Factors Affecting Players to Pay Online Games

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Abstract. This paper aimed to investigate the behavior of online game players. Even though online games have experienced rapid development in the community, it is still difficult to convince online gamers in developing countries to pay for the privilege of playing these games. This study focuses on three factors that influence the intention in paying for online games, namely fun, fantasy, and challenge. The respondents surveyed reached 1278 players of Arena of Valor (AOV) in Indonesia. The data were analyzed with Structural Equation Modeling with a Partial Least Square (PLS) approach using SmartPLS. This research developed four hypotheses. The results can be summarized as follows. First, fun has a significant impact on intention to pay. Second, fantasy has a significant impact on intention to pay. Third, challenge has a significant impact on intention to pay. Fourth, fun, fantasy, and challenge have a significant impact on intention to pay. The variable of fun has the greatest influence on intention to pay compared to the variable of fantasy and challenge. A gamer’s feeling has a greater influence on a player’s intention to pay for the game being played. Online game companies need to pay attention to aspects related to fun, so gamers have better judgment for the decision to pay for the game being played.

Keywords: online game, player, intention, pay, cloud gaming.

1. Introduction

Internet users, or often called consumers, are individuals of various ages with different cultural, educational, social and economic backgrounds. Indirectly, they also have different behaviors. The development of internet technology in fact also has an influence on changes in their behavior in understanding their individual needs. It is this diversity that makes consumer behavior interesting and important to learn.

Moreover, consumer behavior is not merely about individuals, because they also depend on the circumstances and situations of the layers of society, also where consumers are born, develop, and carry out their daily lives. These things also have an influence on their judgment, needs, opinions, attitudes, and tastes, both in terms of feelings (affective) and thinking (cognitive). In online game technology, affective and cognitive factors will also influence the behavior of game consumers in determining what gaming platform technology they will choose according to their own desires.
According to Statista.com (2019), most internet users in Indonesia are in the age range of 17-25 years (85.4%) and 26-35 years (65.6%) [1]. Although the growth of Internet users is slowing down at this time, innovation & global competition will continue to drive product improvement, the emergence of new types of usage & monetization especially in the aspects of digital video, sound, wearable products, local services and on demand and markets that have traditionally been underserved [2]. Interactive Gaming Players continues to increase every year and reach 2.4 billion players in 2018 [2].

Online games are internet-based games that are currently in great demand because of the development of interesting content and has its own adrenaline points. Online games appear and grow in circulation with a variety of genres. Emago Cloud Gaming is the first cloud gaming platform company in Indonesia. The company has made and presented significant technological developments for game consumers, through its innovation in gaming methods in Indonesia using the Cloud Storage system. Through this platform, game consumers will be facilitiated in using and playing games that are fairly "well-known", have good ratings, and are included in the "heavy" category. Departing from the statement above, the author's thought arises to examine the behavior of game players as consumers based on the type of consumer behavior from a psychological aspect.

In 2019, global gaming totaled the market and generated $ 148.1 billion in revenue, with mobile devices contributing less than half this amount. Because of mobile games available everywhere, most of the online world population is a performer in some form or form. However, perceptions of the gaming market and its players have been slow to catch up due to prevailing stereotypes [3]. Although the number of game players in Indonesia is enormous, online gamers' purchase rate is meager, reaching only 1.1 percent compared to other products [4].

2. Literature Review

2.1. Consumer Behavior

Affective and cognitive refers to two types of internal responses that consumers have to something that consumers receive and the state of their environment [5]. Affective usually involves more feelings, for example: emotions, certain feelings, moods, and evaluation. The cognitive aspect refers to the mental and thought processes and knowledge structures involved in one's response to their environment [5].

Cognitive systems are used to process information that will influence consumers in making purchasing decisions, with three main cognitive processes [5], namely: (i) consumers can interpret information in the environment to find out personal consumers what their wants and needs; (ii) consumers can combine and integrate information before evaluating products and determine the behavior to be taken, and (iii) consumers can think and repeat knowledge, meaning, and beliefs about products from their memories.

Affective systems have processed feelings or states of heart (emotions and souls) that will influence consumers in making purchasing decisions [5]. There are several main affective processes, namely: (i) consumers can feel the emotional state to know the personal consumer what consumers want or need, (ii) consumers will evaluate the product and determine the behavior that will occur to what has felt the heart, emotions, and consumer feelings, and (iii) the consumer is deeply affected by his emotions towards the belief about the product from the consumer's memory, whether it is feasible or not, whether good or bad, and others.

2.2. Online game

The study of Rollings and Adam emphasized that online gaming is a technology compared to a genre or type of game [6]. Game is a mechanism to connect players together compared to certain patterns in a game. Online games can also be linked to game programs that are connected through a network that can be played anytime, anywhere and can be played together in groups around the world [6]. The game itself displays interesting images as desired, which are supported by the computer [6]. Online games have a
very big difference with other games that gamers can not only play with the person next to them but can also play with several other players in other locations, even players in other hemispheres [7].

According to Emago.id, cloud gaming is a development of game play technology that allows gamers to run and control games through an intermediary internet connection or with two-way streaming method, so that the gamers concerned are able to get the experience of playing like playing games on their own devices. This technology is intended to make it easier for users to access and share their game content, anywhere, anytime, and without the hassle of thinking about hardware constraints, or problems with limited data storage capacity, and also operating system compatibility.

3. Results and discussion
The study used Structural Equation Modeling with Partial Least Square (SEM-PLS). It was conducted on Indonesian online gamer about 1,278 respondents. The questionnaires were distributed through online survey by using convenience sampling method. The respondents consisted of 1,219 male gamers (95.4%) and 59 female gamers (4.6%). From the respondents studied, there were 5.9% gamers aged younger than 16 years old, 59.4% (16-20 years old), 25.6% (21-25 years old), 6.7% (26-30 years old), 2.1% (30-35 years old), 0.15% (35-40 years old, and 0.15% gamers aged older than 40 years old. Thus, this study involved more gamers aged 16-25 years (85%).

The majority of gamers (91.7%) have a monthly expenditure of less than 1 million. Gamers prefer Android in playing games (96.6%), besides IOS, NOX, and Phoenix. The instrument used in this study is known as a 7-point Likert scale [8]. This study considered the reliability of responses from participants in the survey, so it may be performed better with the 7-point scale than the 5-point scale. This revealed more descriptions of motives and thus attracted practicality to the "faculty of reason" of the participants. The written scale can add validity even more points on a 7-point Likert scale. This study involved the human mind which has absolute judgment that is able to distinguish 7 categories at a time [8].

In the measurement scale, the 5 points are usually used to determine the respondent agrees or disagrees with the questions. However, the Likert scale used with 5 points is inadequate in determining the intention of respondents' characteristics, especially when the researchers decided to try parametric tests in statistical inference. The 5-point Likert scale representing 5 choices can drop the strength of the parametric technique compared to 7 points or 10 points [8].

Table 1 showed the result of validity and reliability testing. The validity test results were represented by the AVE values of all variables greater than 5.0. Meanwhile, the reliability test was shown by the values of Cronbach's Alpha, rho_A and Composite Reliability. All variables were declared to have fulfilled the reliability test because all values were greater than 0.7. Note that the table borders are shown as broken lines for guidance only.

| Construct       | Cronbach’s Alpha | rho_A | Composite Reliability | Average Variance Extracted (AVE) |
|-----------------|------------------|-------|-----------------------|---------------------------------|
| Challenge       | 0.773            | 0.780 | 0.868                 | 0.688                           |
| Fantasy         | 0.834            | 0.837 | 0.889                 | 0.668                           |
| Fun             | 0.761            | 0.763 | 0.893                 | 0.807                           |
| Intention to Pay| 0.824            | 0.823 | 0.877                 | 0.589                           |

Fig. 1 showed the loading factor for each variable in the research model. In the Fun variable, the outer loading value indicated that the respondent has a higher feeling of coolness (0.905) compared to feeling happy (0.891) when they play the Arena of Valor game. In the Fantasy variable, the outer loading value indicated that the respondent has a highest feeling “like casting in the Arena of Valor” (0.838) compared to the feeling “by playing Arena of Valor, I can do things that cannot be done in real life” (0.777). In the Challenge variable, the outer loading value indicated that the respondent has a highest feeling “when playing Arena of Valor, I feel proud when I conquer the challenge” (0.855) compared to the feeling “when playing Arena of Valor, I was very happy when I managed to level up” (0.796).
In the Intention to Pay variable, the outer loading value indicated that the respondent has a highest intention to buy a game voucher of the Arena of Valor (0.841) compared to the intention to recommend their family to play the Arena of Valor (0.670).

Figure 1. Research Construct.

Figure 2 showed that the results of the bootstrapping process which refers to the research model that has been carried out in the previous stages.
Table 2 showed that the effect of fun is greater on intention to pay than fantasy and challenge variables.

### Table 2. Path Coefficient (Bootstrapping Result).

| Construct               | Original Sample Mean | Sample Mean | Standard Deviation | T Statistics | P Values |
|-------------------------|----------------------|-------------|--------------------|--------------|----------|
| Challenge → Intention to Pay | 0.212                | 0.213       | 0.033              | 6.472        | 0.000    |
| Fantasy → Intention to Pay | 0.214                | 0.214       | 0.032              | 6.694        | 0.000    |
| Fun → Intention to Pay   | 0.284                | 0.283       | 0.034              | 8.379        | 0.000    |

Table 3 showed that the influence of Fun variable on FU2 was greater than intention to pay compared to Fantasy and Challenge variables. The feeling "I feel cool when playing Arena of Valor" has a greater influence in influencing a player's intention to pay for the game to be played.

### Table 3. Outer Loading (Bootstrapping Result).

| Construct | Original Sample Mean | Sample Mean | Standard Deviation | T Statistics | P Values |
|-----------|----------------------|-------------|--------------------|--------------|----------|
| CH1 < Challenge | 0.855                | 0.854       | 0.012              | 74.177       | 0.000    |
| CH2 < Challenge | 0.796                | 0.796       | 0.019              | 42.431       | 0.000    |
| CH3 < Challenge | 0.836                | 0.836       | 0.013              | 62.335       | 0.000    |
| FA1 < Fantasy   | 0.777                | 0.777       | 0.016              | 47.425       | 0.000    |
| FA2 < Fantasy   | 0.838                | 0.839       | 0.012              | 72.881       | 0.000    |
| FA3 < Fantasy   | 0.835                | 0.834       | 0.013              | 65.293       | 0.000    |
| FA4 < Fantasy   | 0.817                | 0.817       | 0.013              | 61.634       | 0.000    |
| FU1 < Fun       | 0.891                | 0.891       | 0.010              | 91.070       | 0.000    |
| FU2 < Fun       | 0.905                | 0.905       | 0.007              | 123.552      | 0.000    |

Figure 2. Bootstrapping Results.
The results of this study indicate a conformity with the theory that was expressed by Souza & Freitas, fun is a part of a game that has an entertaining meaning or gives players pleasure in playing [9]. Serious digital games can be an effective tool for disseminating prosocial messages because they offered technology and experience that encourages players to share them with others, and spread them viral [10].

Based on previous studies, fun is a very varied motivation for each individual, because it depends on the player and the game [11] [12]. The findings of this study are also similar to previous studies that showed perceived enjoyment had a significant impact on customers’ intentions to pay for games played online [13] [14].

4. Conclusion
The results of this study are still limited to three main variables, namely Fun, Fantasy, and Challenge. In future studies, researchers can find other variables that can influence players in purchasing online games. Future research can also focus on gamers who want to play online games and have an emotional attachment to sharing games and playing together. This study's results can contribute to understanding the behavior of online game players in developing countries such as Indonesia. Online game companies can adopt these findings as marketing planning guidelines to encourage consumer intention to buy online games.

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