

The Effect of Virtual Items, Character Identification and Game Satisfaction on Purchasing Decisions of Virtual Items Online (Case Study on Online Game Player Dota 2 Malang))

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Abstract:

Along with the rapid development of internet technology in the world, online games are also experiencing rapid development, for example: Game Dota 2 which includes a free-to-play game category. Although it is free to play, game players can buy or sell virtual goods from real money that has been converted into digital money. Online gaming virtual goods are the main source of income in the online gaming industry. The purpose of this study was to determine the effect of Virtual Item Value, Character Identification, and Game Satisfaction on the decision to purchase virtual item Dota 2. This study used Multiple Regression Analysis using an online survey on 92 respondents. The results showed that the variable of Virtual Item Value, Character Identification and Game Satisfaction, had a significant effect on purchasing decisions, while the Character Identification Variable, was the variable that had the most influence on the domination of purchasing decisions.

Key Words: Virtual Item Value, Character Identification, Game Satisfaction, Purchasing Decision, Online Game, Functional Item.

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I. Introduction

Online games have an influence on the human mind which is absorbed through the two senses, namely seeing and hearing. Online games are something that can be played with certain rules either individually or in groups to win or for refreshing purposes. This proves that the importance of the online game industry as one of the applications of human creativity in technology and the internet (Ho and Wu, 2012). The majority of online game players are students, students and employees. The trend of free online games first appeared in Japan.

Dota II itself is included in the *game free to play with the pay per item* category, which is a free game to play, even though it is free to play, game players can buy and sell virtual items such as weapons, clothes, and so on with real money that has been converted into digital money or what is called as cash. Virtual goods in online games are the main income in the online gaming industry (Yoo, 2015). Dota II is a game that is ranked first on the *steamspy.com* site because Dota II has the most community and players in the world with a fairly high turnover using real money (Steamspy, 2017).

The value of Virtual Items has become one of the important things in the game. Lin and Sun (2007) describe two types of virtual items themselves, namely, functional properties that are useful for maximizing the ability of game characters to be competent and decorative properties that are useful for changing the visualization of characters in the game, while for the value of the virtual items themselves, from the exposure Yoon (2008), who says that "time investment is one of the main reasons explaining the phenomenon where the virtual items in the game are proportional to the real value in the real world, the longer the process of obtaining a virtual item, the higher the value in the real world. Character identification in online games is when a gamer feels that the character he plays is a reflection of himself so as much as possible a gamer will beautify (dress up) the virtual character like himself in the real world (Ho and Wu, 2012). According to Hefner et al. (2007) in Park & Lee (2011) In the world of online games, gamers tend to identify their game characters, because these characters represent users in the social context of the game, which makes game users experience emotions based on their actions and avatars.

Satisfaction with the game is the satisfaction a gamer feels about the game he plays because the game is in accordance with the expectations he wants. According to (Ho and Wu, 2012) when the player is satisfied, the player will play the game continuously and will play the game for a long time. A person who is satisfied with the game will buy items that are sold at the game as a form of satisfaction with the game.

II. Literature Review

Online Game

Online games today are not the same as when online games were introduced for the first time. When it first appeared in 1960, computers could only be used for 2 people while playing games. Then, came a computer with Time-Sharing capabilities so that more players could play the game and didn't have to be in the same room (Multiplayer Game).

Value of Virtual Item

The definition of value, according to Djahiri (1999), is price or meaning, concept, and theory, so that it is functionally meaningful. Meanwhile, according to the Dictionary in Winataputra (1989), value is the price or quality of something. That is, something is considered to have value if something is intrinsically valuable. Virtual Item Types Lin and Sun (2007) said that there are two types of Virtual Items found in online games, namely:

Functional Item a virtual product that has a high functional value in terms of quality and usability will increase the purchase intention of the virtual product.

Decorative items is changing the visual appearance in the game. If the character display matches consumer expectations, it will increase the purchase intention of virtual products

Character Identification

Character identification in online games is when a gamer feels that the character he plays is a reflection of himself so as much as possible a gamer will beautify (dress up) the virtual character like himself in the real world (Ho and Wu, 2012). According to Park and Lee (2011) in the world of online gaming, gamers tend to identify their game characters, because these characters represent users in the social context of the game, which makes game users experience emotions based on their actions and avatars.

Satisfaction in Playing

According to marketing experts Kotler and Keller (2009), stated that satisfaction is a feeling of pleasure or disappointment of someone that arises from comparing the product's perceived performance (or results) against their expectations. According to Zeithaml and Bitner (2000), the definition of satisfaction is the responses of consumers regarding the meeting needs. Satisfaction is an assessment of the characteristics or special features of a product or service, or the product itself

Purchasing Decision

The definition of purchasing decisions according to Kotler and Keller (2012), namely: "*Purchasing decisions is a process that comes from all of their experiences in learning, selecting, using and even getting rid of a product*". The purchase decision has a structure of 6 components (Swastha and Irawan, 2014: 118).

III. Formulation Of Hypotheses

H1: It is assumed that the value of virtual items, character identification and gaming satisfaction have a significant effect on purchasing decisions.

H2: It is assumed that the variable character identification has a dominant effect on purchasing decisions.

IV. Research Methods

This research is a causal associative study using a quantitative approach. Causal associative research is research that aims to determine the effect between two or more variables. The population in this study was Dota 2 game players distributed through the dota 2 Malang City fan page, social media, personal chat, etc., the researcher took some of the dota 2 online game players to be respondents. The total population was 120 people. The sampling technique uses the Slovin formula. The sampling method using non-probability or non-random selection is purposive sampling. Purposive sampling is done by taking a sample from the population based on the criteria determined by the researcher. The criteria used can be based on certain considerations or certain given quota (Jogianto H.M, 2010).

V. Result

Overview on Dota 2 online game

Dota 2 is a game that is ranked first on the steamspy.com site, because Dota 2 has the most community and players in the world with quite high turnover using real money (Steamspy, 2017). Since it was first introduced in the world of online gaming, the activity of buying virtual items in this online game has become a natural thing for a gamer.

1. Gender

It can be seen that the male respondents are 84 respondents (91.3%). So it appears that a large part of the online game Dota 2 is male.

2. Age

It can be seen that there are 50 respondents aged 15-20 years (54.3%), so it appears that most of the online game players are 15-20 years old.

3. Education Level

It can be seen that the respondents from the college education level were 37 respondents (40.2%), so it appears that a large part of the online game players Dota 2 is college students.

4. The Duration of Game Play Time

It can be seen that the respondents from the length of playing the game in 1 week, 40 hours and over were 34 respondents (37.0%). It is known that respondents from the length of playing games in 1 week, 40 hours and over as many as 34 respondents (37.0%) So it appears that dota 2 online game players play games within a week is 40 hours.

• **Classical Assumption**
Multicollinearity

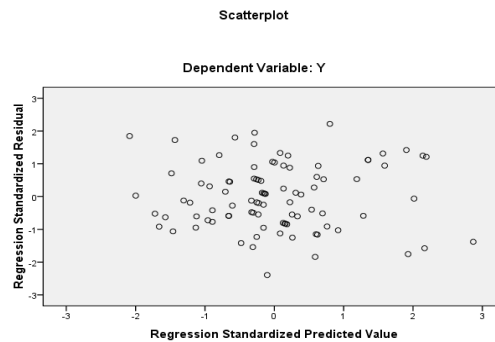
Table 1

Model		Colliearity Statistics	
		Tolerance	VIF
1	Virtual Item Value (X1)	,957	1.045
2	Character Identification (X2)	,786	1.273
3	Satisfaction in Playing Game(X3)	,806	1.240

Based on the results of the VIF calculation, it can be seen that the variable Virtual Item Value, Character Identification and Satisfaction in Playing Game has a VIF value <5, so it can be concluded that the regression model does not have a multicollinearity problem.

Heteroscedasticity

Figure :1

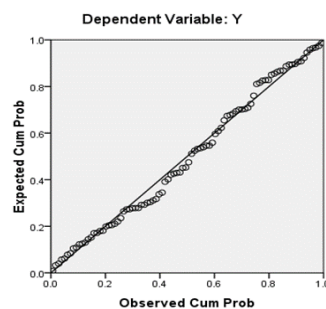


Based on the picture above, it can be seen that the dots spread randomly, do not form a certain clear pattern, and are well distributed, this means that there is no heteroscedasticity in the regression model.

Normality

Figure : 2

Normal P-P Plot of Regression Standardized Residual



The image above shows that the data (dots) spread around and approach the diagonal line. This shows that the research data which includes the variable virtual item value, character identification and game play satisfaction are normally distributed

• **Multiple Linear Analysis**

Table 2
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.388	2.510		2.944	.004
	X1	.052	.109	.042	.477	.635
	X2	.593	.128	.449	4.630	.000
	X3	.182	.078	.223	2.326	.022

Dependent Variable: Y

Based on the recapitulation table above, the multiple regression equation is as follows :

$$Y = 7.388 + 0,052 X1 + 0,593 X2 + 0,182 X3$$

a = 7.388 is a constant which means that if all the independent variables are Virtual Item Value (X1), Character Identification (X2), and Game Playing Satisfaction (X3), then the amount of the Purchase Decision is 7,388.

$\beta_1 = .052$ is the regression coefficient of the independent variable Value Virtual Item (X1), the regression coefficient is positive. This shows if the Virtual Item Value variable is good or not good, it will be followed by an increase or decrease in the Purchase Decision

$\beta_2 = .593$ is the regression coefficient of the independent variable Character Identification (X2), the regression coefficient is positive. This shows if the Character Identification variable is good or not good, it will be followed by an increase or decrease in Purchasing Decisions

$\beta_3 = 0,182$ is the regression coefficient of the independent variable on Game Satisfaction (X3), the regression coefficient is positive. This shows if the Game Play Satisfaction variable is good or not good, it will be followed by an increase or decrease in Purchase Decisions.

• **Determenation R**

Table 3

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. Change
1	.592 ^a	.350	.328	2.851	.350	15.817	3	88	.000

Predictors:(Constant),X3,X1,X2

From the table above, it can be seen that the coefficient of determination (*Adjusted R square*) is 32.8. This figure shows that the Virtual Item Value (X1), Character Identification (X2), and Game Play Satisfaction (X3) can contribute to the Purchase Decision by 32.8%, while 67.2% is caused by other variables outside of this research variable.

• **Hypothesis testing**

Hypothesis 1

To test the first hypothesis which states that Virtual Item Value, Character Identification, and Game Play Satisfaction have a significant effect on Purchasing Decisions by using the F test.

Table 3

ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	385.660	3	128.553	15.817	.000 ^a
Residual	715.242	88	8.128		
Total	1100.902	91			

Predictors: (Constant), X3, X1, X2

From the results of the calculation of multiple regression analysis using SPSS obtained $F_{hitung} = 15.187$ and probability 0.000. Because the value of F_{hitung} is greater than F_{tabel} and the probability is smaller than $\alpha 0.05$, Virtual Item Value (X1), Character Identification (X2), and Game Play Satisfaction (X3), overall have a significant effect on the decision. Purchase (Y). Thus, based on the above calculations it can be concluded that the first hypothesis is proven and statistically tested.

Hypothesis 2 (Dominant Influence)

The results of multiple linear regression analysis show that the largest regression coefficient value is the Character Identification Variable of 0.593, this means that Character Identification is a variable that has a dominant effect on the decision to purchase virtual items. Thus the second hypothesis I can be statistically accepted or tested.

VI. Discussion

The Effect of Virtual Item Value on Purchasing Decision

Based on the results of the research and data analysis conducted, it was found that the Virtual Item Value had no effect on the Dota II Virtual Item Purchase Decision. Unlike the results of previous researchers, Bong-Won Park and Ku Chang Lee (2011) describe how online game players assess virtual items and influence them to buy them. Bastian (2015) The test results show that the value of virtual items partially or simultaneously has a positive and significant effect on the decision to purchase virtual items in the online game "DOTA II". By looking at the results of the two previous studies, this study does not support previous studies to strengthen the research results

The Effect of Character Identification on Purchasing Decisions

Based on the results of the research and data analysis conducted, it was found that Character Identification had a significant effect on the Dota II Virtual Item Purchase Decision. Different from the results of previous research, Winda Sari, M. Riza Firdaus, and Ikhwan Faisal (2018) The results show that character identification does not affect the decision to purchase virtual goods Dota 2. By looking at the results of previous studies, this study does not support previous research to strengthen the research results.

The Effect of Game Play Satisfaction on Purchasing Decisions

Based on the results of the research and data analysis carried out, it was found that the Purchase Decision had a significant effect on the Dota II Virtual Item Purchase Decision. In line with the results of previous researchers Jiming Wu, Pengtao Li and Shashank Rao (2008), the results of this study indicate that the theme of the story, graphics and gameplay model of a game greatly affects playing satisfaction, and it also increases the intention to purchase virtual items in the game. In line with the results of previous researchers Bastian (2015), the test results show that game satisfaction, both partially and simultaneously, has a positive and significant effect on the intention to purchase virtual items in the online game "DOTA II". By looking at the results of the two previous studies, this study supports previous research to strengthen the research results.

VII. Conclusions

Based on the results of the research and discussion carried out, the following conclusions can be drawn:

1. The results of descriptive analysis show that the Virtual Item Value (X1) indicator shows that respondents tend to agree that the Virtual Item Value is able to contribute to the Dota Virtual Item Purchase Decision 2. The results of descriptive analysis show that the Character Identification Indicator (X2) shows that respondents tend to agree that Character Identification is able to contribute to the Decision to Purchase Virtual Items Dota 2. The results of descriptive analysis show that the Game Satisfaction Indicator, respondents tend to agree that Playing Satisfaction is able to contribute to the Dota 2 Virtual Item Purchase Decision.

2. The results of hypothesis testing show that the value of virtual items, character identification and game satisfaction has a significant effect on the decision to purchase virtual items Dota 2.
3. The results of this study, the researcher found that the Character Identification variable had a dominant effect on purchasing decisions.
4. From the results of the calculation of data analysis and management carried out in this study, it can be concluded that 32.8% of the decision to purchase virtual items Dota 2 is influenced by the Character Identification and Game Satisfaction variables.

VIII. Suggestions

Based on the results of this research, the suggestions conveyed are as follows:

1. Based on the research results it is known that there are still some respondents who categorize the Value of Virtual Items in the low category, therefore virtual item sellers are advised to pay more attention to the value or price of the virtual items they sell, of course at a price that is reasonable and in accordance with their abilities of the virtual item itself.
2. Adding or removing variables of the virtual item value which contains the item's functional question indicator and makes it easy. According to experts, the functional item increases the function and makes playing the game easier; which was because in the Dota II game, the use of virtual items does not add functionality and makes it easier to play the game.
3. Researchers can further develop this research by examining other factors that can influence virtual item purchasing decisions. Further researchers can also use other methods in their research, such as using in-depth interviews with respondents, so that the information obtained can be more varied and detailed.erdasarkan hasil penelitian ini maka saran saran yang di sampaikan sebagai berikut:

References

- [1]. Analisis Perilaku Pengguna Dalam Pembelian Item Virtual Pada Game Online Journal of Animation and Games Studies, Vol.3 No.1 – April 2017 ISSN 2460-5662
- [2]. Exploring the value of purchasing online game items Bong-Won Park a, Kun Chang Lee b, Computers in Human Behavior 27 (2011)
- [3]. Griffiths, D. M. (2015, November 17). Money for nothing (and your clicks for free?): Why do gamers buy 'virtual assets'? Retrieved 2017, from DRMARKGRIFFITHS:
- [4]. Guo, Y., & Barnes, S. (2009). Virtual item purchase behavior in virtual worlds: An exploratory investigation. Electronic Commerce Research, 9, 77–96.
- [5]. Ho, C.-H. and Wu, T.-Y. (2012). International Journal of Electronic Business Management, Vol.10 No.3: Factors Affecting Intent to Purchase Virtual Goods in Online Games.
- [6]. Ho, P.-I. (2014). The Computer Games Journal 3(1) Candlemas: The value of being powerful or beautiful in games - how game design affects the value of virtual items
- [7]. Hefner, D., Klimmt, C., & Vorderer, P. (2007). Identification with the player character as determinant of video game enjoyment. In L. Ma, R. Nakatsu, & M. Rauterberg (Eds.). ICEC 007. LNCS (Vol. 4740, pp. 39-48).
- [8]. Kotler dan Keller (2012).: "Purchasing decisions is a process that comes from all of their experiences in learning, selecting, using and even get rid of a product"
- [9]. Manajemen Journal Of Economics and Management E-ISSN. 2614-4212 (Online Game) Kepuasan dengan permainan, Identifikasi Karakter dan nilai kosumsi terhadap niat beli barang virtual (studi kasus pada pemain dota 2 indonesia)
- [10]. Mamduh, M. (2014). Ulasan game sword art online - Hollow Fragment.<http://teknologi.metrotvnews.com/read/2014/12/24/336238/ulasan-game-swordart-online-hollow-fragment>, 24 Desember 2014, diakses pada 28 Juni 2015.
- [11]. Pengaruh persepsi Nilai pada intensi pembelian produk virtual yang dimediasi oleh kepuasan, Jurnal Ilmiah Manajemen, Volume VI, No. 2, Juni 2016
- [12]. Steamspy. (2017, 08 24). Dota 2. Retrieved Agustus 2017, from Steamspy:
- [13]. Won, B. Park., & Chang, K. Lee. (2011), Exploring the value of purchasing online game items, Computers in human behavior 27, 2178- 2185, South Korea..
- [14]. Winataputra (1989), nilai adalah harga atau kualitas sesuatu produk Lin dan Sun (2007), fungsional item & Item dekoratif. identification character (Ho & Wu, 2012)

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