



RESEARCH ARTICLE

## Game Marketplace Technology Acceptance in Indonesia: Embracing Satisfaction to Open Market Innovation

Mohammad Fadhlur Rahman<sup>1\*</sup>, Tanti Handriana<sup>1</sup>, Dien Mardhiyah<sup>1</sup>, Satria Fadil Persada<sup>2</sup>, Prawira Fajarindra Belgiawan<sup>3</sup>, Ardvin Kester S Ong<sup>4</sup>, Michael Nayat Young<sup>4</sup>

<sup>1</sup>Faculty of Economics and Business, Universitas Airlangga, Surabaya, Indonesia

<sup>2</sup>Entrepreneurship Department, BINUS Business School Undergraduate Program, Bina Nusantara University, Jakarta, Indonesia

<sup>3</sup>School of Business and Management, Institut Teknologi Bandung, Bandung, Indonesia

<sup>4</sup>School of Industrial Engineering and Engineering Management, Mapúa University, Manila, Philippines

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### ABSTRACT

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This study sought to investigate the implementation of gaming marketplace technologies in Indonesia. The deciding variables were extracted from the Unified Theory of Acceptance and Use of Technology (UTAUT), incorporating satisfaction factors. The data was collected from 396 users of the Indonesian Game Marketplace to validate the six specified variables. The investigation utilized partial least squares structural equation modeling (PLS-SEM). The findings corroborated the acceptance of six hypotheses, affirming that facilitating conditions, performance expectancy, effort expectancy, and social impact affected contentment. The satisfaction variable demonstrated the largest beta coefficient, affecting behavioral intention at 0.644. The R-Square value of this model was found to represent 51.7 percent of the overall behavioral intention model in the use of Game Marketplace technology. The satisfaction demonstrated a significant effect size (f-Square) of 79.9 percent. The behavioral intention in this model demonstrated a predictive relevance (Q-Square) of 38.6 percent. Recommendations for application improvement were developed based on the findings.

**\*Corresponding Author:**

## INTRODUCTION

The gaming industry is a prominent sector that has consistently progressed over the years. The gaming industry divisions serve both youth and adults worldwide. To meet consumer demand, the gaming business has shifted to a digital economic model. Prior to the emergence of digital media, consumers had to physically visit retail establishments to get physical discs or cassettes for use with consoles. The gaming industry is transitioning from solitary offline experiences to massively multiplayer online games (MMOG) as a result of technological improvements. The MMOG has experienced significant changes in gameplay, distribution routes, and payment mechanisms (Zackariasson & Wilson, 2010). The gaming marketplace has gained appeal among gamers in an effort to facilitate paradigm shifts. Nonetheless, every technology installation faces various obstacles, leading scholars worldwide to tackle these issues individually.

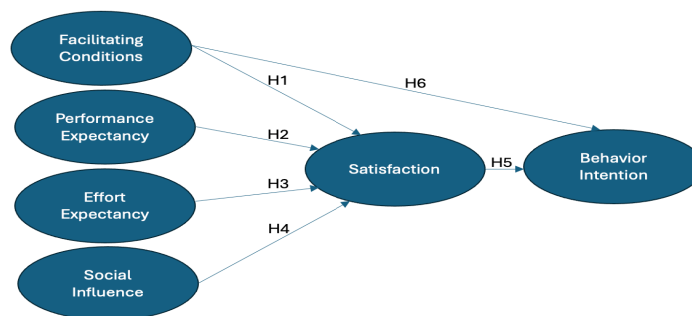
Previous study about the game marketplace focused on virtual goods transactions (Rachmadi et al., 2019). According to the research of Rachmadi et al., the authors aimed to highlight the creation of a

website model. The outcome suggests the possible expansion of online gaming transactions. Additional study pertaining to e-marketplaces and in-game currencies was also undertaken (Herman & Kho, 2021). A further study was undertaken to examine the process of purchasing and selling virtual products (Abidin et al., 2024). Limited prior research studies on the game marketplace have examined technology acceptance from the consumers' standpoint. This research seeks to elucidate the technology acceptance of gaming marketplaces by evaluating customer perspectives on them. The expected of this research is to give the significant impact not only to game marketplace industry, but also for academicians and consumers eventually.

This research is organized into multiple sections. The subsequent section addresses the pertinent literature and the creation of hypotheses. Chapter 3 elucidates the methodological instrument and the sample analysis. Chapter 4 presents the PLS-SEM analysis together with the validation of the hypotheses. Chapter 5 finishes the research and emphasizes the future research agenda along with the limitations.

## LITERATURE REVIEW

This research specifically adopts and modifies the renowned Unified Theory of Acceptance and Use of Technology (UTAUT) to include Satisfaction as a mediating component (Venkatesh et al., 2003). This study delineates six elements of UTAUT: “Facilitating Conditions (FC), Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Behavioral Intention (BI)”. The hypothesized model is depicted in Figure 1.



**Figure 1. Hypothesis Model**

FC represents the consumer's perspective on their control over resources and infrastructure in the utilization of a specific system (Venkatesh et al., 2003). The necessary infrastructure for the game marketplace system, comprising financial resources, internet access, bandwidth, and servers, does not provide a difficulty for its operation. Moreover, game resources are consistently provided by external game developers. Optimal supporting conditions can foster happiness and a positive purpose to engage with the gaming marketplace. Thus, this circumstance gives rise to the ensuing theories in this study.

“H1: Facilitating condition positively influence the satisfaction of consumers in using game marketplace.”

“H6: Facilitating condition positively influence the behavior intention of consumers in using game marketplace.”

Performance expectancy (PE) refers to consumers' anticipation that a system will enhance their job performance (Venkatesh et al., 2003). This study evaluates the usability, speed, and usefulness of the gaming marketplace through the PE. Improving performance during games will enhance the gaming ecosystem. Thus, the second hypothesis is articulated as follows.

“H2: Performance expectancy positively influence the satisfaction of consumers in using game marketplace.”

Effort expectation (EE) refers to the ease with which consumers assimilate information technology (Venkatesh et al., 2003). This study analyzes the EE component related to customers' seamless learning of skills for navigating the game marketplace. Furthermore, the duration for training and mastery in the program is rather uncomplicated. Thus, the third hypothesis is established.

"H3: Effort expectancy positively influence the satisfaction of consumers in using game marketplace."

Social Influence (SI) refers to the extent to which consumers opt to utilize a game marketplace due to the impact of those in their vicinity (Venkatesh et al., 2003). This study posits that social influence (SI) may be exhibited through endorsements from gamers, the community, and influencers linked to the gaming sector. Considering the function of SI, the subsequent fourth hypothesis is put forth.

"H4: Social influence positively influence the satisfaction of consumers in using game marketplace."

Satisfaction is the consumer's perception of the positive enjoyment derived from experiencing a specific system (Bhattacharjee, 2001). This study demonstrates that the efficacy of the gaming marketplace is evidenced by consumer satisfaction. Elevated satisfaction may result in favorable behavioral intentions. The instrument is evident when persons feel satisfied, elated, involved, and completely clear in their pleasure of the process. The fifth hypothesis is presented.

"H5: Satisfaction positively influence the behavior intention of consumers in using game marketplace."

## METHODOLOGY

### Research Instrument

This study will employ a questionnaire to collect customer data. The questionnaire employed a Likert scale, spanning from "1: I strongly disagree" to "5: I strongly agree." This research includes 396 respondents, exceeding the minimum guideline by 10 respondents per indicator (Hair et al., 2019; Malhotra et al., 2010). The questionnaire was distributed in early 2020. Alongside the respondents' demographics, the details of the operational elements are delineated in Table 1. The sampling was conducted purposively, focusing on those with experience in accessing gaming markets. The data underwent analysis using Partial Least Squares Structural Equation Modeling (PLS-SEM). The PLS-SEM includes descriptive outcomes, outer model evaluation, and inner model assessment. The descriptive results clarify the demographic data of the respondents. The outer model analysis clarifies the discriminant validity, reliability, and convergent validity.

**Table 1. Definition of Operational Variables**

Variable	Code	Indicators
Facilitating Conditions (FC)	FC1	"I have the resources needed to use game marketplace (e.g. laptop, computer, internet)"
	FC2	"I have the necessary Infrastructure to use game marketplace (eg: Hardware, Software, Network)"
	FC3	"Terdapat arahan dan tutorial dalam menggunakan game marketplace"
	FC4	"There is a dedicated support available to help if you have difficulty using game marketplace"
Performance Expectancy (PE)	PE1	"Game marketplace is a very useful platform for my game usage process"
	PE2	"Game marketplace can help me in accessing various games easily"
	PE3	"Using game marketplace can improve my performance in gaming"

	PE4	"The usefulness of game marketplace can help improve my game operation"
Effort Expectancy (EE)	EE1	"It was easy for me to learn to operate game marketplace"
	EE2	"The instructions on the game marketplace are easy to follow"
	EE3	"I think game marketplace is easy to use"
	EE4	"It is easy for me to become proficient in using game marketplace"
Social Influence (SI)	SI1	"I use game marketplace because many of my colleagues use this service"
	SI2	"People around me, suggested to use game marketplace"
	SI3	"People around me support using game marketplace"
	SI4	"In my opinion, the people around me who use game marketplace are people who dare to face the digital era"
Satisfaction (S)	S1	"I am very satisfied using game marketplace"
	S2	"I am very happy using game marketplace"
	S3	"My experience with game marketplace is very enjoyable"
	S4	"I am not confused at all when using game marketplace"
Behavioral Intention (BI)	BI1	"I plan to use game marketplace as my gaming platform"
	BI2	"I will always use game marketplace as my gaming platform"
	BI3	"I will use game marketplace more often for my gaming platform"
	BI4	"Game marketplace is my first choice for gaming platform"

## RESULT

### Descriptive Result

A total of 396 respondents included 364 males and 32 females. The primary consumer age group is 20-30 years old (246), followed by 10-20 years old (146), while those beyond 30 years old constitute the remainder (4). The predominant respondents were students or unemployed individuals (306), succeeded by workers (59) and entrepreneurs (31). Monthly usage statistics indicates that the predominant number of consumers utilize services 1-5 times per month (194), followed by those accessing services more than 10 times (93), 6-10 times (70), and fewer than once (39). The predominant duration of service usage among respondents was 2-3 hours daily (190), followed by 3-4 hours (113), over 4 hours (61), and 1 hour (32). The primary transaction method utilized by consumers is bank transfer (266), succeeded by other platforms (105), Visa/MasterCard (12), credit card (9), and PayPal (4).

### Outer model analysis

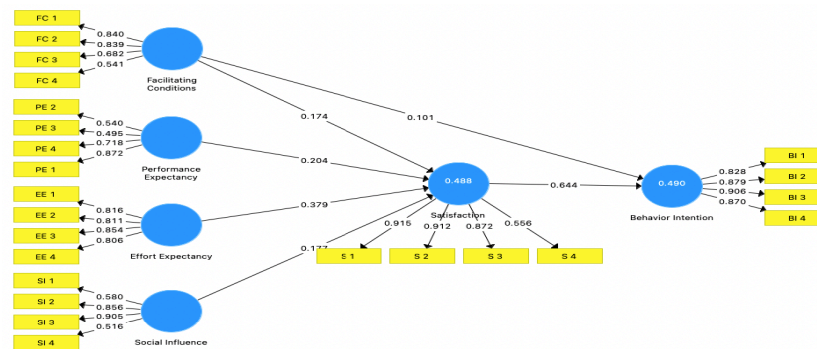
The outer model analysis encompasses discriminant validity, convergent validity, and reliability. Discriminant validity denotes a state in which there exists a negligible correlation between the

measurements or variables. Table 2 clarifies the discriminant validity through the Heterotrait Monotrait (HTMT) ratio, indicating that values below 0.9 are acceptable. The generated result demonstrates that the data effectively satisfies the criteria for discriminant validity.

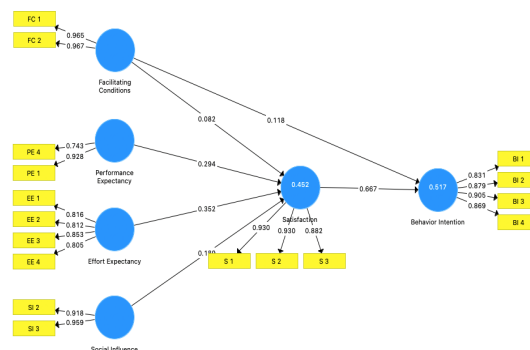
**Table 2. HTMT Score**

	“BI”	“EE”	“FC”	“PE”	“S”	“SI”
“BI”						
“EE”	0.418					
“FC”	0.525	0.744				
“PE”	0.618	0.553	0.432			
“S”	0.778	0.759	0.670	0.588		
“SI”	0.524	0.345	0.348	0.462	0.483	

Convergent validity evaluates the correlation among the interacting variables. In PLS-SEM, convergent validity was evaluated by outer loadings and Average Variance Extracted (AVE). The minimum outer loading and Average Variance Extracted (AVE) must surpass 0.7 and 0.5, respectively, as per established recommendations in various SEM research studies (Balinado et al., 2021; Chin et al., 2018; German et al., 2022; Mufidah et al., 2018; Nadlifatin et al., 2020; Ong et al., 2021; Persada et al., 2019; Prasetyo et al., 2021). Figure 2 demonstrates that most values satisfied the minimum criteria, with the exceptions of FC3, FC4, PE2, PE3, SI1, SI4, and S4. As a result, these parts were eliminated, and the final model is depicted in Figure 3.



**Figure 2. Beta Coefficient and Outer Loadings Values (first iteration)**



**Figure 3. Beta Coefficient and Outer Loadings Values (final iteration)**

AVE measures the variability of a construct while considering error factors. The AVE formula was derived from the outer loading, adhering to established parameters with a minimum threshold of 0.5. Reliability is the evaluation of the accuracy, consistency, and uniformity of a construct. Composite reliability (CR) is the standard metric utilized in structural equation modeling (SEM), with a minimum acceptable threshold of 0.7. Table 3 delineates the particulars of reliability and convergent validity.

**Table 3. Reliability and Convergent Validity Tests**

“Variables”	“Indicators”	“Outer Loadings”	“CR”	“AVE”
“Facilitating Conditions”	FC1	0.965	0.965	0.933
	FC2	0.967		
“Performance Expectancy”	PE1	0.928	0.826	0.706
	PE4	0.743		
“Effort Expectancy”	EE1	0.816	0.893	0.675
	EE2	0.812		
	EE3	0.853		
	EE4	0.805		
“Social Influence”	SI2	0.918	0.937	0.882
	SI3	0.959		
“Satisfaction”	S1	0.930	0.939	0.836
	S2	0.930		
	S3	0.882		
“Behavior Intention”	BI1	0.831	0.926	0.759
	BI2	0.879		
	BI3	0.905		
	BI4	0.869		

### Inner model analysis

The inner model is intended to test the alignment of latent variables, confirm the assumptions, reveal the coefficient of determination ( $R^2$ ), predict relevance ( $Q^2$ ), and evaluate the effect size ( $f^2$ ). The evaluation of model fit encompasses the Normed Fit Index (NFI) and the Standardized Root Mean Square Residual (SRMR). The minimum values of these instruments exceed 0.700 and are below 0.080, respectively (Ding et al., 1995; Persada et al., 2019). The NFI and SRMR in this study are 0.788 and 0.062, respectively. Therefore, the models utilized in this study are suitable. Table 4 displays the beta coefficient values together with the validation of hypotheses based on T-values and P-values. All relationships are acknowledged based on the statistical criterion determined by the results.

**Table 4. Hypothesis Validation**

Variable Relationship	Beta Coefficient	T-Statistic	P-Value	Note
FC à S	0.082	2.123	0.034	“H1:Accepted”
PE à S	0.294	7.109	0.000	“H2:Accepted”
EE à S	0.352	8.357	0.000	“H3:Accepted”
SI à S	0.189	4.316	0.000	“H4:Accepted”
S à BI	0.667	15.048	0.000	“H5:Accepted”
FC→BI	0.118	2.449	0.000	“H6:Accepted”

The coefficient of determination signifies the second analytical kind, intended to evaluate the extent of influence the independent variable exerts on the dependent variable. This assessment is

performed by examining the R2 value, which is classified into three tiers: high, moderate, and low. An R2 value of 0.67 signifies a high influence, 0.33 denotes a moderate influence, and 0.19 reflects a weak influence. Cross-validated redundancy testing was conducted to assess the model's prediction efficacy regarding the research data. This capability is evidenced by the observation values obtained from the Q2 value, which spans from 0 to 1. The R2 and Q2 values were calculated using SmartPLS, and the findings are displayed in Table 5.

**Table 5. R Square Values**

<b>Dependent Variable</b>	<b>R Square</b>	<b>Status</b>	<b>Q Square</b>	<b>Status</b>
S	0.452	Moderate	0.372	Predictive
BI	0.517	Moderate	0.386	Predictive

The f2 measure follows a heuristic in which the values "0.02, 0.15, and 0.35" represent mild, moderate, and strong impacts, respectively. Table 6 indicates that satisfaction exerts a substantial influence, quantified at 0.799, on usage intention.

**Table 6. f Square Values**

<b>Dependent Variable</b>	<b>Value</b>	<b>Status</b>
FC → S	0.009	Weak effect
PE → S	0.119	Weak effect
EE → S	0.149	Weak effect
SI → S	0.058	Weak effect
S → BI	0.799	Strong effect
FC → BI	0.025	Weak effect

## DISCUSSION

The study meticulously examined the determining factors, specifically FC, PE, EE, SI, S, and BI, in relation to the gaming marketplace. Six hypotheses were firmly supported, offering insight into the influence of FC, PE, EE, and SI on S and BI. The beta coefficient score for facilitating situations was identified as the lowest. This situation may have arisen due to the maturity of the IT infrastructure, considering both the providers' perspective and the users' robust infrastructure for gaming. Effort anticipation emerged as the most significant variable influencing satisfaction. This discovery reinforces the hypothesis that the gaming marketplace is perceived as accessible. All antecedent satisfaction variables exhibited positive and significant influences. Moreover, contentment is established as the primary determinant of consumers' behavioral intentions in utilizing gaming marketplaces. This scenario presents a favorable opportunity for gaming marketplace suppliers to enhance existing strengths.

The model in this research can account for 51.7 percent of overall behavioral intention. This amount was deemed moderate, and the potential for 48.3 percent of contributions may arise from other variables. A range of recommendations was presented. The initial concept aimed to enhance the acceptance of the gaming sector by guaranteeing satisfaction. The gaming marketplace must incorporate client ratings to uphold satisfaction levels. The second recommendation addressed the

collaboration and coordination between game providers and marketplace suppliers. Collaborating to provide diverse user-friendly features would increase customer adoption of the game marketplace.

## CONCLUSIONS

This study aims to validate the characteristics that foster habit to enhance the modified UTAUT dimension. The model accounts for 51.7% of the total intention to utilize. The beta value of S at 0.667 indicates that satisfaction is the primary determinant in predicting usage intention. A range of recommendations was presented. The initial concept aimed to enhance the acceptance of the gaming sector by guaranteeing satisfaction. The gaming marketplace must incorporate user ratings to sustain satisfaction levels. The second recommendation addressed the collaboration and coordination between game providers and marketplace suppliers. Collaborating to provide diverse user-friendly features will increase customer willingness to engage with the game marketplace.

The study has various limitations, the primary one being a male-dominated gender composition. Attaining gender parity may produce innovative thoughts. The second aspect pertains to the regional context of the subject under investigation. Interacting with another nation can offer a fresh viewpoint. Therefore, future study may utilize multigroup analysis. The third component pertains to the analytical instrument, wherein the integration of additional analytical approaches, such as qualitative analysis, can augment the thoroughness of the analysis.

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## BIOGRAPHIES OF AUTHORS

	<p><b>Mohammad Fadhlor Rahman</b> is a doctoral student in Faculty of Economics and Business Universitas Airlangga. He obtains his master's degree in Master of Technology Management (MMT) Study Program under the management of the Department of Technology Management Institut Teknologi Sepuluh Nopember in Indonesia. The primary areas of his research interest include consumer behavior, and digital marketing.</p>
	<p><b>Tanti Handriana</b> is a faculty member and the Head of Doctoral Program of Management Science, Faculty of Economics &amp; Business, Universitas Airlangga. She obtained her doctoral degrees from Postgraduate Program Gadjah Mada University in Indonesia. The primary areas of her research interest include Green marketing, Relationship marketing, Green tourism, and Halal product.</p>
	<p><b>Dien Mardhiyah</b> is a faculty member and the Head of Study Program in Management Department, Faculty of Economics &amp; Business, Universitas Airlangga. She obtained her doctoral degrees from Postgraduate Program Gadjah Mada University in Indonesia. The primary areas of her research interest include Digital Marketing, Marketing Ethics, Halal Products, and Relationship Marketing.</p>
	<p><b>Satria Fadil Persada</b> is a faculty member in the Entrepreneurship Department of Bina Nusantara University (BINUS) in Indonesia. He obtained his PhD degrees from the Department of Industrial Management at the National Taiwan University of Science and Technology in Taiwan. The primary areas of his study focus include consumer behaviour, marketing management, and business research. By mid-2024, he has made contributions to 170 indexed Scopus articles, many of which have been published in reputable journals such as Journal of Cleaner Production; Research in Transportation Business and Management; Technology, Knowledge and Learning; Annals of Nuclear Energy; International Journal of Disaster Risk Reduction; International Journal of Precision Engineering and Manufacturing - Green Technology; Journal of Open Innovation: Technology, Market, and Complexity; Cogent Business &amp; Management, among others.</p>
	<p><b>Prawira Fajarindra Belgiawan</b> Fajar holds the position of faculty member in the School of Business and Management, Institut Teknologi Bandung, located in Indonesia. He obtained both his master's and PhD degrees from the Department of Urban Management at Kyoto University in Japan. Prior to his appointment as an assistant professor and lecturer at the School of Business and Management, Institut Teknologi Bandung (SBM ITB), he held positions as a postdoctoral researcher at Kyoto University and the Institute for Transport Planning and System (IVT), ETH Zurich. By mid-2024, she has made significant contributions to 52 indexed Scopus articles. The primary areas of his research focus include choice modelling, marketing, transport planning, and travel behaviour. The author's research has been published in esteemed journals including Transportation Research, Part A: Policy and</p>

	Practice, Transportation, International Journal of Sustainable Transportation, and Travel Behaviour and Society.
	<b>Ardvin Kester S Ong</b> is a faculty member affiliated with the Industrial Engineering and Engineering Management of Mapua University in the Philippines. He obtained both his master's and PhD degrees from the Industrial Engineering and Engineering Management of Mapua University. The primary areas of his study focus include machine learning, consumer behaviour, and human factors. In 2024, he was recognised as one of the world's top 2% scientists globally. By mid-2024, she has made significant contributions to 152 indexed Scopus articles, many of which have been published in prestigious journals such as Journal of Cleaner Production, Research in Transportation Business and Management, Annals of Nuclear Energy, International Journal of Disaster Risk Reduction, Journal of Open Innovation: Technology, Market, and Complexity, among others.
	<b>Michael Nayat Young</b> is the dean of the Industrial Engineering and Engineering Management department of Mapua University in the Philippines. His primary study focusses on consumer behaviour and financial behaviour. By mid-2024, she had made significant contributions to 120 indexed Scopus papers, many of which have achieved high q-rankings in prestigious journals such as the Journal of Cleaner Production, International Journal of Disaster Risk Reduction, Journal of Open Innovation: Technology, Market, and Complexity, among others.