# Measuring The Consumers' Satisfaction And Behavior Intention On Games Marketplace Technology Platform: A Perspective Of Two Combination Behavior Models

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**Abstract:** The present research investigates the behavioural perspective of consumers in terms of satisfaction and behaviour intention towards the Games marketplace technology platform (GMTP). Two behavioural theories, namely the Unified Theory of Acceptance and Use of Technology (UTAUT) and Expectation Confirmation Theory (ECT), were utilised as the development model. The model was tested to respondents in the developing country. A Structural Equation Model (SEM) with Confirmatory Factor Analysis (CFA) was used as the analysis tool. A total of 8 hypotheses were developed. The variables were instrumented through the questionnaire, and purposive sampling method was conducted. The result projects the respondents' behaviour in capturing their perceived towards the games marketplace. Four out of eight hypotheses were accepted. The Performance Expectancy has the most dominant value to Satisfaction, while Satisfaction has the direct dominant influence on Behavior Intention. Several discussions on theoretical and practical implications were noted.

**Index Terms:** Satisfaction, Behavior Intention, GMTP, Developing Country, UTAUT, ECT

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## 1 INTRODUCTION

Gaming industry becomes one of the hot sectors available since the rapid development of technology. Furthermore, the shifting of generations from dominated Baby Boomers as well as X generations into Millennials and Z takes the most significant steps towards the adoption of technology, where they are known as savvy technology generations. Thus, these generations will use many aspects of their life with technological touches, such as educational learning as well as playing game. This research will focus on the influence of gaming behaviour as the object of study. The development of gaming technologies is achieving the advanced stage, where most of the gamers do not need to take the physical platform such as CD or cassette to play. Most of the game developers currently use online media as the infrastructure to distribute the game. Not only because it is efficient, but also the infrastructures of digital are mature enough to be considered as the primary source of products' distribution.

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As a fact, the digital distribution in 2016 is worth USD 6.2 billion a month and increase about 9% a year worldwide [1,2]. This promising situation gives fresh air to every gaming provider to maximise the distribution channel through digital. Furthermore, the evolution of digital distribution reaches the situation where a digital marketplace is formed. The digital marketplace means a virtual location where the developer and the gamers can meet in the same place as a connection platform. The digital marketplace, or known as games marketplace technology, offers the benefits given by the marketplace concept such as direct communication, changing price, and of course, the selling process between developers and consumers. Several examples of games marketplace technology platform are PlayStation Store, Nintendo eShop, Uplay, Steam, and many more. Although digital media gives easy access to consumers, it does not mean that there is a guarantee of success in distributing the games. Several challenges must be prepared carefully such as user experiences [3], user engagement [4], or said as user centre behaviour. The present research measures consumers' behaviour in the games marketplace technology platform. Accurately, the satisfaction and behaviour intention will be assessed through two well famous behavioural models namely UTAUT 2 and ECT. The developing country namely Indonesia is used as the case study. Indonesia one of the largest developing country in Asia Pacific, where Asia Pacific is the most contributed earning regions in gaming industry [5]. Ensuring consumer behaviour will help the gaming industries as well as the consumers to get the maximum benefit. The maximum benefit will bring the sustainable ecosystem on this industry. The present research is arranged into several chapters. Chapter 2 discuss theories related to this research. Chapter 3 describes the methodological aspects to capture and analyse the data. Chapter 4 reveals the results and discussions related to findings. Chapter 5 encapsulated the overall insight.

## 2 LITERATURE REVIEW

### 2.1 Games Marketplace Technology Platform
Games marketplace technology platform (GMTP), or quickly said as digital games distribution platform is a virtual architecture that offers a suitable place for gaming developers as well as gamers. In GMTP, it creates the new doors for independent game developers as the third party to offer their products [6]. Developers do not have to take an effort to capture the potential consumers that the marketplace concept gives the pool of consumers. There are many large companies provide the GMTP platform such as Nintendo eShop, Playstation Store, Xbox Live Marketplace, Android Play Store, iOS App Store, Steam, and many more. The trends of GMTP still grow in recent decades as the internet infrastructures are getting mature [1,2], triggering a significant opportunity for optimum usage to every stakeholder in gaming industries.

### 2.1 UTAUT 2
Unified Theory of Acceptance and Use of Technology, or known as UTAUT, is a model developed by Venkatesh et al., as an evolution model from UTAUT [7]. The idea of the UTAUT model is to understand the individual acceptance and use of particular technology, where the complexity of factors will contribute to the individual perceptions. UTAUT comprises of four factors namely PE, EE, SI, and FC as shown in Figure 1 [7, 8]. PE can be described as the level of individual's perception where the particular system can enhance job performance. EE is known as the ease perceived by individual in associational of system usage. SI describes as the degree on how essential peers suggest using the system. FC explores the degree of resources and infrastructures perceived by the individual can support system usage.
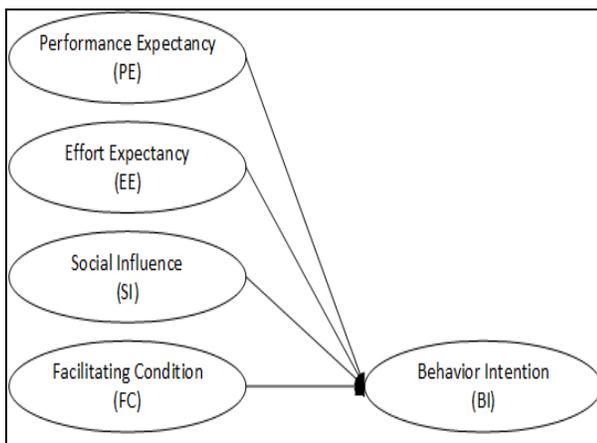


**Figure 1.** *UTAUT model by Venkatesh [7]*

Many empirical types of research have revealed the suitability of UTAUT 2 in described the users' behaviour on particular systems [9, 10], especially on gaming area [11-13]. The present research will combine the UTAUT 2 model with ECT model to explore the individual intention on GMTP.

### 2.2 Expectation Confirmation Theory
The present research will focus on the Expectation Confirmation Theory (ECT) proposed by Bhattacherjee [14]. In Bhattacherjee research, he argues on the idea of new ECT factors based on Confirmation (C), Perceived Usefulness/Performance Expectancy (PE) [8], Satisfaction (S), and Intention toward the particular system/behaviour (BI) as shown at Figure 2. The C factor can be seen as individual perception on congruence between expectation of system usage and its actual performance. PE is known similar to UTAUT definition, which it is known as the level of individual's perception where the particular system can enhance the job performance. The S Factor is the personal feelings on prior use of particular system. The PE factor is the performance expected by the user for using a particular system. BI is the depiction of likelihood in engaging to particular behaviour, which by this case is the usage system. Several previous kinds of research confirm the suitability of ECT in predicting system usage [15-18]. This research will combine the UTAUT model and ECT for model development.
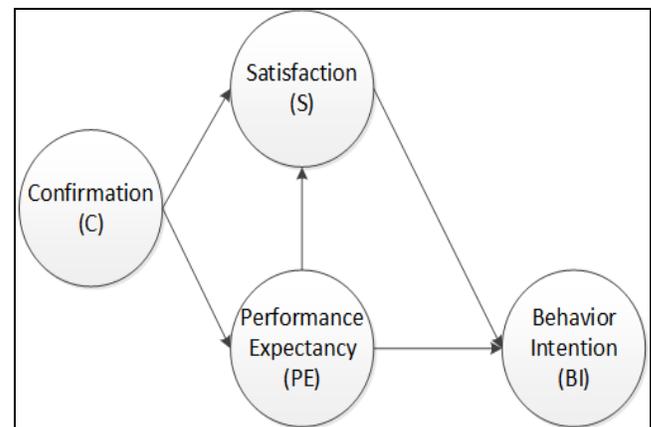


**Figure 2.** *ECT model by Bhattacherjee [14]*

## 3 METHODOLOGY

### 3.1 Model Development
The present research combines the two well-known models, namely UTAUT 2 and ECT. A total of 8 hypotheses are developed, as shown in Figure 3. The entire eight hypotheses are stated to have positive influences as follows.
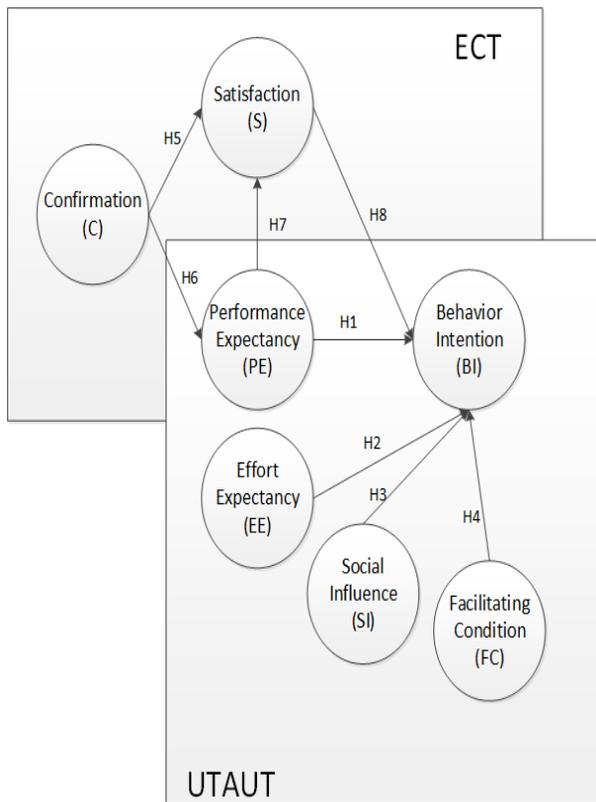
*Figure 3. Hypotheses model*

H1: PE has a positive influence on users' BI in using GMTP
H2: EE has a positive influence on users' BI in using GMTP
H3: SI has a positive influence on users' BI in using GMTP
H4: FC has a positive influence on users' BI in using GMTP
H5: C has a positive influence on users' S in using GMTP
H6: C has a positive influence on users'' PE in using GMTP
H7: PE has a positive influence on users' S in using GMTP
H8: S has a positive influence on users' BI in using GMTP

**3.2 Instrument Development**
The measured factors were captured through questionnaires. The instrument of questionnaire was distributed through an online form. The operational variables of the questionnaire are shown in Table 1. The questionnaire distribution was gathered in span of two months, ranging from October to November 2019. The data was captured by using online questionnaire with the purposive sampling method. The purpose indicators have consisted of two requirements. The first requirement expects the respondents in experiencing the system usage personally. The second requirement requires the respondent to experience a particular platform. The platform is covered due to confidentiality and privacy concern, which the name is changed to GMTP. The questionnaire comprises of two sections. The first section asks about the respondents' demography, while the second section asks the operational variables. The operational variables were measured by using five-point Likert scale, ranging from 1 as "I strongly disagree" to 5 as "I strongly agree". The model was analysed by using Structural Equation Model (SEM) with confirmatory factor analysis (CFA). The SEM analysis is a multivariate data analysis type, while CFA is the confirmation technique in justifying the proposed development model.

*Table 1. Operational variables on this research*

| Indicators | Questions |
|---|---|
| PE1 | GMTP is a platform that is very useful for my gaming usage. |
| PE2 | GMTP will help me in accessing many games easily. |
| PE3 | Using GMTP can enhance my gaming usage. |
| PE4 | Using GMTP can help me to operate my game. |
| EE1 | It is easy for me to learn in operating GMTP. |
| EE2 | The instruction of GMTP is easy to follow. |
| EE3 | According to me, GMTP is easy to operate. |
| EE4 | It is easy for me to become skilled in operating the GMTP. |
| SI1 | I use GMTP because many of my colleagues use this platform. |
| SI2 | The people surrounding me suggest using GMTP. |
| SI3 | The people near me support the GMTP usage |
| SI4 | In my perception, the people I valued also using GMTP. |
| FC1 | I have all the resources to use GMTP. |
| FC2 | I am able to operate GMTP. |
| FC3 | There are guidance and tutorial to use GMTP |
| FC4 | There is a representative in helping me if I face trouble in using GMTP |
| BI1 | I planned to use GMTP as my gaming platform |
| BI2 | I always use GMTP as my gaming platform |
| BI3 | I will frequently use GMTP for my gaming platform. |
| BI4 | GMTP is my first choice for gaming platform. |
| C1 | In my experience, using GMTP exceeds my expectation. |
| C2 | The service level of GMTP is more than I expected. |
| C3 | Overall, my expectation for GMTP is answered well. |
| C4 | The support provided by GMTP confirmed pleasantly. |
| S1 | I really satisfied in using GMTP |
| S2 | I really happy in using GMTP |
| S3 | My experience in GMTP is enjoyable |
| S4 | Not a single moment I confuse about using GMTP. |

## 4 ANALYSIS AND DISCUSSION

**4.1 Descriptive and Structural Model Analysis**
The present research captures a total of 60 respondents to participate voluntarily. The respondents consist of 54 employed people and six unemployed for the rest. The frequency of system usage is dominated by 1-5 times usage a month with 30 people, followed by more than ten usages a month by 22 people, and 6-10 times usage a month with eight people. The duration of system usage is dominated by 2-3 hours a day with 25 people, an hour a day with 17 people, more than 4 hours a day with 12 people, and 3-4 hours a day with six people. The financial transactions are majored by bank transfer with 29 people, visa and MasterCard for eight people, credit card by six people, and 17 people with other payment methods. The first validation of SEM analysis is the data fit tests. The data fit tests consist of reliability and discriminant validity, which they are presented by Cronbach Alpha (α), Composite Reliability (CR), and the Average Variance Extracted (AVE). The CR and Values are developed from Factor Loadings, which therefore the values are included. The first iteration from data fit test produces some values below the threshold. Therefore we eliminated it and performing the second iteration. The second iteration values are shown in Table 2. The majority of factor loadings are good enough with the rule of thumbs of 0.7. There are several values that the value falls to 0.5. The falling value, however, still acceptable as the threshold point [19]. Consequently, the FC value will have the weakest value in terms of reliability and discriminant validity.

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***Table 2**. Data fit result*

| Item | FL | A | CR | AVE |
|------|------|------|------|------|
| PE1 | 0.91 | 0.75 | 0.79 | 0.65 |
| PE2 | 0.69 | | | |
| EE1 | 0.90 | 0.80 | 0.82 | 0.61 |
| EE2 | 0.71 | | | |
| EE4 | 0.71 | | | |
| SI2 | 0.79 | 0.81 | 0.82 | 0.69 |
| SI3 | 0.87 | | | |
| FC2 | 0.75 | 0.58 | 0.59 | 0.43 |
| FC3 | 0.54 | | | |
| BI1 | 0.86 | 0.89 | 0.89 | 0.72 |
| BI2 | 0.76 | | | |
| BI3 | 0.92 | | | |
| C1 | 0.65 | 0.71 | 0.74 | 0.59 |
| C2 | 0.87 | | | |
| S1 | 0.86 | 0.91 | 0.92 | 0.85 |
| S2 | 0.98 | | | |

The subsequent analysis is model fit test. The result shows Goodness of Fit Index (GFI) provide the adequate value of 0.7 [20], which can be said that the model is relatively able to represent the fit in presenting the real situation. The SEM result exhibits the positive values for the majority hypotheses, except for the H1 and H2 as it can be seen in Figure 4. Therefore, both H1 and H2 are rejected by negative values. By conducting bootstrap, the significant hypotheses values are shown in Table 3. The total of four hypotheses is accepted, while the four others are rejected. The total squared multiple correlations of BI factor from this model is 0.444. The value indicates predictors of BI explain 44.4 per cent of its variance. In other words, the error variance of BI is approximately 55.6 per cent of the variance of BI itself.
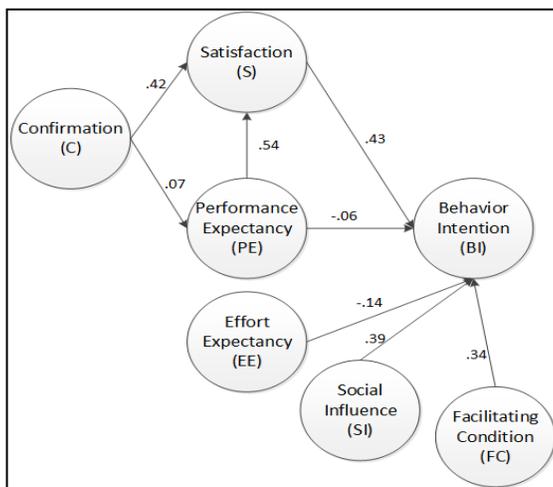


***Figure 4**. Model Result*

***Table 3**. Significant Hypotheses*

| No. | Hypotheses | Value | Status |
|------|------------|------|--------|
| 1. | H1: PE → BI | 0.69 | Rejected |
| 2. | H2: EE → BI | 0.51 | Rejected |
| 3. | H3: SI → BI | 0.01 | Accepted |
| 4. | H4: FC → BI | 0.22 | Rejected |
| 5. | H5: C → S | 0.02 | Accepted |
| 6. | H6: C → PE | 0.70 | Rejected |
| 7. | H7: PE → S | 0.00 | Accepted |
| 8. | H8: S → BI | 0.05 | Accepted |

## 4.2 DISCUSSION

The first insight taken from the model result is the direct dominant influence of S factor to BI ($\beta$= 0.43), which indicates the majority of respondent intent to use the GMTP due to the satisfaction with the system. The most dominant influence occurs on PE to S ($\beta$= 0.54), which means excellent performance leads to users' satisfaction. The exciting findings from this analysis are the negative values of PE to BI ($\beta$= -0.6) and EE to BI ($\beta$= -0.14). A possible reason is when the performance and expectation are high and expectation, the users will reach the tedious phase. Thus, the BI will decrease. Another possibility is the significance values, which makes the negative values of PE and EE are not significant enough. The possibility of changing the negative into positive values are high until the significant value reach the 0.05 error rate (e.g. by adding more respondents). Last but not least is the contribution of this model explains 44.4 per cent of total users' behaviour intention in using GMTP.

## 5 CONCLUSIONS

This research contributes to the idea of measuring users' behaviour intention on GMTP. A combination of UTAUT and ECT models able to generate the users' perceived on measured factor. Four out of eight hypotheses are accepted. The dominant value is reflected through PE to S influence, while the direct domination is shown on S to BI influence. The idea of Performance lead to Satisfaction as well as Satisfaction to Behavior Intention can be used as the GMTP provider to exploit these relationships. The study has several limitations, where the first limitation is regarding the respondent number. Adding the number will better validate the robustness of the assessment. The second limitation is related to the exploration factors. Thus, adding more factors will enhance the analysis into broader perspectives.

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