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Customer Intention to Play Mobile Social Games in Indonesia

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Abstract: The main purpose of this study is investigating the influence of network externalities, Individual gratifications and time flexibility on the intention to play mobile social games in Indonesia. The data is collected from online closed-ended questionnaire which distributed to 202 respondents from many provinces in Indonesia. The questionnaire consist of 18 questions that related with all four variables in the study. The results from Smart PLS analysis indicated that network externalities have positive and significant effect to individual gratifications and time flexibility but have not significant effect on to the intention to play mobile social games. Meanwhile, Individual gratifications and time flexibility has a positive and significant effect to the intention to play mobile social games.

Key words: mobile social games; network externalities; individual gratifications; time flexibility; intention to play

JEL code: M5

1. Introduction

Mobile technology usage has already been a part of how society spend every day in their daily life activity. According to the market tracker iSuppl Corporation (2010), smartphone shipments are expected to rise 105 percent within a five-year span, from 246.9 million in 2010 to 506 million units in 2014. We can utilize smartphones to connect with ourselves in various sorts of exercises whenever and anywhere. With the support of a better internet providers to able users with 3G and 4G features, also increases the demand of new mobile applications, it leads to one of the usages of mobile technology refer to entertainment purpose.

Most people from all ages who use mobile device play mobile games in this

era, what's interesting is how some games could attain the intention from the mobile device users to play the game. A whole new perspective comes when we talk about mobile social games, a game application that let people interact within the game. Not only it provides a great interaction within, it also easy to approach and playable with friends.

Among the Southeast Asia Countries, Indonesia dominates the total mobile game market with 30.7 million players, of which 49% are payers (mobile games in or out purchases). Even Thailand and Singapore, two of the biggest contributors in game development, have a smaller number of players and payers compared to Indonesia

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(Umi et al., 2018).

This study aims to dig in the intention to play to the understanding of how the variables adopted, which are network externalities, individual gratifications and the mobile device features of socially interactive games can help service providers design their games to satisfy players more effectively.

2. Literature Review

People intended to use particular product or service when more other people also use it especially their social group also use it (Kraut et al., 1998). When the number of mobile device users reaches a critical mass, the device generates more benefits, providing users with more convenient communication, and a wide scope of use (Wei & Lu, 2018). Network externalities are essentials when participate in a network benefits others in the network and the value of the network grows as the number of members in the network increases (Song & Walden, 2007). Therefore, became reasonable to assume that when users perceive that more friends in their social circles play the same mobile social games, the users can interact more readily with friends or strangers at any time and fulfill their entertainment needs, which in turn further enhances user's intention to play the game. Based on the explanation above, this research proposes the following hypotheses:

Hypothesis 1a: Network externalities have a positively affect to the intention to play mobile social game application

Hypothesis 1b: Network externalities have a positively affect to individual gratifications

Hypothesis 1c: Network externalities have a positively affect to time flexibility.

The mobile games users continue to play online games with positive attitudes and stronger motivations if they derive more intense perceive enjoyment from it (Chou & Tsai, 2007). Wang & Li (2012) stated perceived enjoyment as the most influential factor that positively affected consumer's intention to purchase mobile value-added services. However, the stronger the degree of gratification, the greater the intention to play mobile social games. Therefore, this research hypothesizes as follow:

Hypothesis 2: Individual gratifications will positively affect the intention to play mobile social games.

Mobile social games provided on several tools such as smartphones, computers tablet, and other hand-held computing devices. The mobile device features are more accessible, mobile, portable, and convenient than other game platforms and allow users to enjoy games without the constraints of time or space. The Accessibility and time flexibility have attracted many people to play mobile games. Therefore, this research hypothesizes as follow:

Hypothesis 3: Time flexibility will positively affect the intention to play mobile social games.

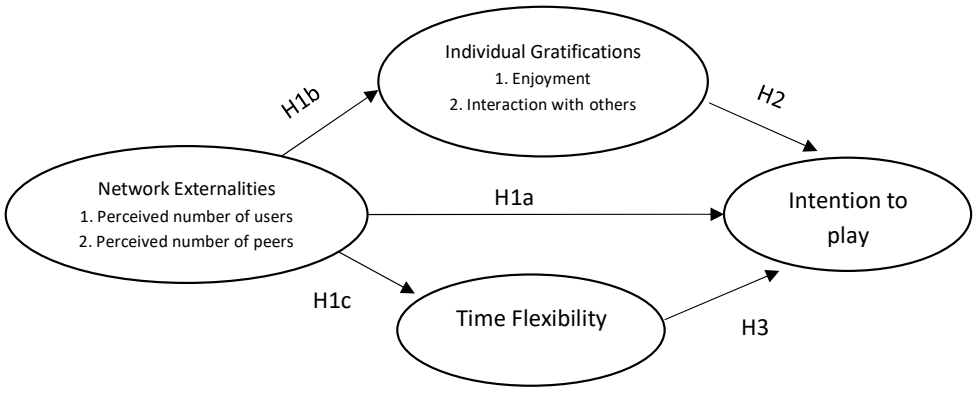

Figure 1 Research Framework

3. Research Methodology

The data of this study is collected by distributed a questionnaire to 220 respondents. The questionnaire has advantages because it contains effective and efficient information in accordance with the research objectives (Abdillah & Jogiyanto, 2015, p. 52). The questionnaire applied in this study was included in a closed-ended questionnaire. Closed-ended questionnaire means the researcher directs the respondent to answer or argue based on the choice of answers provided by the researcher in the questionnaire (Abdillah & Jogiyanto, 2015, p. 52). Closed-ended questionnaire consists of several statements with a number of options that have been determined. Later respondents were asked to answer by marking the option that was most appropriate for them (Suwartono, 2014, p. 53).

The questionnaire consists of two parts. The first part is containing the filter question and the respondent's profile. It contains a question of whether the respondents is an active mobile device users and questions related to the profile of the respondents that consists of age, gender and how many hours they Spent a day to play mobile games. The second part contains 18 questions related to all four variables in this study, which is divided into six parts 3 questions of perceived number of users, 3 questions of perceived number of peers, 3 questions of enjoyment, 3 questions of interaction with others, 3 questions of time flexibility and 3 questions of intention to play. Then, the authors simplified and translate it into Bahasa Indonesia to help the respondent on answering the question.

The Likert Scale 1 to 5 is used as the scaling tools. This scale indicates the degree of agreement or disagreement of the respondent towards the statement of the third part of the questionnaire. The answer from every variable item is used to statistical analysis.

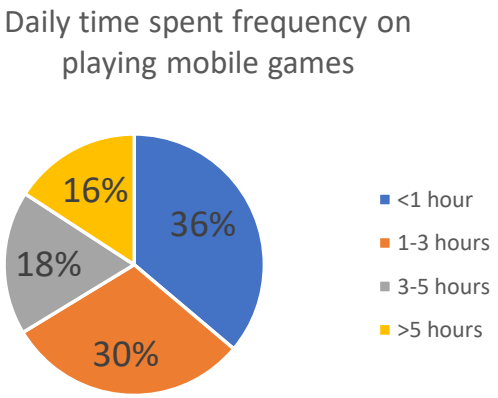

Figure 2 Time Spending for Playing Game

4. Data Analysis

Data analysis method used in this research is Structural Equation Modeling Partial Least Square (SEM-PLS). It is a powerful analytical method because it can be applied to all types of data scales, it does not require a lot of assumptions and the sample size does not have to be large. Besides being able to be used as a theoretical confirmation, SEM-PLS can also be used to build relationships that do not yet have a theoretical basis or are commonly used for testing propositions (Mindra Jaya & Sumertajaya, 2008) that consist of six steps: designing inner model, designing outer model, constructing part diagram, estimation, goodness of fit and hypothesis test.

The data collected in this study is subjected to several tests, Convergent Validity Test, Discriminant Validity Test, Composite Reliability, Cronbach's Alpha, and Average Variance Extracted (AVE). According to Ghozali and Latan (2015, p. 76) the rule of thumb commonly used to assess convergent validity is loading factor whose value must range between > 0.70 and > 0.60 to be accepted. However, in the initial research stage of development, an outer loading measurement scale of 0.5-0.6 is still acceptable and considered sufficient.

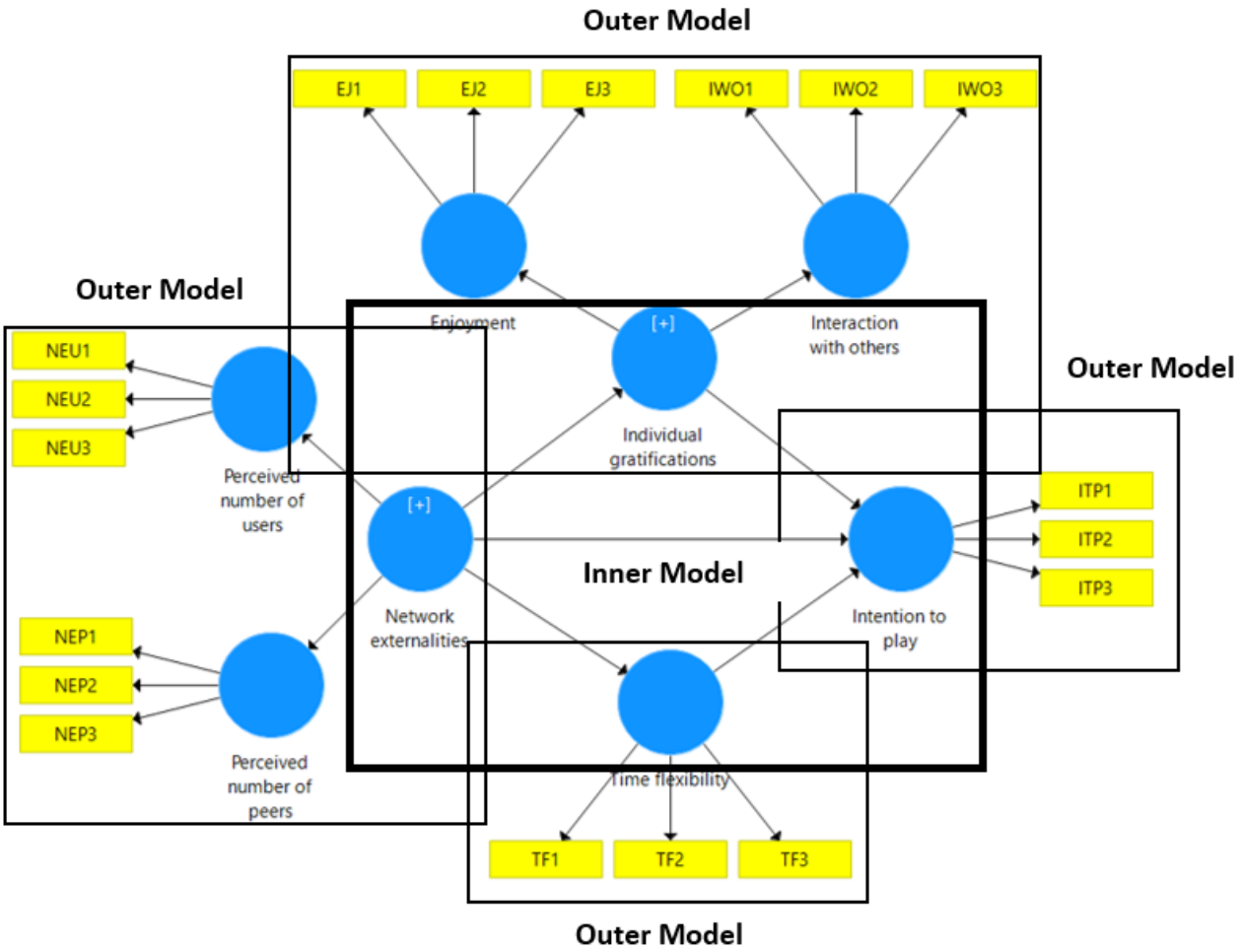

Figure 3 Part Diagram

How to test the discriminant validity is by looking at the value of cross loading. For each variable that is required to be above 0.7 and another method of testing discriminant validity is to compare the square root of AVE for each construct in the model that can be seen in table Fornell Lacker Criterium. Good discriminant validity is shown from the AVE square root of each construct greater than the correlation between constructs in the research model.

According to Ghozali and Latan (2015, p. 75) a reliability test was conducted to prove the accuracy, consistency, and determination of the instrument in measuring a research construct. In measuring the reliability of a construct, it can be done in 2 ways, which is by looking at the value of Cronbach's Alpha and Composite Reliability. A research model is considered reliable if it meets the Rule of Thumb, whereas Cronbach's Alpha values above 0.6 and Composite Reliability values above 0.7.

Table 1 Cross Loading

	Network Externalities (NEP, NEU)	Individual Gratifications (EJ, IWO)	Time Flexibility	Intention to Play
NEP1	0.691	0.18	0.242	0.133
NEP2	0.833	0.338	0.316	0.254
NEP3	0.701	0.378	0.147	0.289
NEU1	0.565	0.133	0.098	0.064
NEU2	0.763	0.328	0.219	0.250
NEU3	0.765	0.319	0.109	0.245
EJ1	0.337	0.798	0.172	0.611
EJ2	0.318	0.79	0.256	0.576
EJ3	0.314	0.828	0.214	0.695
IWO1	0.299	0.817	0.183	0.468
IWO2	0.338	0.835	0.28	0.504
IWO3	0.338	0.841	0.299	0.524
TF1	0.128	0.188	0.697	0.243
TF2	0.292	0.292	0.817	0.295
TF3	0.086	0.06	0.69	0.127
ITP1	0.243	0.675	0.294	0.937
ITP2	0.288	0.643	0.302	0.942
ITP3	0.301	0.623	0.329	0.937

Table 2 Fornell-Larcker Creterium

	Individual Gratifications	Intention to Play	Network Externalities	Time Flexibility
Individual gratifications	0.819			
Intention to play	0.690	0.939		
Network Externalities	0.396	0.294	0.724	
Time flexibility	0.286	0.328	0.267	0.737

Table 3 Reliability Test

	Cronbach's Alpha	Composite Reliability
Individual Gratifications	0.901	0.924
Intention to Play	0.933	0,957
Network Externalities	0.815	0.867
Time Flexibility	0,629	0.780

Evaluating the inner model or the structural model is done to see the relationship between variables, which can be seen from the R-Square of the model.

The higher the value of R-Square, the results will be better because it shows how well a construct explains other constructs. Based on It can be seen that the R-Square value for the intention to play variable is 0.495 (49.5%). From this value it can be explained that the intention to play variable can be explained by individual gratifications, network externalities, and time flexibility by 49.5% while the remaining 50.1% is explained by other variables outside the research model.

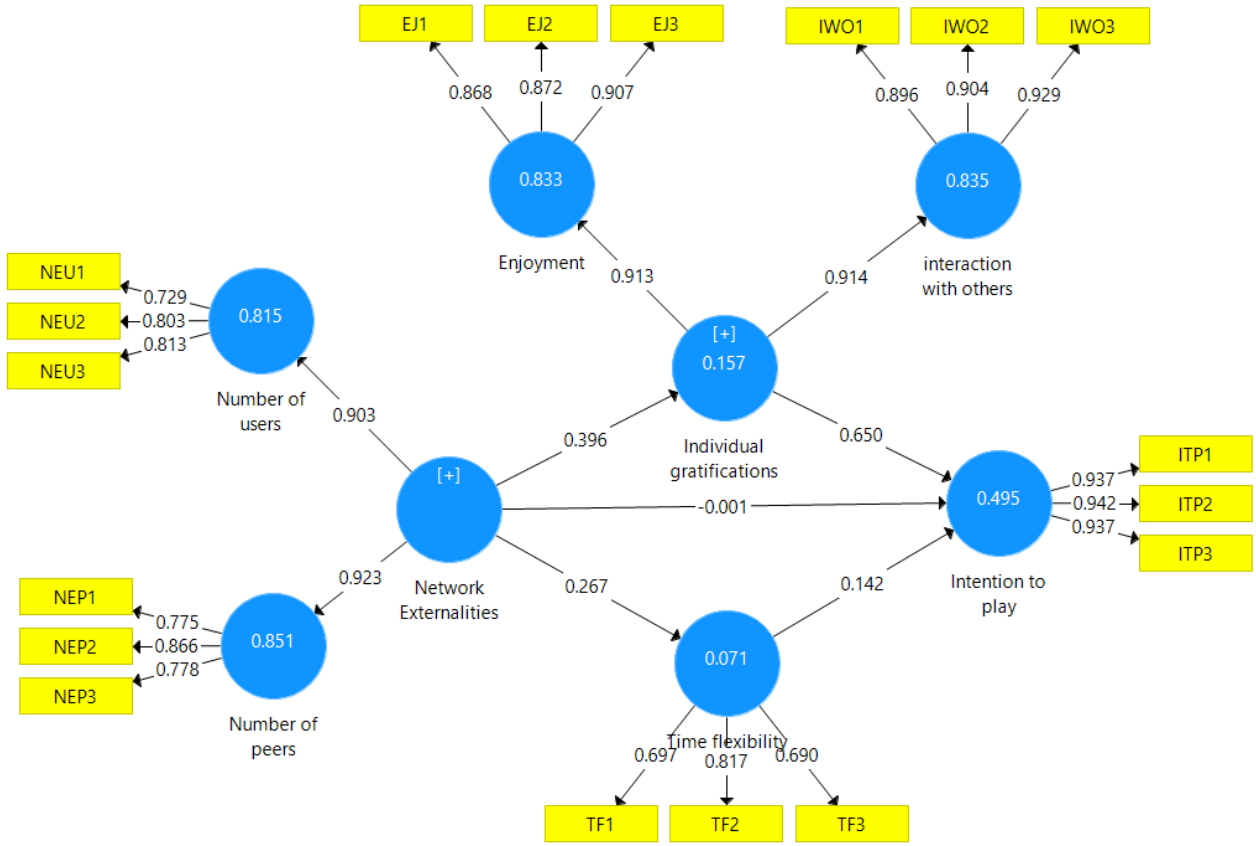

Figure 4 Structural Model

According to Ghozali and Latan (2015, p. 80) this study will use the rule of thumb evaluation of structural models with a confidence level of 95% (alpha= 5%) and 90% (alpha = 10%) and will compare t-statistics with t-tables (t-table for 5% = 1.96 and t-table for 10% = 1.65) where t-stat > 1.65 (alpha = 10%) and t-stat > 1.96 (alpha = 5%) and compare p-values with a significant level of 5% with p-values < 0.05 and a significance level of 10% with p-values < 0.1. Below is the Path Coefficient table data from the bootstrapping method found in SEM-PLS.

5. Conclusion and Further Study

Based on the results of data analysis, the study can conclude as follows: Network externalities will positively affect the intention to play mobile social game application. Network externalities will positively affect individual gratifications. Network externalities will positively affect time flexibility. Individual gratifications will positively affect the intention to play mobile social game application. Time flexibility will positively affect the intention to play mobile social game application.

From a methodological point of view, in this research, the objective is to analyze an examination of network externalities and of uses and gratifications on the people intention to play mobile social games in Indonesia. The respondents of this research is limited to people who aged 19-25 only, therefore it is better for future research to broaden the category of the respondents to see more diverse answers of the respondents. Demographic variable that is used in this research is only age, income, and gender. Future research can add more demographic factors,

because the results could be different based on each respondent.

The future research can choose one specific games as the object of the research, for example one specific kind of games or brand. So, the questionnaire can be clearer of what kind of products does the researcher referring.

Table 5 Part Coefficient

	Beta	T Statistics	P Values	
Individual gratifications -> Enjoyment	0.913	71.788	0.000*	Significant
Individual gratifications -> interaction with others	0.914	68.241	0.000*	Significant
Individual gratifications -> Intention to play	0.650	11.216	0.000*	Significant
Network Externalities -> Individual gratifications	0.396	5.212	0.000*	Significant
Network Externalities -> Number of peers	0.923	72.471	0.000*	Significant
Network Externalities -> Number of users	0.903	54.629	0.000*	Significant
Network Externalities -> Time flexibility	0.267	3.844	0.000*	Significant
Network Externalities -> Intention to play	-0.001	0.012	0.990*	Not Significant
Time flexibility -> Intention to play	0.142	1.832	0.068*	Significant

>1.96* >1.65** Significant <0.05* < 0.1**.

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