhancing its overall validity and reliability.

Cronbach's Alpha and CR of all items is greater than 0.7, indicating good reliability, and AVE for each variable is greater than 0.5, meeting the requirements for convergent validity. Factor loadings mostly meet or exceed the recommended threshold values, although some values do not reach but are close to the threshold. From the discriminant validity analysis, the square root of the AVE for each variable is greater than the correlation coefficients between that variable and other variables, indicating that the measurement model has good discriminant validity. In conclusion, although some fit indices do not reach ideal values, the model overall demonstrates adequate reliability and validity. These findings indicate that the variables in the model reliably capture the underlying constructs, showing both convergent and discriminant validity. Future research can explore additional factors or refine measurement items to enhance the predictive power and explanatory ability of the model in the context of the Shopee Cocoki game.

Data analysis using SPSS Statistics 27 and AMOS 26 revealed eight factors that explained 67.408% of the variance. A high variable correlation was confirmed by a Kaiser-Meyer-Olkin value of 0.930 and a significant Bartlett's test ($p < 0.001$). Cronbach's alpha values (0.772–0.903) confirmed reliability, and variance inflation factors (1.271–1.999) indicated no multicollinearity issues.

The results showed RMSEA = 0.081, CFI = 0.819, and PNFI = 0.692. An RMSEA value of 0.081 indicates a reasonable approximation error within the model, suggesting that the model is fairly good at estimating the extent to which the hypothesized model fits actual data. This value shows that there is a reasonable level of error in the approximation, indicating the model's capability to predict how well it aligns with real data. A CFI value of 0.819 indicated that the model showed a moderate adjustment with the observed data. However, a CFI value below 0.90, it implies that the model only achieves a marginal or suboptimal fit. This moderate level of fit suggests that the model did not completely conform to the data, indicating potential areas for improvement.

A PNFI value of 0.692 indicated that the model may be too complex or imbalanced to adequately explain the data. While values above 0.5 are considered adequate, a lower PNFI suggests that the model needs simplification to improve its fit with the data. This lower-than-ideal value points to the need to reduce the complexity of the model to enhance its explanatory power and balance. Overall, the analysis results indicate that in contexts where not all endogenous variables are explained by exogenous variables, the model requires further adjustments, particularly in reducing complexity and improving the fit with the observed data. These findings highlight the necessity of refining the model to achieve better alignment with the actual data, thereby enhancing its overall validity and reliability.

Cronbach's Alpha and Composite Reliability (CR) for all items exceeded 0.7, demonstrating

Table 3. CFA results

Construct	Items	Mean	StDev	Std. Factor Loading	CA	CR	AVE
Achievement Affordance	AA1	4.20	0.941	0.766	0.797	0.799	0.567
	AA2	4.29	0.830	0.719			
	AA3	4.08	1.025	0.773			
Identity Affordance	IA1	3.95	1.089	0.751	0.804	0.765	0.523
	IA2	4.04	1.019	0.758			
	IA3	3.97	1.014	0.763			
Competition Affordance	CA1	4.18	0.982	0.682	0.772	0.761	0.521
	CA2	4.19	0.876	0.781			
	CA3	4.18	0.986	0.699			
Utilitarian Value	UV1	4.17	1.022	0.659	0.808	0.865	0.56
	UV2	4.09	0.894	0.751			
	UV3	4.13	1.028	0.757			
Social Value	SV1	4.19	0.932	0.72	0.803	0.879	0.593
	SV2	4.26	0.915	0.708			
	SV3	4.14	0.977	0.776			
Hedonic Value	HV1	4.23	0.918	0.769	0.880	0.801	0.574
	HV2	4.16	0.997	0.77			
	HV3	4.15	0.951	0.808			
	HV4	4.11	0.947	0.728			
	HV5	4.13	0.977	0.772			
Time/Effort	TE1	3.98	1.081	0.85	0.801	0.789	0.556
	TE2	4.07	0.985	0.73			
	TE3	4.14	1.009	0.691			
Game Use Intention	GUI1	4.17	0.939	0.696	0.903	0.78	0.54
	GUI2	4.11	0.957	0.774			
	GUI3	4.10	1.024	0.745			
	GUI4	4.18	0.898	0.73			
	GUI5	4.01	1.135	0.793			
Continuance Use Intention	C1	4.29	0.854	0.732	0.797	0.806	0.578
	C2	4.15	0.969	0.701			
	C3	4.17	1.049	0.736			
Platform Purchase Intention	PPI1	4.21	0.936	0.776	0.816	0.764	0.524
	PPI2	4.19	1.019	0.76			
	PPI3	4.22	0.994	0.7			

good reliability, while Average Variance Extracted (AVE) for each variable was above 0.5, satisfying convergent validity criteria. Factor loadings mostly met or surpassed recommended thresholds, though a few were marginal. Discriminant validity analysis showed that the square root of the AVE for each variable surpassed the correlation coefficients between that variable and others, confirming good discriminant validity. Despite some fit indices not reaching ideal values, the model exhibited adequate reliability and validity. These results indicate the model variables effectively capture the underlying constructs, proving both convergent and discriminant validity. Future research may explore additional factors or refine items to improve the model's predictive and explanatory power in the context of the Shopee Cocoki game.

We tested the proposed conceptual model (Fig. 1) using the SEM-CB. The results indicate that

Utilitarian Value has a positive and highly significant impact on Game Use Intention (β = 0.328, P < 0.05) and a significant impact on Platform Purchase Intention (β = 0.158, P = 0.028). Similarly, Hedonic Value showed a positive and highly significant effect on Game Use Intention (β = 0.343, P < 0.05). Therefore, H1, H2, and H3 were accepted. However, its impact on Platform Purchase Intention was not significant (β = 0.089, P = 0.229); hence, H4 was rejected. Social Value also showed an insignificant relationship with Platform Purchase Intention (β = 0.100, P = 0.116); hence, H5 was rejected. Nevertheless, Social Value was highly significant for Platform Purchase Intention (β = 0.268, P < 0.05). Additionally, the Time/Effort factor shows a positive and highly significant influence on Game Use Intention (β = 0.333, P < 0.05); hence, H6 and H7 are accepted. However, Time/Effort does not significantly affect Platform Purchase Intention (β = 0.014, P = 0.834); hence, H8 is rejected. The relationship between Game Use Intention and Platform Purchase Intention was positive and significant (β = 0.037, P < 0.05); hence, H9 was accepted. Furthermore, both Utilitarian Value (β = 0.381, P < 0.05) and Hedonic Value (β = 0.369, P < 0.05) had a positive and highly significant impact on continuance intention. Achievement Affordance shows a strong and positive impact on Utilitarian Value (β = 0.586, P < 0.05), and Identity Affordance also positively and significantly affects Utilitarian Value (β = 0.479, P < 0.05) and Social Value (β = 0.265, P < 0.05). Similarly, Competition Affordance shows a positive and strong relationship with Hedonic Value (β = 0.673, P < 0.05) and Social Value (β = 0.588, P < 0.05). Therefore, H10–H16 were considered acceptable.

Examining the hypothesis test results and comparing them with those of previous studies regarding the aspect of Perceived Value positively affecting Game Use Intention and Platform Purchase Intention, the majority showed results consistent with those of previous research by Yu and Huang. (2021). First, Utilitarian Value, which represents the practical benefits obtained from a product or service (Zeithaml, 1988; Barry et al., 1994), aligns with previous studies showing a positive relationship with Game Use Intention (H1) and Platform Purchase Intention (H2). This result is also supported by the positive PNFI results, providing concrete evidence that Utilitarian Value influences usage intentions and other actions in the online shopping context (Ltifi, 2018; Saprikis et al., 2018). Therefore, the knowledge that there is a chance of financial gain from this game positively enhances the perception of Utilitarian Value and Achievement Affordance (Shi, S., Leung, W. K. S., & Munelli, F., 2022).

Next, Hedonic Value, consistent with previous research, has a positive influence on Game Use Intention (H3) and Platform Purchase Intention (H4). Regarding Game Use Intention, this positive influence is supported by the fact that most gamification efforts by e-commerce platforms aim to enhance the experience through entertainment (Huotari & Hamari, 2016). However, the influence of Hedonic Value on Platform Purchase Intention is consistent with previous findings, in which it has less impact.

Regarding Social Value, its influence on Game Use Intention (H5) shows different results from those of previous studies, whereas its influence on Platform Purchase Intention (H6) aligns with previous findings. The difference can be seen in the beta (β) results in Table 5 in the Appendix. In this context, beta (β) shows the extent of influence each factor has (for Game Use Intention), where the Social Value score is 0.100 (10%), indicating an insignificant result compared to other aspects. This suggests that different game systems have a substantial impact on user responses or actions on a platform. Furthermore, this result indicates that the majority of players

are interested in trying Shopee Cocoki because of curiosity aroused by other aspects. Regarding H6, Social Value positively influences Platform Purchase Intention. This can be explained by the instrument SV3, which asks, «My relatives and friends have a positive attitude towards the Shopee Cocoki game.» This positive view can influence users' decisions to purchase. In other words, a positive image held by close users can potentially encourage them to make in-game purchases.

Next, regarding the time/effort aspect, its influence on Game Use Intention (H7) and Platform Purchase Intention (H8) show results consistent with previous research. The results indicate that the time or effort users need to spend when interacting with a platform's gamification efforts positively affect their intention to use the service because of the reduced time and effort barriers (Mohd-Any et al., 2014). Therefore, companies can consider this aspect when developing their future experiences. As for Platform Purchase Intention, it is consistent with previous findings, where it has less impact. Furthermore, according to previous research stating that Game Use Intention acts as an intermediary between consumers' Perceived Value and Platform Purchase Intention (Yu & Huang, 2021), this statement aligns with the results obtained in this study, where game use intention influences consumers' tendency to perform platform purchase intention (H9). Referring to the previous research by Shi, S., Leung, W. K. S., & Munelli, F., (2022), the results of this study show consistency where Utilitarian Value (H10) and Hedonic Value (H11) influence Continuance Use Intention. These results are consistent with those of previous research (Tam et al., 2020), where users' Continuance Use Intention can be obtained if functional aspects or Utilitarian Value in the shopping experience, such as monetary benefits and convenience, are provided. As for Hedonic Value, it aligns with previous findings that there is a positive relationship between Hedonic Value and the intention to continue usage (Fernandes and Barfknecht, 2020; Oghuma et al., 2016; Qing and Haiying, 2021).

The findings also indicate that gamification positively influences the intention to use the platform in the long term (H12-H16). Gamification refers to efforts to design positive experiences often found and felt in conventional games, aiming to influence consumer behavior (Hamari, 2019; Huotari & Hamari, 2016). Therefore, these findings are consistent with the finding that gamification strives to find a balance between functionality or utility and enjoyable experiences to enhance engagement (Morschheuser et al., 2017; R. Saha et al., 2012; D. Liu et al., 2017).

DISCUSSION

The study's findings, as highlighted in the research benefits section, offer valuable insights for Shopee and similar platforms aiming to incorporate gamification or boost Game Use Intention. Understanding which gamification elements to emphasize and which Perceived Value aspects to enhance or diminish can influence consumer decisions regarding Platform Purchase Intention and Continuance Use Intention. The study demonstrates that gamification significantly impacts these intentions. Game Use Intention serves as an intermediary variable between gamification and the player's final decision, suggesting that an effective Shopee strategy should prioritize Hedonic Value (34.4%), followed by Time/Effort (33.3%) and Utilitarian Value (32.8%). Platforms can focus on Hedonic and Utilitarian aspects to increase game appeal by offering vouchers or prizes that positively influence product prices while engaging players emotionally. Simple, recognizable games can evoke positive reactions.

To enhance customer experience, companies should consider which Perceived Value aspects

are most important to consumers. The Time/Effort aspect positively influences Game Use Intention, indicating that Shopee should design games and interfaces requiring minimal effort or time to foster a positive perception and increase favorable decisions. Utilitarian Value (15.8%) and Social Value (26.8%) also influence Platform Purchase Intention, aligning with prior research. The PNFI test results indicate that functional prizes affecting product prices can boost purchase potential, and Social Value can enhance Purchase Intention through positive external perceptions. Thus, Shopee should focus on creating impactful rewards and a satisfying service experience. Continuance Use Intention is positively influenced by Hedonic (36.9%) and Utilitarian Value (38.1%), suggesting that platforms should regularly introduce engaging gamification efforts with enjoyable experiences and attractive rewards to encourage consumer participation.

Platforms like Shopee should concentrate their marketing on Utilitarian and Hedonic Values, as these significantly influence Game Use Intention and Continuance Use Intention. For Utilitarian aspects, the platform should emphasize attractive financial benefits, showcasing potential earnings through ads or testimonials from players who have gained rewards. This can create a perception of genuine gameplay and benefits. To address Hedonic aspects, implementing and marketing simple, well-known games like snakes and ladders can appeal to the public's emotions, enhancing the desire to play.

This study has limitations. It focuses solely on Shopee with Shopee Cocoki, involving Indonesian consumers who have previously played the game. This could yield different results on other platforms with different game systems. The PNFI test indicates discrepancies, particularly with the Perceived Value aspect of Social Value not being significant, contradicting previous research. Future studies should use different research objects for more valid results. Additionally, the majority of subjects in this study were female, suggesting future research should include more male respondents to explore potential differences in player types on e-commerce platforms.

Furthermore, this study only examined several aspects of Perceived Value and their influence on Continuance Use Intention and Platform Purchase Intention, as it is a replication and development of prior research with new variables. Future research should incorporate additional gamification elements or Perceived Value aspects for broader insights into gamification.

MANAGERIAL IMPLICATION

Based on the above discussion, here some managerial implication to consider for practitioner who design the game mechanism.

1. Prioritize gamification elements:
    a. Focus on enhancing Hedonic Value (34.4%), Time/Effort optimization (33.3%), and Utilitarian Value (32.8%) in game design.
    b. Implement simple, recognizable games that evoke positive emotions and require minimal effort.
2. Enhance customer experience:
    a. Design games and interfaces that minimize time and effort required from users.
    b. Offer functional prizes and vouchers that directly impact product prices.
    c. Create a satisfying service experience to boost purchase potential.
3. Marketing strategy:
    a. Emphasize Utilitarian and Hedonic Values in marketing campaigns.
    b. Showcase potential earnings through advertisements and player testimonials.
    c. Highlight simple, well-known games to appeal to emotions and increase play desire.

4. Continuance Use strategy:
    a. Regularly introduce engaging gamification efforts with enjoyable experiences.
    b. Offer attractive rewards to encourage ongoing consumer participation.
5. Social Value consideration: Although less impactful in this study, consider incorporating social elements to enhance external perceptions and potentially influence purchase intentions.
6. Adapt and iterate:
    a. Recognize that results may vary across different platforms and demographics.
    b. Continuously assess and adjust strategies based on user feedback and performance metrics.

These implications provide a strategic framework for e-commerce platforms to effectively implement and optimize gamification strategies, enhancing user engagement, purchase intentions, and platform loyalty.

CONCLUSION

This research examines the impact of gamification on an e-commerce platform, particularly on consumer decisions like Platform Purchase Intention and Continuance Use Intention. The model indicates that Gamification Affordance elements influence the Perceived Value among e-commerce platform users. The positive correlation between gamification elements and Perceived Value suggests that all aspects of Perceived Value, except Social Value, affect Game Use Intention. Consequently, consumers engage with games on e-commerce platforms due to the Perceived Value. Hedonic Value is the most critical factor, followed by Time/Effort and Utilitarian Value, while Social Value is less significant. Thus, e-commerce platforms should focus on enhancing enjoyable experiences, efficiency, and practical benefits to boost consumer participation. The varying results, especially regarding Social Value, underscore the game system's influence on consumer behavior.

Research shows that people's intention to use game features bridges the gap between how they value the platform and their decision to buy. Both practical benefits and social aspects play key roles in driving purchases, supporting what we've seen in earlier studies. Hedonic and Utilitarian Values also positively impact Continuance Use Intention. Thus, gamification affects both Continuance Use Intention and Platform Purchase Intention. This research enhances the understanding of gamification on e-commerce platforms as a catalyst for positive consumer actions, including Continuance Use Intention and Platform Purchase Intention, and adds the Continuance Use Intention variable to explore long-term gamification effects. The study's strength lies in its focused approach, using Shopee Cocoki on the Shopee platform, allowing for precise data collection. Additionally, this focus highlights that game system variations and objectives influence player behavior.

Contrary to the findings of Yu and Huang (2021) in China, which suggested that Social Value positively influenced gameplay in the context of Alibaba games, our research reveals that Social Value does not have a significant impact on Game Use Intention. This disparity in outcomes may be attributed to the differences in platforms and game systems. Notably, Shopee Cocoki appears to be less social and interactive compared to Alibaba games.

The results of this study are expected to contribute to informed strategic decisions in various fields that aim to integrate gamification into their operational scope, particularly in terms of user experience. By understanding which gamification aspects or elements to prioritize in alignment with their objectives, organizations can make more informed decisions. Furthermore, this research can

inform strategic decisions based on the obtained information, such as identifying the most significant Perceived Value or the factor with the greatest influence on Continuance Use Intention, thereby serving as a foundation for decisions related to marketing, user experience development, and other relevant areas.

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APPENDIX

Table 4. Instrumentation in Bahasa Indonesia

Construct	Items	Instrumentation in Bahasa Indonesia	Source
Achievement Affordance	AA1	Berpeluang mendapatkan keuntungan finansial berupa koin	(Li 2018)
	AA2	Mendorong saya untuk berusaha mencapai keberhasilan (kemenangan)	Behl, A., & Dutta, P. (2020)
	AA3	Berpeluang mendapat diskon	(Li 2018)
Identity Affordance	IA1	Mendapatkan status yang lebih tinggi jika pernah memenangkan Shopee Cocoki	Sigala (2015)
	IA2	Menyesuaikan kostum avatar saya di antara pemain lainnya	
	IA3	Menguatkan identitas saya karena berhasil memenangkan shopee cocoki	
Competition Affordance	CA1	Mengevaluasi kemampuan terbaik saya untuk bersaing dengan orang lain.	Poncin et al. (2017)
	CA2	Meningkatkan kemampuan saya untuk dapat membandingkan performa saya dibanding orang lain	
	CA3	Menantang diri sendiri untuk mencapai performa yang lebih baik daripada orang lain.	
Utilitarian Value	UV1	Bermain game Shopee Cocoki memberi saya peluang lebih tinggi untuk berbelanja dengan harga lebih baik.	de Kerviler et al. (2016)
	UV2	Saya bisa mendapatkan manfaat yang diinginkan dari game Shopee Cocoki.	
	UV3	Shopee Cocoki telah mengurangi biaya pembelian saya (Melalui hadiah seperti koin).	Raman (2020)
Social Value	SV1	Banyak orang di sekitar saya bermain game Shopee Cocoki.	Vahdat et al. (2020)
	SV2	Saya dapat dipengaruhi oleh orang lain untuk bermain Shopee Cocoki.	
	SV3	Kerabat dan teman saya memiliki sikap positif terhadap game Shopee Cocoki.	Baptista and Oliveira (2017)
Hedonic Value	HV1	Bermain Shopee Cocoki terasa menenangkan (relaxing).	Rodríguez-Torrico et al. (2019)
	HV2	Bermain Shopee Cocoki menyenangkan (enjoyable).	B¨olen and ¨Ozen (2020)
	HV3	Bermain Shopee Cocoki memberi saya kebahagiaan.	
	HV4	Saat bermain Shopee Cocoki, saya bisa melupakan masalah-masalah saya	Park et al,. (2012)
	HV5	Saya menikmati Shopee Cocoki hingga saya lupa waktu	
Time/Effort	TE1	Game Shopee Cocoki tidak memerlukan banyak usaha.	Raman (2020)
	TE2	Menghabiskan waktu dan energi untuk Shopee Cocoki bermanfaat.	Chopdar and Balakrishnan (2020)
	TE3	Dibandingkan dengan aplikasi game formal, bermain Shopee Cocoki di platform Shopee menghabiskan lebih sedikit waktu dan energi.	de Kerviler et al. (2016)
Game Use Intention	GUI1	Saya berniat untuk bermain game di Shopee.	Zhang & Zhou (2020)
	GUI2	Saya akan terus bermain Shopee Cocoki di Shopee.	
	GUI3	Saya suka game Shopee Cocoki yang saya mainkan akhir-akhir ini.	Kamboj et al. (2020)
	GUI4	Saya cenderung bersikap positif terhadap Shopee Cocoki.	
	GUI5	Saya bermaksud untuk bermain Shopee Cocoki secara rutin.	Cheng et al. (2023)
Continuance use intention	C1	Saya berniat untuk terus menggunakan Shopee kedepannya.	Maduku, D. K., & Thusi, P. (2022).
	C2	Saya secara rutin menggunakan Shopee.	(Lee, 2020)
	C3	Saya merasa puas setiap kali menggunakan Shopee.	
Platform Purchase Intention	PPI1	Kalau soal belanja, saya cenderung memilih platform Shopee.	Raman (2020)
	PPI2	Saya sering menggunakan platform Shopee untuk berbelanja.	Soni et al. (2019)
	PPI3	Kedepannya, saya akan terus menggunakan platform Shopee untuk berbelanja.	Saprikis et al. (2018)

APPENDIX

Table 5. Inner Model Result

H	Independent	Dependent	P (significant <=0.050)	β
1	Utilitarian Value	Game Use Intention.	***	328
2	Utilitarian Value	Platform Purchase Intention.	28	158
3	Hedonic Value	Game Use Intention.	***	343
4	Hedonic Value	Platform Purchase Intention.	229	89
5	Social Value	Game Use Intention.	116	100
6	Social Value	Platform Purchase Intention.	***	268
7	Time/Effort	Game Use Intention.	***	333
8	Time/Effort	Platform Purchase Intention.	834	14
9	Game Use Intention	Platform Purchase Intention.	37	175
10	Utilitarian Value	Continuance use intention	***	381
11	Hedonic Value	Continuance Use Intention.	***	369
12	Achievement Affordance	Utilitarian Value	***	586
13	Identity Affordance	Utilitarian Value	***	479
14	Identity Affordance	Social Value	***	265
15	Competition Affordance	Hedonic Value	***	673
16	Competition Affordance	Social Value	***	588