

**FACTORS INFLUENCING USERS' INTENTION TO PLAY IN INNOVATIVE MOBILE GAMING USAGE  
CASE STUDY OF VALVE IN INDONESIA**

Jason Aditya Laksmana and Mustika Sufiati Purwanegara  
School of Business and Management  
Institut Teknologi Bandung, Indonesia  
jason.aditya@sbm-itb.ac.id

*Abstract. The games industry changed in the last decade from a market dominated by consoles and online gaming publishers, to the new and increasing shifts in the mobile gaming sector. Based on the research report by various research firms such as Newzoo and Digi-Capital, the mobile gaming industry made \$29 billion in 2015 and it's going to continue growing (with the estimation could produce as high as \$49 billion by 2018). This study was examining the factors influencing customers' mobile game preferences, and factors affecting users' intention to play. This study also examining the customers' enthusiasm toward Valve (a game developer company) if they decides to launch their games into mobile game platforms, due to the increasing trends in mobile gaming industry. The findings of the study can be used to provide the mobile game developer companies better understanding about the consumers' behavior regarding the mobile gaming. The variables that was used in this study was constructed by combining the variables from previous research about intention to play mobile games. Perceived enjoyment, behavior, subject norm, time flexibility, network externalities, and flow experience are the predicted variables that influences customer intention to play. Judgmental and snowball sampling was performed to 420 respondents in Bandung, Jakarta, Solo, Semarang, Yogyakarta, Surabaya, Medan, and Jambi, which mostly consists of high school and university students. Online questionnaire was developed to gather the data. Data processed through confirmatory factor analysis, linear regression, and ANOVA. This research finds that the factors that influences customers' preferences are the price of the game, game genres, and the reputation of the developers. While the genre of the games that people like to play the most is casual games. Time flow has the strongest influence to intention to play, and followed by subject norm, perceived enjoyment, and behavior. Meanwhile, network externalities and flow experience have no influence towards intention to play. The mobile game developer companies should pay attention about these factors, since it could enhance customers' level of intention to play, and by understanding the customer preferences, it could generate more profits and revenue. Furthermore, based on the research conducted before, Valve has good brand awareness and the consumer enthusiasm level is high. So if Valve decides to launch their games in mobile platform, while at the same time also pay attention to the factors affecting customers' preferences and factors influencing customers' intention to play, they should be successful.*

*Keywords: mobile gaming, customer enthusiasm, influencing factor, intention to use*

## **Introduction**

### **Background**

Towards the end of the twentieth century, mobile phones started to modernize. With the presentation of the "candy bar" cell phones, mobile phones' capacities improved significantly. With these innovative and technological advances, mobile gaming additionally turned out to be increasingly sophisticated. In the mid-2000s, mobile gaming gaining up fame and popularity in Japan's mobile phone society, years before the United States or Europe.

### **Increasing Trend of Mobile Gaming Sector**

The games industry changed in the last decade from a market dominated by consoles and online gaming publishers, to the new and increasing shifts in the mobile gaming sector. Consumers are spending their time and money for playing games on smartphones and tablets that Newzoo, a video game research firm, had to raise its 2014 global revenue forecast report from \$21.7 billion to \$25 billion. The new total is a 43% increase over mobile game revenues recorded for 2013 only.

Based on the research report published by Newzoo (2016) and Digi-Capital (2015), The mobile gaming industry made \$29 billion in 2015 and it is going to continue growing (with the estimation could produce as high as \$49 billion by 2018) the revenue of mobile games will grow from \$29 billion in 2015 to \$45 billion by 2018 at estimation by 15% annual growth. Asia has given mobile games revenue since 2013, compared to both North America and Europe, and Digi-Capital also predicts that Asia is going to take over 50% of all mobile games revenue in 2018.

Digi-Capital also forecasts that games software revenue will grow from \$88 billion in 2015 to \$110 billion by 2018 at 8% annual growth (Digi-Capital, 2015). On the same report, they stated that mobile games will generate more revenue than online games in 2015, and also more revenue than console software, and mobile games will take \$3 of every \$10 spent by gamers on software purchases in 2015, that figure will go up to \$4 out of every \$10 by 2018

### **Development of Mobile Gaming Sector in Indonesia**

Based on the statistical data published by Newzoo, Indonesia generates approximately \$321 million in 2015, increased 77.25 percent from the results in 2014 (\$181.1 million). In 2016 reports from Newzoo, the total game revenues from Indonesia will increase to \$704.4 million. While 56 percent of the gamers spend their money for the in-game purchase.

One of the well-known company in gaming industry is Valve. Valve is a digital distributor and video game developer company which founded in 1996 by former employee of Microsoft, Gabe Newell and Mike Harrington as "Valve Software". Based on New York Times research in 2012, Valve estimated to have approximately US\$ 2.5 billion, with Valve's Steam is considered to be the largest digital distribution platform in PC gaming. As one of the leading company in gaming industry, Valve faces challenges from mobile games. Therefore, it is important for Valve to consider entering mobile gaming industry in the future. This research will try to find factors that influence user to use mobile games as an input for Valve and other game developers.

### **Purpose of Study**

The purpose of this study is to identify the factors that influence the mobile game user's intention to purchase the games, and what characteristics of the game itself that they prefer to play. This study also intended to see how are the responses from the game users if Valve planning to launch their games in the mobile industry sector, so it can also be used as the recommendation for the company. By knowing the driving factors that affect the mobile game user's preferences, Valve or other mobile gaming publishers could understand more about the customer's intention to use and purchase their games.

### **Literature Review**

#### **Behavior Intention**

According to Fishbein and Ajzen, behavioral intention is a latent construct referring to a person's intention to perform certain behavior (Fishbein & Ajzen, 1977). Further, they propose that being a belief, behavioral intention can be indicated by the subjective probability of a person to perform that behavior. By definition, the construct of behavioral intention links the person to behavior. In the context of technology acceptance, the behavioral intention to use a certain technology has been shown to be the strongest

determinant for the actual use of that technology (Davis, 1989; Venkatesh, 2000; Venkatesh & Bala, 2008).

### **Influencing Factors**

Lake (2009) suggested the classification of factors influencing consumer behavior according to the source of their origin into internal (psychological) factors starting from inside of a consumer such as behaviors, and motivation or emotions; and external factors resulting from external environment surrounding the consumer such as social groups. Sandhusen (2008) classified factors that influence consumer behavior into interpersonal, such as cultural and social groups; and intrapersonal, such as perceptions and behaviors.

### **Consumer Awareness**

According to Chartrand (2005) consumer's awareness (either consciously or unconsciously) goes beyond the control, modification, elimination and change in human behaviors and decisions. Thus, effective consumer behavior can only be materialized through awareness.

### **Consumer Enthusiasm**

Customer enthusiasm is more than simple satisfaction. According to the research stream arising from Herzberg's two factor theory, enthusiasm is a challenging result of a relationship caused by different factors. Enthusiasm is probably more closely linked to compares on different alternatives and a great deal of surprise. By outperforming customers' expectations, enthusiasm is growing.

## **Hypothesis Development**

### **Perceived Enjoyment**

Perceived enjoyment has a significant influence on both behavior and intention. This finding concurs with the claims of Hsu and Lu (2005) that perceived enjoyment has a significant effect on behavior and continued intention to participate in an online community. Therefore, this study hypothesizes that:

H1a. Perceived Enjoyment is significantly positive related to intention to play mobile games

H1b. Perceived Enjoyment is significantly positive related to behavior to playing mobile games

### **Time Flexibility**

Another feature of mobile games is that they do not require all friends to be online at the same time to play the games, which could be concluded that each user can play whenever he or she wants to and has time, which leads to more time flexibility. Mobile games are played on smartphones, tablet computers, or other hand-held computing devices. These devices features are more portable, mobile, accessible, and convenient than other game platforms and allow users to enjoy games without the limitation of time or space. Accessibility and time flexibility also have drew many people to play mobile games, which leads to the following hypothesis:

H2. Time flexibility is significantly positive related to intention to play mobile games

### **Subject Norm**

Subjective norm has a significant influence on players' continued intention to play. This suggests that a person's behavior is affected by the desire to act like others act or think one should act, and this result is corresponding with work of Hsu and Lu (2004, 2005). Therefore, players who observe or hear about others who are important for those playing online games with positive results are encouraged themselves to participate in the games. Therefore positive word-of-mouth is important in promoting any online game, and developer companies should use online communities to attract more players (Hsu and Lu, 2005). Therefore, this study hypothesizes that:

H3. Subject norm is significantly positive related to intention to play mobile games

### Network Externalities

Network externalities significantly influence the effect of individual gratification and time flexibility. When many peers or other people play the same game, that critical mass positively increases users' pleasurable experience, and users can control the length of play time. These results echo the finding of the previous study (Lu and Wang, 2008), indicating that gamers might derive more pleasure from playing the online game when their friends or significant others also participate. More importantly, network externalities themselves also directly contribute to the intention to play mobile games. The total number of players and peers are important key to decide whether or not the game is a success because the central concept of social gaming is having interaction with real people (Fields and Cotton, 2012). Therefore, this study hypothesizes that:

H4. Network externalities will significantly positive affect the intention to play mobile games

### Flow Experience

Recently, the concept of flow experience has been introduced to explain the adoption of information technologies such as e-learning, online shopping, and games (Pilke, 2004). Flow experience refers to very pleasing activities experienced by individuals with full involvement, concentration and a sense of time bias or time distortion. When in the flow state, people become absorbed in their activities, lose their self-consciousness and are unable to notice changes in their surroundings. Therefore, this study hypothesizes that:

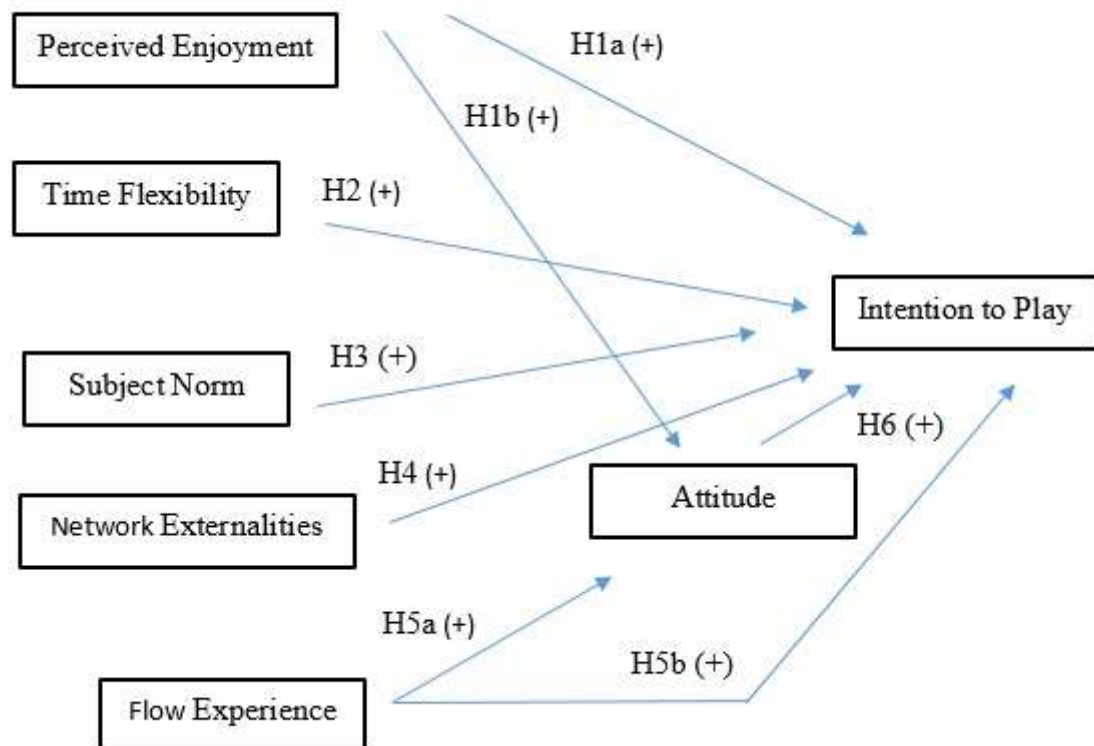
H5a. Flow experience is significantly positive related to behavior toward playing mobile games

H5b. Flow experience is significantly positive related to the intention to play mobile games

### Behavior

Behavior is defined as an individual's overall evaluation of performing a behavior and influences users' behavioral intention (Ajzen, 1991). When individuals shape positive behaviors toward online games, they will intend to play online games. Thus, it is hypothesized that:

H6. Behavior is significantly positive related to playing mobile games



## **Methodology**

This is an applied research since the study developed to gather information from the customers about the factors that influence the user's intention to play and purchase mobile games and their responses toward Valve. Defining the population, determining the optimal sample size, and error rate and sampling method used will be explained.

### **Population**

The targeted population of this research is the citizen of West Java province and Jakarta region, with the approximate amount of 36 million people (BPS, 2010), men and women, whoever played games on their mobile phone before, with age more than 15 years old as this segment the researcher assumed that the that the questions within the questionnaire needs comprehensive understanding by the respondents.

### **Sampling**

The research is using non-probability sampling that is judgmental sampling on selecting the respondents. The criteria of the sample are above 15 years old and smartphone users. According to Sekaran (2003), if the population of the study exceeds a million and using the level of confidence 90% then margin error of 10%, the minimum samples are 68 respondents. Due to the limitation of time for study conducted before, the researcher only use 90% level of confidence and not 95% instead. Furthermore, the study will take more than 68 respondents, since West Java and Jakarta has more than a million in population of mobile game users.

### **Data Gathering Method**

In this research, the data that will be gathered are both primary and secondary data. The questionnaire was developed to gather the primary data. While the secondary data was gathered from books, journals and web sources to conduct the questionnaire itself. To collect the primary data, questionnaires was distributed throughout online channels such as e-mail, LINE, Facebook, and WhatsApp in the form of Google Forms. The respondent then could easily access and filled it easily from their computer or mobile phones.

### **Validity and Reliability**

Validity and reliability test has been conducted before process the data. Each variable (independent variable including performance expectancy, effort expectancy, subjective norms, compatibility, relative advantage, tradition barrier, facilitating condition) will test the validity and reliability. The data was analyzed by using the coefficient correlation to construct the validity test and compute Cronbach's alpha value to verify the reliability. The coefficient correlation of all attributes must greater than 0.3 to be acceptable. The indicators have stronger correlation if closer the value to 1. The Cronbach's alpha for all types consist greater than 0.7, the subject questionnaire has good internal consistency and the design is reasonable.

## **Data Analysis**

For analyzing the results of the data, multivariate statistics was conducted to gain the results and conclusion of the data.

### **Respondents' Condition**

Out of 420 people, around 72.86% (306 people) said that they have games on their smartphone, while 27.14% (114 people) said that they don't have games on their smartphone.

### **Respondents' Demography Profile**

The factors that will be analyzed on this demography profile are age, gender, city of origin and occupation. All of the respondents are coming from age 17– 23 years old. It leads to the questionnaire's distribution mostly are consists of university students. This research does not limit the gender of respondents and consists of both male and female respondents. Since male respondents usually play

mobile games more than the females, male dominates on the respondent profile, which are around 75% from total respondents. The questionnaires were distributed to Jakarta, Bandung, and other cities such as Solo, Semarang, Yogyakarta, Surabaya, Medan, and Jambi. However, since the total percentage of the other cities were too small to be included, so the author decided to combined all of them into one category instead (other region). Most of the respondents are coming from Bandung, followed by Jakarta since the author's location is around the two cities. Occupation is considered as one of the demography aspects in this research. Almost all of the respondent's occupation is college students with the amount of 97% and other occupations such as workers and entrepreneurs are combined together as other. For the income of the respondents, mostly of the respondents are having income between Rp. 0 – Rp. 2.500.000 that 33% are having income for about Rp. 1.000.000 – Rp. 2.500.000 and 28% for Rp. 2.500.001 – Rp. 5.000.000.

#### **User Awareness toward Valve**

In order to test respondents' awareness level toward Valve, the author asked about whether the respondents have heard Valve before, and their source of information about the brand. Then, to understand the respondents' awareness and knowledge about Valve's products (games), the author asked them about the games. From 420 respondents, around 63.33% (266 people) of them have heard or know about Valve, and around 36.67% (154 people) haven't heard or didn't know about Valve at all. The author then asked the 266 people to answer more questions related to Valve. From four indicators (games played, friends or words of mouth, advertisement, and media), the respondents mainly stated that the reason they know about Valve is because they played Valve's games. From 266 people who know about Valve, around 81.58% (217 people) play Valve's games. While the other 18.42% (49 people) know Valve from their friends or words of mouth. The author asked about the Valve's products (games) that the respondents know to understand Valve products' level of awareness. The primary answer the author managed to acquire is Dota 2, with 66.17% (176 people) of 266 respondents. The answer itself was followed by CS:GO with 22.93% (61 people), and Left 4 Dead with 10.90% (29 people) respectively.

#### **Usage behavior of Mobile Game Users**

In order to find the usage behavior of respondents toward mobile gaming, there are several questions about the respondents' behavior and characteristics, also the factors influencing the respondents' preferences of gaming. The respondents were asked about their monthly spending in smartphone games, as well as the factors that drive the consumers to play their preferred games and their genre preferences. Around 44.76% of the consumers spend between Rp. 0 – Rp. 10.000. While around 37.86% spend Rp.10.000 – Rp.25.000, 8.57% spend Rp. 25.000 – Rp. 50.000, and around 8.81% spend Rp.50.000 – Rp.100.000 monthly. To know about the factors that drive the consumers to purchase their preferred games, customers were asked about it, and they could pick more than one factors out of eight. Price, Genre of the game, and the developer were top of their lists with 237, 233, and 231 answers respectively. Those answers were followed by friends influence (182 answers), game's reputation (172), the quality of the game itself (169), and recommendation and rating (157). The lowest factor that affects the consumers is the in-game purchase by only 41 answers. When asked about the customer's preferences of the game, out of the seven different genres, casual games such as candy crush or hay day is top of the list with 217 answers. It was followed by strategy games such as clash of clans, sports games such as FIFA, Puzzle games such as Angry Birds, RPG games such as Harvest Moon, and Action such as Call of Duty with 169, 148, 140, 133, and 111 answers respectively. While the lowest answer is trivia games, such as Quiz Up.

#### **Influencing Factor of Users Intention to Play**

##### **Validity and Reliability Test**

Factor analysis used for the confirmatory purpose since the indicators and questionnaires were created based on previous researches. Kaiser-Meyer-Olkin (KMO) performed to get the score for above 0.5 and only 1 factor created for each variable. Then, extracted variance result that should be above than 50%. Those criteria are to test the validity of each indicator. For reliability test, Cronbach's Alpha test used and the result should be above 0.6 to be stated as reliable.

Based on the results, all of the variable KMO results are above 0.6. Then, the extracted variance are also above 0.5. It showing that those variables are valid. Most of the Cronbach's Alpha are above 0.6 which shows that the variables are reliable. The descriptive analysis explains the overall condition of the data from the questionnaires. Mean become the average value from the Likert scale which ranges from 1-7. Likert scales 1 for strongly disagree while 7 for strongly agree. So that, if the mean of the indicators is closer to 7, the respondents stated as agree towards the statement. If the mean is around 1-3, it means that respondents generally disagree and if it is around 5-7 then respondents generally agree.

Standard deviation is for measuring the dispersion from a set of data. It showing how data is spread between the scales. The smaller the standard deviation of data, then the data will be more centered. Percentage of agree (% of agree) is for showing the number of people that agree with each statement on questionnaire it was the result of the calculation of answer for scale 5, 6, 7 on the statement given.

#### **The Effect of Influence Factors to the Intention to Play**

This part will provide the information related to the regression analysis result to know influence from independent variable to dependent variable. The behavior was predicted to have two influencing factors, which are Flow Experience and Perceived Enjoyment. Looking at the  $R^2$ , those two factors influence about 75.5% of Behavior. However, not all the factors are individually significant. As the result shown in Table 4.2, Perceived Enjoyment ( $B=0.800$ ,  $p=0.000$ ) strongly have a positive influence towards Behavior. It shows that perceived enjoyment could strongly influence the users' behavior towards playing games. It also supported the previous study by Lee (2009). Flow Experience also positively, although not strongly influence Behavior since it has a significance level of 0.025 and Beta of 0.096, which supports the previous study conducted by Wu and Liu (2007). It might happen because Indonesian people tend not to have much concern about the flow experience when playing games, so it doesn't positively affect the Behavior. The result of this study and the previous study related to the intention to play variable showing the mixed result. Time flexibility and Subjective norm are strongly influenced the users' intention to play since that their score (Beta=0.632,  $p=0.000$  for Time Flexibility, and Beta=0.585,  $p=0.000$  for Subjective Norm). These findings support the previous findings stated by Pei-Shan Wei and Hsi-Peng Lu (2013) for Time Flexibility, and Jiming Wu and De Liu (2007) for Subjective Norm.

Based on the results, both Behavior and Perceived Enjoyment also positively influenced the users' intention to play, which corresponds to the study conducted by Jiming Wu and De Liu (2007) for both of the variables. These shows that Perceived Enjoyment and Behavior have positive impact to the users' intention to play. On the other hand, Network Externalities and Flow Experience results show that those variables have no influence towards Intention To Play since their level of significance are higher than 0.05 (0.243 and 0.078 respectively). This could happen because the study conducted before was done for online games which mostly consists of network of players and sophisticated games, while no previous research that studies mainly in the mobile gaming sector. So the results could be different from the previous studies.

#### **Respondents' Level of Enthusiasm towards Valve**

To know about the respondents' level of enthusiasm towards Valve, they were asked whether they want to see Valve launching their games on the mobile platform or not. From 266 people who know about Valve, around 4.51% (12 people) slightly disagree with it, while the neutral responses have a percentage of 31.2% (83 people). The most responses are the slightly agree, with 33.83% (90 people), while those who agree with it are 26.69% (71 people), and completely agree with 3.76% (10 people). From the responses, it concludes that from the positive responses (from slightly agree to completely agree), most of the respondents (64.29% of the total answers) are enthusiastic if Valve decides to launch their game on the mobile platform.

## **Conclusion**

The games industry changed in the last decade from a market dominated by consoles and online gaming publishers and developers, to the new and increasing shifts in the mobile gaming sector. Consumers are spending their time and money for playing games on smartphone and tablets which makes Newzoo, a video game research firms predicts that the global revenue for mobile gaming industry will grow rapidly in the future. Based on another report from Newzoo, Indonesia is currently ranked 24<sup>th</sup> in the world by revenue, generating \$321M in 2015, and 56 percent of the gamers spend their money for in-game purchase.

Because of the increasing trend in the mobile gaming sector, it is understandable that some of the major gaming developers are now shifting their focus toward the mobile gaming industry. With Valve's status as one of the largest gaming developers in the world and Valve's Steam is considered to be the largest digital distribution platform in PC gaming, the study is intended to see how are the responses from the mobile game users if Valve planning to launch their games in the mobile industry sector. This study also intended for identifying the factors that influence the mobile game user's intention to purchase and play the games, and what are their preferences regarding the game itself.

From the findings itself, from 420 respondents, 266 people (63.33%) have heard or know about Valve, which shows that Valve already have good level of awareness in the mind of the mobile game users, since most of the people who aware about Valve also played their games. Out of eight factors, when it comes to the factors influencing customers' game preferences, the price, genre of the games, and the developers' name are the highest factor that affects the users' preferences, with the lowest factors that affects the customers is the in-game purchase. From the customer's genre preferences, casual games has the highest answer, and the lowest one is trivia games. From the 266 people who already know or have heard about Valve before, most of the respondents feel enthusiastic if Valve decided to launch their games to mobile platform. So, the level of the consumer enthusiasm about Valve is high.

For the factors affecting the users' intention to play, Time Flexibility (TF), Subjective Norm (SN), Behavior (B), and Perceived Enjoyment (PE), are positively influenced the users' Intention to Play (ITP). However, contrary to the previous studies, Network Externalities (NE) and Flow Experience (FE) have no influence toward Intention to Play. Perceived Enjoyment and Flow Experience also positively influenced the users' Behavior as well. From the results above, it can be 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 reputation of the developer itself. The game developers should pay attention to this aspects in order to appeal more customers and generate more profits on their products. By providing more affordable price, right genres, and creating good reputation among the game users, they could provide the customers wants and needs. As well as the customers genre preferences as well. Based on the customers' responses, the most popular genre among the respondents is casual genres, and the least popular one is the trivia. The game developer companies also have to pay attention to factors influencing users' intention to play. Factors such as Time Flexibility, Subject Norm, Behavior, and Perceived Enjoyment have positive influence toward intention to play, therefore, by adding these factors into the gameplay, could significantly attract more people to play mobile games.

## **Recommendation**

Based on the responses, if Valve decides to launch their games into mobile platform, they could be successful because of the positive responses gathered in this research. Most of the respondents already know Valve or have heard about them before, and that shows that Valve already have good level of

awareness among the mobile game players. And the level of consumer enthusiasm also high, but if Valve also launch the games that could fulfill the customers' wants. It is recommended that Valve should launch their games in mobile platform in order to adapt and establish more secure future for the company, remembering that a lot of researches and reports saying that in the future the revenue of the mobile gaming industry will keep increasing.

### Limitation and Future Research

The study itself is subject to several limitations. First, similar to most studies, there are some limitations comes from the scope of the respondents, so it cannot be generalized and not reflecting the real population. The research was conducted in a social platform in Indonesia, who has different online environment and culture from those of other regions in the world. Therefore, cautioned approach should be exercised when generalizing the findings to other countries and other cultures. Future research can study about the factors influencing users' intention to play in other regions. The respondents responses' regarding Valve could be different as well, considering that certain brands have different awareness in different region. So further study about Valve's consumer enthusiasm in other region may be different. This study very much represents a large portions of mobile game users and provides representative results for future research. Future research can be tested using larger sample size.

### References

- Chen, A., Lu, Y., & Wang, B. (2016). Enhancing perceived enjoyment in social games through social and gaming factors. *Information Technology & People Vol. 29 No. 1*, 99-119.
- Digi-Capital. (2015, May). *Games leaders to dominate \$45 billion mobile games revenue forecast by 2018*. Retrieved from Digi-Capital: <http://www.digi-capital.com/news/2015/05/games-leaders-to-dominate-45-billion-mobile-games-revenue-forecast-by-2018/#.V7wJR52JmFz>
- Gaudiosi, J. (2015, January 15). *Mobile Game Revenues Set to Overtake Console Games in 2015*. Retrieved from Fortune: <http://fortune.com/2015/01/15/mobile-console-game-revenues-2015/>
- Hew, J.-J., Lee, V.-H., Ooi, K.-B., & Wei, J. (2015). What catalyses mobile apps usage intention : an empirical analysis. *Industrial Management & Data Systems Vol. 115 No. 7*, 1269-1291.
- Indonesia, M. (2016, January 25). *Industri Game Indonesia, Fokus Baru Bagi Kemenkominfo*. Retrieved from Mastel Indonesia: <http://www.mastel.id/industri-game-indonesia/>
- Lee, M.-C. (2009). Understanding the behavioural intention to play online games : An extension of the theory of planned behavior. *Online Information Review Vol.33 No. 5*, 849-872.
- Mahardy, D. (2016, January 5). *Industri Game Indonesia Hasilkan Rp4,45 triliun di 2015*. Retrieved from Techno.id: <http://www.techno.id/tech-news/industri-game-indonesia-hasilkan-rp445-triliun-di-2015-160105w.html>
- Newzoo. (2015). *The Mobile Gaming Landscape 2015*. Newzoo.
- Newzoo. (2016). *2016 Global Games Market Report : An Overview of Trends and Insights*. Newzoo.
- Takahashi, D. (2016, March 29). *Mobile gaming widened its lead over all other game platforms in 2015*. Retrieved from Venture Beat: <http://venturebeat.com/2016/03/29/mobile-gaming-widened-its-lead-over-all-other-game-platforms-in-2015/>
- Takahashi, D. (2016, April 28). *Unity Q1 report: 220,000 games, 4.2B installs on 1.7B devices*. Retrieved from Venture Beat: <http://venturebeat.com/2016/04/28/unity-q1-report-220000-games-4-2b-installs-on-1-7b-devices/>
- Takahashi, D. (2016, June 23). *Why mobile game developers should take influencer marketing seriously*. Retrieved from Venture Beat: <http://venturebeat.com/2016/06/23/mobile-game-developers-must-pay-attention-to-influencer-marketing/>
- Teng, C.-I. (2009). Online Game Player Personality and Real-life Need Fulfillment. *International Journal of Cyber Society and Education Vol.2, No. 2*, 39-50.

- Thongkham, C. (2016, January 4). *Mobile Gaming Trends to Expect in 2016*. Retrieved from crowdsourcedtesting: <https://crowdsourcedtesting.com/resources/mobile-gaming-trends-expect-2016/>
- Wei, P.-S., & Lu, H.-P. (2014). Why do people play mobile social games? An examination of network externalities and of uses and gratifications. *Internet Research Vol. 24 No. 3*, 313-331.
- Wu, J., & Liu, D. (2007). The effects of trust and enjoyment on intention to play online games. *Journal of Electronic Commerce Research, Vol. 8, No. 2*, 128-140.