Esports: An Empirical Study of Factors Affecting Continuance Intention

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ABSTRACT

E-sports is becoming a trend among gamers so it makes game providers serve good products and services to attract customers. Like other businesses, having loyal consumers is important for game providers. Unfortunately, the literature on gamer loyalty is still scarce and loyalty in one industry cannot be fully applied to another industry. Thus, this paper unlocks the link between social value, enjoyment, competence, and continuance intention. The data were collected in a quantitative method using an online questionnaire. The questionnaire was distributed to 401 respondents in Bandung. The questionnaire uses a 5-point Likert scale, in which point 1 indicates strongly disagree and 5 strongly agree. Finally, the quantitative data were analyzed using Structural Equation Model (SEM). The results of this study indicate that competence, social value, and enjoyment are important factors in continuance intention.

Keywords: *Esport, Free-to-Play Games, Competence, Perceived Value, Continuance Intention.*

1. INTRODUCTION

In recent years, esports has become a trend among Indonesian gamers. Esports players in this country have reached 44,2 million people [1]. Esports is a form of sports whose primary aspects are facilitated by electronic systems. The input of players and teams and the output of the eSports system are mediated by human-computer interfaces [2]. In 2021, the global eSports market value is over 1.08 billion U.S. dollars, an almost 50% increase from the previous year. The esports global market revenue is forecasted to grow into 1.62 billion U.S. dollars in 2024 [3]. Indonesia is one of the largest gaming markets industry in Southeast Asia, with a revenue of $941 million or around IDR 13 billion [4].

The development of the Esports game industry in Indonesia occurred in 2018 when Asian games in Jakarta registered Esports as one of the sports being contested [5]. The approval of the Indonesian government refers to the increasing number of esports tournament prizes, such as The International 2019 (Dota 2) of $34 million, Fortnite Worlds Cup of $30 million, League of Legends Worlds Championship 2018 of $6 million, and MPL Indonesia season 6 of $300.000 [6]. In addition, based on Hybrid (2021), many successful esports games are in the forms of free-to-play-model such as Dota 2, League of Legends, and Mobile Legends.

The number of gamers in Indonesia in 2020 was over 100 million people. This number makes Indonesia spotted as the number one gamer in Southeast Asia [8]. It's promising market potential, making competition between global and local companies inevitable. In Indonesia, the domestic video game market is dominated by foreign video game developers. In February 2020, the domestic game market consisted of 99,8% of foreign game companies and 0,2% local game companies [9]. However, many game developers find it difficult to get a user base and maintain the user. As a result, there are several free-to-play games that close their servers because there are only a few users [10]. Therefore, it is important to find out factors affecting gamer loyalty.

Unfortunately, the literature on gamer loyalty is silent. Every industry has unique characteristics so loyalty in one industry cannot be fully applied to others. Gamer loyalty has been defined as an intention to play games in the future (continuance intention) [11]. Previous studies related to free-to-play games only use the perceived value as a variable that affects continuance intention to play [12]. A study conducted by [13] uses a self-determination theory to analyze gamer motivation to play video games.

Referring to this research gap, this research is important for the esports industry to unlock the link between competence and perceived value as factors that affect gamer loyalty and continuance intention. The significance of each variable towards continuance intention is hypothesized and tested empirically.

2. BACKGROUND

2.1. Esports

Esports is an electronic sport that refers to game competitions between shaded players in teams and is sponsored by business organizations [2]. Esports development becomes complex in the business sphere as an ecosystem of players, consumers, organizations, and stakeholders play role in the esports industry [14]. Free-to-play games dominate the popularity of Esports tournaments and games. The top 5 free-to-play games are Dota 2, League of Legends, Counter-Strike Global Offensive, Fortnite, dan PUBG Mobile [15]. Free-to-play games are a revolution of the classic game model that implements a game payment business model and game subscriptions on an ongoing basis. The game model provides convenience for players without time restrictions [16].

2.2. Perceived Value

Perceived value is the consumer's overall sense of product benefits based on what they receive and what they spend [17]. [12] in his study uses the perceived value to analyze free-to-play games and finds only two constructs, social and enjoyment values, that positively affect continuance intention.

Social value is the perception of social self-concept that comes from the ability of the service or product to enhance the social self-concept of the customer [18]. This perspective is closely related to the perception of subjective norms commonly used as an operationalization of social values in information systems and marketing research [19]. The growing development of services or products in the industry has led to an increase in social value in the last few years. This is due to the increasing number of services that are built firmly on social features and various types of user-generated content [20]. Social value plays an important role in the game context when players expect character growth in the game. It is seen to significantly influence player loyalty in continuance intention to play games [11]. Similarly, a study by [12] states that social value influences the variables' continued intention towards free-to-play games. Thus, these studies generally conclude that continuance intention is shaped by social value.

H1: Social Value directly and positively influences Continuance Intention.

Enjoyment value is an intrinsic motivation that emphasizes users' process and activity and reflects the fun and enjoyment associated with using systems in technology such as video games [21]. Several previous studies and research on games have shown a positive relationship between perceived enjoyment and continuous intention in various environments; for example, mobile games [22] and free-to-play games [12]. Those studies state that continuance intention is shaped by enjoyment.

H2: Enjoyment directly and positively influences Continuance Intention.

2.3. Competence

Competence is the need for mastery and efficacy, in other words, the need to feel capable of doing something [23]. It is important to consider the elements that make up the complexity to create a competent user [24]. Competence is an essential need for well-being [25]. If gamers cannot fulfill their satisfaction needs on competence, the results will be negative towards continuance play or future play [23].

A study conducted by [13] finds that satisfaction with the basic needs for competence leads to continuance intention. The need for satisfaction on competence has a very critical link towards behavioral continuous play and preference for future play [13].

H3: Competence directly and positively influences Continuance Intention.

2.4. Continuance Intention to Play Game

Continuance intention is defined as the user's plans to continue using already adopted systems [26]. It is the level of a tendency to continue using products or services. This statement is supported by [11] that in the context of online games, loyalty has been defined as an intention to play games in the future (continuance intention). It can be said that continuance intention is an interest in participating or taking part in a particular system [27]. It is an essential behavioral consequence for determining the sustainable success of online games [28].

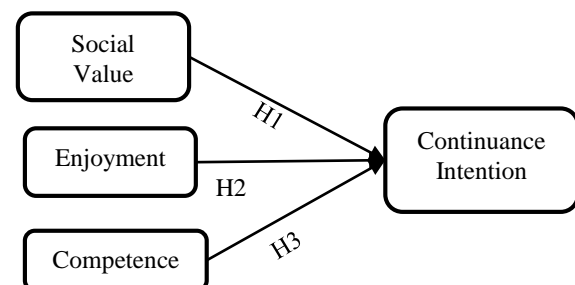Therefore, the relationship between variables used in this study is as follows:

Figure 1 Research Model

3. RESEARCH METHODS

This research used a descriptive exploratory approach by employing secondary data obtained from reports and studies related to free-to-play games. The exploratory approach was conducted to test the relationships between variables that have been aforementioned in the literature review. Meanwhile, the descriptive determined the factors that influence the Continuance intention of free-to-play games.

In order to get an accurate formation, accuracy in sampling is needed. The selected sample must at least meet the requirements of a minimum of 200 respondents

[29]. This study had 401 respondents from the population of esports players so the requirement was met.

The sample and sampling method used in the study was purposive sampling. The questionnaire, which was distributed online via a google form, contained 15 statements with a Likert scale of 1-5 (strongly disagree - strongly agree) which had been developed from previous research. This study used Structural Equation Model for quantitative data analysis. It consisted of two stages; the first stage was to measure the constructs' reliability and validity while the second stage was to test the structural model.

4. RESULT

The results of this study were based on the data collected from 402 respondents. The majority of the respondents are male by 92.01% and female by 7.99%. These respondents have played the esports game Dota 2 with time spent below one hour (2.01%), one up to two hours (9.48%), two up to three hours (24.56%), three up to four hours (23.27%), and above four hours (40.46%) which make the majority group. Most of the respondents have the age group range around 17-24 years old (74.07), 25-30 years old (22.19%), 31-40 years old (3.49), and above 40 years old (0.25%). Their last education levels are high school (46.88%), bachelor (42.39%), and the rest of doctoral and master's degrees.

Table 1. The respondents' profile

Characteristic	Frequency	Percentage (%)
Gender		
Male	369	92.01
Female	32	7.99
Age Group		
17-24	297	74.07
25-30	89	22.19
31-40	14	3.49
>40	1	0.25
Last Education		
High School	188	46.88
Diploma	35	8.73
Bachelor	170	42.39
Master Degree	7	1.75
Doctoral Degree	1	0.25
Occupation		
Students	189	54.62
Employees	76	21.96
Entrepreneur	48	13.58
Other	34	9.82
Monthly income (in IDR)		
<1.000.000	135	39.01
1.000.000-1.999.999	68	19.65

Characteristic	Frequency	Percentage (%)
2.000.000-2.999.999	49	14.08
3.000.000-3.999.999	27	7.75
>4.000.000	67	19.36
Time Spent		
<1 hour	7	2.01
1-2 hour	33	9.48
2-3 hour	85	24.56
3-4 hour	81	23.27
>4 hour	140	40.46

Table 2 shows that there are 4 variables used in this study. This construct shows that enjoyment has the highest mean value of 4.57 and the standard deviation of 0.658, while social value has the lowest value of 3.47 and the standard deviation of 1.120.

Table 2. Descriptive Analysis

Construct	N	Mean	SD
Competence	401	3,86	0,906
Social Value	401	3,47	1,120
Enjoyment	401	4,57	0,658
Continuance Intention	401	3,79	1,084

This study used two-stage PLS-SEM to test the hypotheses. The first stage tested the outer model. Outer Loading has a standard value of 0,5, Cronbach alpha and composite reliability have a minimum value of 0,7, and AVE with a criterion number of> 0,5 [30]. Based on Table 3, it can be seen that all indicators and variables are valid and reliable.

Table 3. Outer model measurements

Construct	Outer loading	Cronbach's Alpha	CR	AVE
Competence		0,831	0,899	0,748
Competent	0,883			
Capable and effective	0,890			
ability to play with challenges	0,819			
Social Value		0,708	0,819	0,538
Other people use	0,535			

Construct	Outer loading	Cronbach's Alpha	CR	AVE
Other people opinion	0,697			
The way perceived	0,823			
Good impression on other people	0,839			
Enjoyment		0,847	0,897	0,690
Enjoyment to use	0,819			
Pleasant to use	0,844			
Exciting to use	0,853			
Interesting to use	0,796			
Continuance Intention		0,846	0,898	0,690
Play without another alternative	0,696			
will use in the future	0,903			
Intend to continuance use	0,907			
Trust to Continuance use	0,799			

This study used the Fornell-Larcker criterion to examine the construct discriminant validity. Based on Table 4, the discriminant validity requirement is satisfied as no inter-construct correlation values are higher than the intra-construct values (along the diagonal).

Table 4. Fornell-Lacker Criterion

Variable	1	2	3	4
(1) Competent	0.865			
(2) Continuance Intention	0.377	0.831		
(3) Enjoyment	0.309	0.455	0.828	
(4) Social Value	0.401	0.384	0.169	0.731

Table 5 shows the GoF score of 0,469 which is >0,36. It indicates that the proposed model in this study has a good quality, and the data are appropriate in explaining the proposed model [30]. The coefficient of determination (R^2) is 0,331, indicating a weak value [31]. The cross-validated redundancy (Q2) has a value of 0.221 which is >0, it indicates that the model has excellent predictive relevance, and the variable is well-reconstructed.

Table 5. Inner model analysis results

Variable	AVE	R^2	Q^2
Competence	0.748		
Social Value	0.538		
Enjoyment	0.686		
Continuance Intention	0.69	0.331	0.212
Average Score	0.665	0.331	
Ave x R2		0.220	
GoF		0.469	

The variables' effect size (f 2) as shown in Table 6 has values of 0.082, 0.174, and 0.030 which can be categorized into small and medium categories [30].

Table 6. The effect sizes

Constructs	Continuance Intention
Continuance Intention Social Value	0.082
Enjoyment	0.174
Competence	0.030

The bootstrapping method was carried out to observe the path coefficient value. The result of the path analysis is shown in Table 7. It shows that all tested hypotheses are accepted. Social value significantly influences continuance intention ($\beta=0.258$, $p<0.00$) with the t-value of 5.731. Next, enjoyment has a significant effect on continuance intention ($\beta=0.361$, $p<0.00$) with the t-value of 7.707. Last, competence significantly influences continuance intention ($\beta=0.161$, $p<0.01$) with the t-value of 3.016. Thus, those three hypotheses are accepted.

Table 7. Path analysis results

	Hypotheses	β	t-value	p-value	Result
H1	Social Value → Continuance Intention	0.258	5.731	0.000**	Accepted
H2	Enjoyment → Continuance Intention	0.361	7.707	0.000**	Accepted
H3	Competence → Continuance Intention	0.161	3.016	0.003**	Accepted

Significant at p<0.01**, p<0.05*

The estimated model result is shown in Figure 2. It shows the path relationship of each variable and contains the effect value (β) of continuance intention of the esports game model of this study
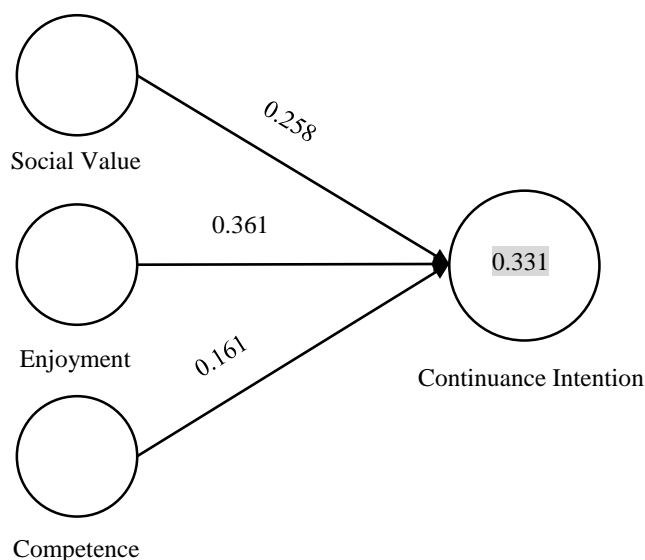

Figure 2 The Estimated Model Results.

The table below shows the results of the Impact-Performance map analysis on the Continuance Intention to Play Game. This calculation aims to determine the importance of the independent variable construction in forming a certain construct target with the resulting score. The calculation can show both low and high performance levels. The construct of enjoyment is proved to have the highest variable with an important value of 0.531 and a performance value of 97.716. Thus, enjoyment can be prioritized because it has an important value and important role in continuance intention.

Table 8. Impact-performance map analysis

Construct	Continuance Intention	
	Important	Performance
Social Value	0.258	60.565
Enjoyment	0.361	86.754
Competence	0.161	73.379

5. DISCUSSION AND IMPLICATION

The aim of the current study is to unlock the relationship between competence, perceived value, and continuance intention to play esports games. The results of this study are intended to help the esports games industry to predict gamers' behavior towards continuance intention. First, in general, the results show that competence, social value, and enjoyment are important factors affecting continuance intention in playing esports games.

Second, it shows that competence significantly affects continuance intention. This result is consistent with previous research on video games [13]. A study by Swanson [24] reveals the term "complexity", especially in referring to video games. The study says that it is important to consider the elements that make up the complexity. This finding indicates the importance of competence that can affect the gamers' intention to continue playing games. Therefore, game developers can consider the level of difficulty and complexity of the free-to-play games they develop.

Third, the study shows that social value has a positive and significant effect on continuance intention. The result of this study is consistent with the previous research on free-to-play games [12]. A study by [12] finds that games can support the self-image improvement of users by implementing a suitable set of social features. Game providers may increase users' willingness to use the service. Therefore, game developers must provide attractive game feature to connect the player with others.

Fourth, it is shown that enjoyment significantly affects continuance intention. This result is consistent with previous research on mobile games [32] and free-to-play games [12]. Enjoyment can be enhanced by frequently introducing fresh and innovative new features and contents, such as new game items, themes, or episodes [32]. Therefore, developers of esports games can increase the comfort of gamers by providing new services such as the latest game themes, episodes, and features.

Fifth, this study also analyzes the Impact-Performance Map Analysis to find the most influential performance independent variable on the dependent one. Enjoyment on the perceived value dimension can be prioritized because it has an important value and high performance on Continuance Intention. Players who already enjoy the game enough might not need any sufficient additional reason to buy virtual goods and continue playing core games [33]. The enjoyment from the features provided increases the player's continuance intention to play the game.

Last, the results of this study can be implied practically by local developers of esports free-to-play games to better understand the important factors that affect gamers' continuance intention to play games. The developers can use this result to develop better game features to maintain their consumers. They can create appropriate strategies by creating a playing guide by professional players, regular tournaments, and updating game services to improve gamers' continuance intention.

6. CONCLUSION

This study is to reveal the effect of competence, social value, and enjoyment on continuance intention to play esports games. There are three hypotheses analyzed in this study and they are accepted. This study confirms that there is an influence of each variable on continuance intention to play games. Thus, this study adds our knowledge and is expected can be applied to the esports game industry in Indonesia. It is because the game industry in this country has the fastest growth and is one of the sports games (esports) supported by the government.

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