

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Mobile games**

Mobile application are the most common way of mobile application and mobile tools are the first tools for user interaction. Uses mobile application to access various information about users. Additionally, users are searching to select suitable application among millions (Wang, 2017). Nysveen et. al. (2005), Showed that although consumers use all services on mobile devices, entertainment and game services are primary selected. Recently, mobile games as a popular culture product especially among young people within the scope of mobile applications have become one of the most important mobile marketing and advertising tools.

A mobile game is a video game application base played on a mobile device. In late 2007, the appearance of smartphones feature makes mobile gaming accessible and available to play for the users. Today mobile device users can play a greater variety of games not only simple, embedded games but also games on downloaded apps (Feijoo, 2012). Mobile games could be defined as game application than could be played on portable, wireless devices such as smartphones and tablets.

Mobile games seem to be more casual and have an easy learning curves than hardcore gaming. They allow the users to play the games in short periods of time, more accessible and convenient for the users to play than other gaming platforms. Mobile games still have a lot opportunity to

develop and gain in the market. Mobile gaming is playing an increasingly important role in the entertainment industry.

Consumers feel more engaged and less stressed on games than on social apps. Mobile games put consumers in a different mindset and apparently a much better mood than social apps.

## **2.2 Mobile Social Games**

Major technology advancements and new backing from leading gaming and entertainment forces are delivering the social shot in the arm. With social technology driving a more connected mobile gaming ecosystem, mobile games have already surpassed PC and console games in terms of revenue – and just getting warmed up.

Social games are a subset of digital games. Social games can be defined as games that use an external social network of some type to facilitate the user's interactions with another player or other players; these social interactions help driver adoption of the game and retain players (Fields & Cotton, 2012). Social games refers to game applications that are integrated in social networking platforms and are different from other computer games in that they are social platform based; involve multiple players; use real-name identities; and are casual games (Hou, 2011). The differences of social games with other gaming modalities is the fact that they are social platform based, multiplayer and reveal the real identity of the player (Sampat & Krishnamoorthy, 2016). Social games enable players

to interact with their online friends, old classmates, colleagues, and family member.

Mobile social games allow the users to match with friends and interaction with other players. Despite to play against a machine, mobile social games are built to be enjoyed and shared with other people. This kind of games represent a fast-growing phenomenon. One of the most popular mobile games in Indonesia is Mobile Legends. Mobile social games are kind of mobile games which allow the users to match with other users from not only different city but also different country. This is a kind of game which must be played in team, so the users must be play in team, either make their own team mates or automatically set up into a team mates. The Mobile legends also offer a feature chat room which help the users to communicate with other users. Through the chat room, the users can decide and discuss their role in that team, also can set their strategy to destroy their enemy base.

Gaining awareness with real people in virtual reality may enhance feelings of social presence and enjoyment (Heeter, 1992). Play a game against another person or other people leads more excitement, experienced fun and less boredom (Mandryk, Inkpen, & Calvert, 2006). However, the important of social effects has been acknowledged, and playing mobile games can fulfill their social presence and enjoyments.

### 2.3 Network Externalities

People consider to use a particular technology when they perceive that many people also use the same technology, especially when many people in their social groups use it (Kraut, Rice, Cool, & Fish, 1998). Researchers consider network externalities an important factor affecting individual's use of information technology. (Gupta & Mela, 2008). The term "network" implies connectivity among those who purchase a particular product. The term "network externalities" implies that personal consumption not only benefits the individual who purchases or consumes it but also affect others (Chiaravutthi, 2002). Network externalities describe how an individual's use of a product or services which changes according to the perceived number of other users of that product or service, the individual's use might be increase if more other individual also using it (Economides, 1996). Network externalities that a user sees as a result of others use of a product and similar or compatible product.

There are three factors of network externality that affects the user's future intention to use network services, such as: total network size, local network size, and network strength (Chun & Hahn, 2007). Scholars have also maintained that an individual's intention to use a social networking site, which is a pleasure-oriented information systems, increases when its participants reach a significant number, especially when more peers join (Baker & White, 2010) .

Mobile devices have developed as media for people to interaction and socializations among friends and strangers. Mobile devices support the users to easily interact, communicate and share with others.

## **2.4 U&G**

Uses and gratification theory is relevant as the communications based in mobile games. U&G approach refers to the people use the media to gratify their needs and this will reinforce their repeat media use if their needs are satisfied. The basic premise of uses and gratifications theory that individuals will seek out media among competitors that fulfills their needs and leads to ultimate gratifications (Lariscy et al., 2011). In light of this, players will return to the same mobile game if their need are gratified through game playing. Mobile games played on mobile devices are new, experience-oriented media that fulfill players' particular needs; thus the U&G perspective can be applied to mobile entertainment.

There are three categories of online game player gratifications: social interaction, enjoyment, and achievement (Wu et al., 2010). Social interaction means socializing and building relationships with others (Kim & Kim, 2010; Koo, 2009) enjoyment has been extensively shown as a strong determinant of the intention to use hedonic information systems (Turel et al., 2010; Van der Heijden, 2004) the achievement component involves the desire to gain power, to gather valuable performance points, and to compete successfully with other players (Hartmann & Klimmt , 2006). however uses and gratification on the

usage of mobile social games application were never conducted in this research area before. In this case this element is relevant.

## **2.5 Mobile device features**

Mobile device features always related with the enhancement of efficiency technology. Mobile device are about saving time, varying location, and convenience (Dong et al., 2012). Mobile device service features keeps improving from time to time, making sure every users connected with each others and also helps to manage everyday life. Mobile gaming industry simultaneously evolve with the help of the spread 3G and 4G services to become more professional to the always make users always connected. With mobile devices, they provide users the opportunities to play anywhere at any time conveniently. Convenient value is the main driver for mobile phone usage (Liu, 2010)

## **2.6 Social games purchasing behavior**

Hand in hand with the increases of the people intention to play, the people intention to spend money within the mobile social games increases too. Researchers have found that “social” factors contribute to purchasing intentions of virtual goods in an online game, high real-money spenders were buying items for visual customization while low spenders were buying consumable items necessary to sustain playing the game (Wohn, 2014). Moreover, sales of virtual goods can be seen only in massively multiplayer online games (mobile social games) (Greengard, 2011).

Social motivations have been found to be associated with spending (Wohn, 2014) and social presence in a virtual environment has also been found to be positively correlated with purchasing intention (Jin, 2009). That's why, the more intention of people playing mobile social games by social factors can raise a high degree of continuity to people intention to spend money within the mobile social games.



## 2.7 Previous Research

Table 2.1  
Previous Research

Title & Author	Hypothesis	Variables	Research Method	Result	Implication
<p>Why do people play mobile social games? An examination of network externalities and of uses and gratifications</p> <p>Pei-Shan Wei and His-Peng Lu (2014)</p>	<p>H1.a Network externalities will positively affect the intention to play</p> <p>H1.b Network externalities will positively affect individual gratifications</p> <p>H1.c Network externalities will positively affect time flexibility</p> <p>H2. Individual gratifications will positively affect the intention to play</p> <p>H3. Time flexibility will positively affect the intention to play</p>	<p><b>Dependent</b> Intention to play</p> <p><b>Independent</b> 1. Network externalities 2. Individual gratifications 3. Time flexibility</p>	<p>1. This research using partial least square (PLS) with second order factors</p> <p>2. The total respondents of this research were 253 respondents</p> <p>3. the data collected through 5 Likert Scale questionnaires</p>	<p>All hypotheses were positively significant at the <math>p &lt; 0.05</math> level or above.</p>	<p>This research aims: Network externalities have received a considerable amount of attention in traditional communication and information systems, this indicates that two factors of network externalities- perceived number of users and perceived number of peers- have significant effects on individual gratifications, time flexibility and intention to play.</p>

**Table 2.2**  
**Previous Research**

Title & Author	Hypothesis	Variables	Research Method	Result	Implication
<p>Factors Influencing User's Intention to Play in Innovation Mobile Gaming Usage Case Study of Valve in Indonesia</p> <p>Jason A. L. Mustika S. P. Established (2016)</p>	<p>H1. Network externalities will significantly influencing positive affect the intention to play mobile games</p> <p>H2. Time Flexibility is significantly positive related to intention to play mobile games</p>	<p><b>Dependent</b> Intention to play</p> <p><b>Independent</b> 1. Perceived Enjoyment 2. Time Flexibility 3. Subject Norm 4. Network Externalities 5. Flow Experience 6. Attitude</p> <p><b>Object</b> Mobile Games Valve</p>	<p>1. This research using SPSS with multivariate analysis to analysis the data.</p> <p>2. The total respondents of this research were 420 respondents</p> <p>3. the data collected through 7 Likert Scale questionnaires</p>	<p>1. Network Externalities has no influence toward intention to play mobile games.</p> <p>2. Time Flexibility is strongly influence the intention to play mobile games.</p>	<p>This research aims:</p> <p>1. Network externalities has no influence because the study was conducted before was done for online games which mostly consists of network of players and sophisticated games. It may concluded that the main factors that determines the customer preferences when it comes to mobile games are the price, the genres of the game, and the appeal more customers and generate more profits on their products.</p>

**Table 2.3**  
**Previous Research**

<b>Title &amp; Author</b>	<b>Hypothesis</b>	<b>Variables</b>	<b>Research Method</b>	<b>Result</b>	<b>Implication</b>
<p>Motivations for Social Network Site (SNS) Gaming: A Uses and Gratification &amp; Flow Perspective</p> <p>Brinda S. Bala K. (2016)</p>	<p>H1. Gamer's initial gratifications will positively affect their continuance motivation in playing the game</p>	<p><b>Dependent</b> Continuance to play the game</p> <p><b>Independent</b> 1. Gratification 2. Flow 3. Immersion 4. Word of Mouth</p>	<p>1. This research using SPSS version 19 to analysis the data. 2. The total respondents of this research were 242 respondents 3. The data collected through 5 Likert Scale questionnaires</p>	<p>1. Gamer's initial gratifications positively affect the continuance to play the game</p>	<p>This research aims: The variables gratification had a strong and a significant relationship with the continuance to play the game</p>

**Table 2.4**  
**Previous Research**

Title & Author	Hypothesis	Variables	Research Method	Result	Implication
<p>Consumer Behavior of Electronic Game's Players: A Study on the Intentions to Play and to Pay</p> <p>Lucas Lopes F. S Ana Augusta F.F Established (2016)</p>	<p>H1. Time Flexibility Positively Affects the Intention to Play</p>	<p><b>Dependent</b> Intention to Play</p> <p><b>Independent</b></p> <ol style="list-style-type: none"> <li>1. Time Flexibility</li> <li>2. Arousal</li> <li>3. Challenge</li> <li>4. Competition</li> <li>5. Diversion</li> <li>6. Fun</li> <li>7. Fantasy</li> <li>8. Social Interaction</li> </ol> <p><b>Object</b> Electronic Games in Brazil</p>	<p>1. The Analysis tools of this research were correlations, regressions, and descriptive research</p> <p>2. The total respondents were 600 participants</p> <p>3. The data collected through 5 Likert Scale questionnaires</p>	<p>1. The Time Flexibility does not give any effects to the Intention to play</p>	<p>This research aims that: The study focused only on players of electronic games and their motivation to play games. Based on the result, the 35% of the respondent play more than once a day, and most of the players play between 3 and 6 h. This indicates a highly active player profile but not represent the time flexibility.</p>

## 2.8 Hypothesis Development

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 wider scope of use (Wei & Lu, 2018). Network externalities are essential 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:

***H1a. Network externalities will positively affect the intention to play mobile social game application***

***H1b. Network externalities will positively affect individual gratifications***

***H1c. Network externalities will positively affect time flexibility.***

The mobile games users continue to play online games with positive attitudes and stronger motivations if they derive more intense perceived 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 the following:

***H2. Individual gratifications will positively affect the intention to play mobile social game application***

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 the following:

***H3. Time flexibility will positively affect the intention to play mobile social game application***

## 2.9 The Conceptual Model

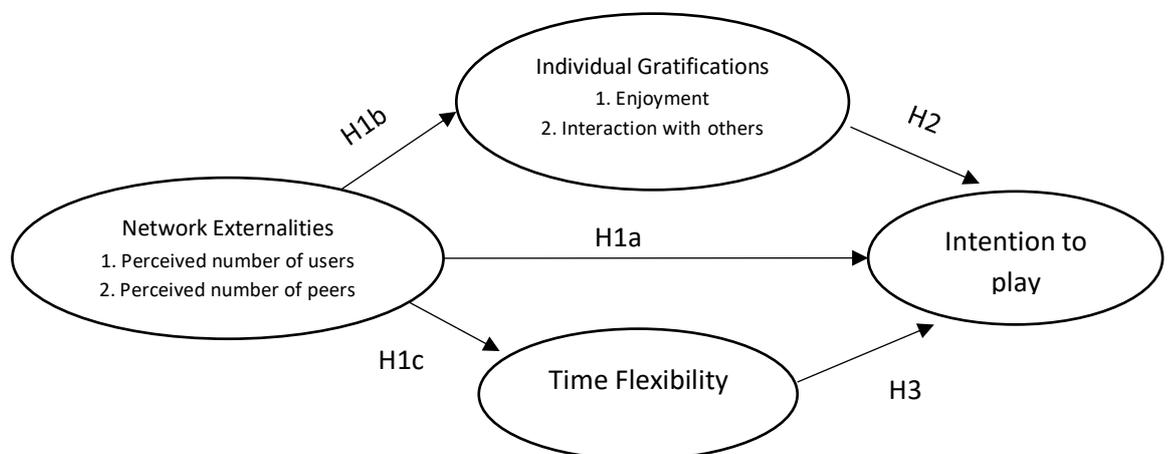


Figure 2.1 Theoretical Research Model adapted from the previous research (Wei & Lu, 2018)