

Research article

Why Do People Buy Virtual Items? An Assessment Using the Theory of Functional Value

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Abstract.

Most of the revenue for online game producers comes from selling virtual goods. This study aimed to investigate the intention to purchase virtual items in online games. In these games, players can buy virtual items that can be used to improve their character's abilities. The researchers used the theory of functional value to test the intention to purchase virtual items and what factors influence this purchase intention. 100 students participated, and data was analyzed through multiple linear regression. Our results indicated that price utility influences the purchase intention of virtual items. We found that character competence and functional quality did not affect purchase intention, which was thought to be related to the social aspects of virtual communities.

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1. Introduction

Video games have now turned online due to equitable internet access. In this era of internet connectivity, game manufacturers' income comes from game sales and selling virtual items to complement game characters. Their business grows not only in selling physical games but also virtual items to complement the fun of the game. Buying virtual items in the game, players have to spend money to buy them. Virtual items in this video game are purchased through the games played by gamers. The purchase of virtual items is helpful for gamers to increase their level of play. By purchasing items offered by the game developer, players can increase the strength of their character.

Currently, the online gaming industry has increased. The market share of this industry is worth millions of dollars[1]. Miladian[2] describes the definition of virtual items and what affects customer value on their intention to buy virtual items. Virtual items are non-physical objects that can help video gameplay. Virtual items are needed because players need them for their gameplay level to increase rapidly. The value that affects the purchase of virtual items by game players can be divided into three values: functional value, emotional value, and social value. The first is functional value, which can be

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understood through the utility of price and product quality. The second is emotional value, represented by aesthetic value and the value of fun playing games. The third is social values, namely social self-image, and social relations.

Previous studies have shown that consumption value theory affects consumer purchasing behavior and virtual item purchasing decisions[1,3]. In today's internet era, sales of virtual items/goods are becoming more frequent. Virtual items are character objects, items, currencies, and tokens in online games, also these virtual things have qualities that make practical or social worth in specific conditions [4]. According to Pratiwi[5] virtual items are defined as non-physical objects that can be purchased at online games or communities. Virtual items can be said to be virtual properties, can be in the form of avatars or player characters purchased using real money.

Most of the revenue for online game producers comes from selling these virtual goods. For this reason, this research is necessary because it helps identify the factors that attract and influence players to purchase or buy virtual goods or virtual items in online games. This study aims to identify the factors that influence interest with the theory of the value of purchasing virtual goods or items in online games. The problems found in the observation are related to the functional value theory in buying virtual goods. In some games, purchasing virtual items related to increasing character competence does not affect the characters in the game. In addition, it is still felt that the price is too high for a virtual item for income levels in Indonesia. Regarding the function of virtual items, game players feel that the quality of the items purchased does not matter to improve their game performance. This research focuses on the problem to be investigated. The researcher limits this research to the variable character competence, price utility, and functional quality to buy virtual goods in online games. The research object is in Yogyakarta city, Indonesia.

2. Research Model and Hypotheses

The sale of virtual goods in online games now has been becoming one of the primary sources of income for online game service providers[1]. Players buy these virtual items by redeeming points using cash then selecting items on the graphical interface in the game. Virtual items can be divided into two, specifically functional items that increase competence and decorative items that function to change the appearance of characters[6]. Hamari[7] researched psychological and personal contextual factors that influence the purchase of virtual items. The fun factor that is felt is the pleasure and curiosity of the players in the game; the character competence is the competence

of the game user. Previous research related to marketing and e-commerce shows that the theory of consumption value influences consumer purchasing behavior and consumer purchasing decisions. Lin[8] declares that virtual goods have product or brand characteristics that create functional or social value in certain circumstances. The sale of virtual goods in online games has become one of the primary sources of income for online game service providers.

Lin[8] describe two types of virtual items: functional props and decorative props. Functional props increase the competence of game users; decorative props change the in-game appearance of game users. According to Yulius[9] online games are video game games connected to the internet or a local network (LAN) divided into several game genres. When playing online games, to be successful requires the purchase of virtual items to improve game performance. According to Miladian[2], players buy virtual items due to internal and external factors. Game players realized their need for the virtual items needed, so a purchase intention appeared to fulfill these needs. The satisfaction factor for the game is the biggest driver for someone to buy virtual items.

Furukawa[10] said that game developer selling virtual items is a way to profit. In this case, it is crucial for game developers to design optimal marketing for their virtual item offerings. Virtual item marketing campaigns will be very different from non-virtual items. In traditional marketing activities, markets and customers' products are mainly divided based on existing segmentation attributes. In the virtual world design, the rules in it are marketing activities related to creating needs and conditions that form the basis for players to benefit from buying virtual items.

Yoo[11] explains the theory of consumption value and its findings related to purchasing decisions. Consumption value theory regarding the decision-making process consists of five values: functional, social, emotional, conditional, and curious. The desire to buy a virtual item is influenced by character competency, monetary value, and character identification. According to this theory, functional value can be defined as the application that is considered functioning to meet criteria that have a functional purpose. In this study, researchers will use functional value theory. Miladian[2] argue that the consumption value theory shows that consumers have different values for product groups and become a motivating factor in buying. Value is considered a strong predictor for predicting behavior such as purchasing behavior.

Previous research has shown that functional value theory influences the purchase of virtual items in online games. The theory shows that character competency and the monetary value are functional theories (functional quality) consuming virtual goods. Practical value is the primary driver of choice for consumers regarding practical and

physical factors such as reliability, stability, and product price. According to Wijaya[1], there are two factors: price utility and quality in functional value theory. These two factors explain whether the price of virtual items and their quality is following the needs of game players. This study tries to test the hypothesis that character competence, price utility, and functional quality will influence the intention to buy virtual goods in online games. Character competence is related to the increase in the competence of characters received to buy virtual items. Pricing utility is related to how reasonable the price of a virtual item is charged to game users. Functional quality relates to the function, quality and how useful the virtual goods are.

Yoo[11] argue that you can create a type of avatar to segmentation in the game. Most performance-oriented MMO (massively multiplayer online) games have an avatar class, which determines the avatars' core competencies, the items they can use, and their play style in the game world. In more socially oriented MMO games, avatar attributes related to appearances such as gender, hair color, and style may be the more relevant attributes for defining an avatar. Game players know that characters in the online gameplay have a form/style that is not following their choices, so they make purchases to increase the status of their characters in the online game[8], so the researchers formulate hypothesis 1 as follows:

Hypothesis 1: Character competency has a positive and significant effect on purchase intention of virtual goods in online games

The value for money and the utility of pricing are concerned with how logically the virtual item prices. When the price offered is fair, users tend to buy the wanted item. Conversely, if the price offered is not proper and is considered not by logic, the user will switch to another item[5]. Based on this description, hypotheses 2 can be developed:

Hypothesis 2: Price utility has a positive and significant effect on purchase intention of virtual goods in online games

According to Pratiwi[5], functional quality is related to function and quality. Quality is the quality of all the components that form up a product to have added value. The existence of added value to the product will significantly affect the user's interest in buying the product [11]. The researcher also tested the three hypotheses to assess which effect had the most significant influence on buying interest in virtual items. Based on this description, the following hypotheses 3 and 4 can be developed:

Hypothesis 3: Functional quality has a positive and significant effect on purchase intention of virtual goods in online games

Hypothesis 4: Character competency, price utility, and functional quality together affect the purchase intention of virtual goods in online games

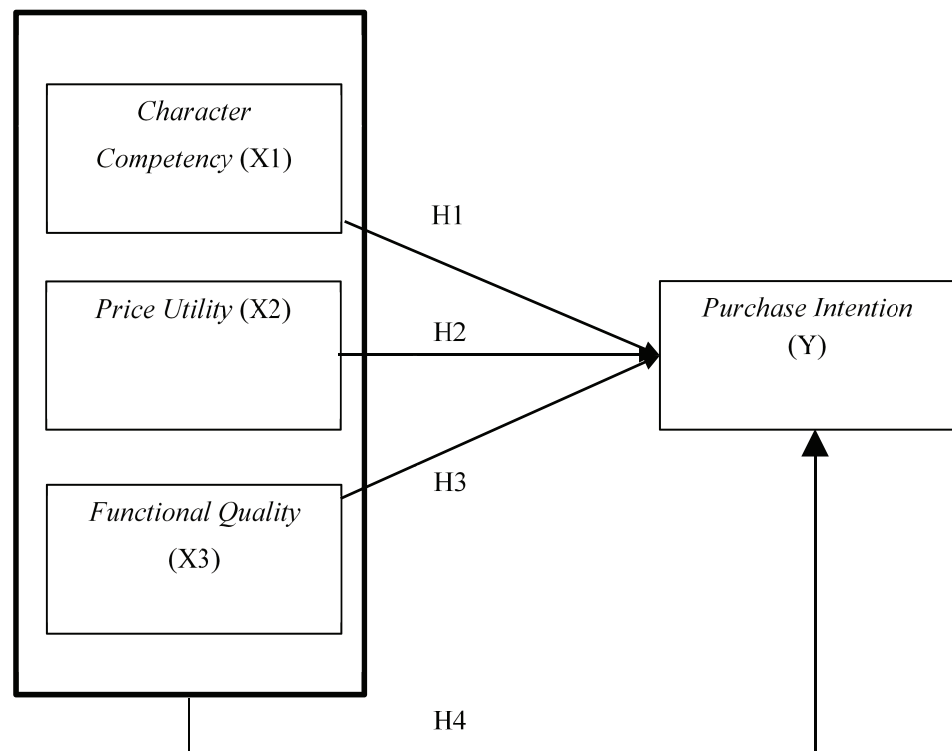


Figure 1: Research Model.

3. Research Methods

The population in this study were PGRI University students who actively play online games such as Mobile Legend, PUBG, and other popular online games. The sample of the research here is some of the online game players. The number of respondents used in this research is 100 respondents. In this examination, questionnaires were distributed using Google Forms with the sampling technique method, namely convenience sampling. The operational definition in this research is purchase intention shows how much someone wants to buy a virtual item, character competency shows an increase in the ability of online game characters, price utility shows how reasonable the price of a virtual item in online games, and functional quality shows the function and quality of virtual items in online games. The question items are arranged based on the operational definition of the variable in question. The following is a list of questions for each variable in this study:

Purchase intention (Y)

1. There is a high probability that I will purchase virtual things from this game later on
2. My readiness to purchase virtual merchandise from this game in what's to come is high.
3. The likelihood that I will purchase virtual merchandise from this game in what's to come is high.

Character Competency (X1)

1. When I decide to use or buy the virtual items sold here, I can level up my game quickly.
2. When I use the virtual items sold here, I can get game points or level ups that are more significant or more than before.
3. When I use the virtual items sold here, I can increase my game power.

Price Utility (X2)

1. Virtual goods are great products for their price
2. The price of virtual goods sold is reasonable.
3. The virtual products sold here offer extraordinary incentive for cash.
4. Virtual products sold here are viewed as prudent as far as cost.

Functional Quality (X3)

1. The virtual goods sold in the game are of an acceptable quality standard.
2. The virtual goods sold in the game can be relied on in their performance.
3. The virtual items sold in the game are good in terms of their overall advantage.
4. The virtual goods sold in the game are of a satisfactory quality level.

To ensure that the instrument is feasible, two types of instrument tests were carried out, namely validity test and reliability test. The validity test is used to ensure each question item measures what it should be measured. The test tool used is correlation analysis by comparing the score of the question items with the total score. Reliability test is used to measure the extent to which the measurement results remain consistent. Reliability test tool is Cronbach alpha. To test each hypothesis, OLS Multiple Linear Regression analysis was used. Multiple linear regression analysis is used to test whether the variable (X) has a significant influence on other variables (Y)

4. Result

The respondents in this study were 57% women or 57 respondents. Whereas for male players, as much as 43% or as many as 43 respondents. The data above shows that games are not only played by men, but women also play games. In terms of age, the respondents' ages ranged from 15-25 years or as much as 99%. The majority of respondents (students) have an allowance of 1 to 1.5 million per month, or 50% of the total respondents. Only 6% of the total respondents had an allowance of more than 2 million IDR per month. 54% or as many as 54 of the total 100 respondents played Mobile Legend as the most played game. PUBG and Clash of Clan games are in second and third place. These games offer a kind of shop that contains items that gamers can buy with real money.

The number of samples used in the instrument test was 30 respondents. The test tool used in the validity test is correlation analysis. All question items on each variable, X and Y, are declared valid. The value of r count on each positive question item and is more significant than 0.361. The test tool to measure the reliability used is Cronbach Alpha. If the Cronbach Alpha value is above 0.6, it is declared reliable. In the validity test, each variable has a Cronbach alpha value of more than 0.6, so each variable is reliable.

TABLE 1: Hypothesis testing.

	Coefficients	t stat	Sig
Intercept	0.858	1.986	0.050
Character Competency (X1)	0.166	1.680	0.096
Price Utility (X2)	0.295	2.108	0.038
Functional Quality (X3)	0.189	1.272	0.207

Based on the table above, it is known that the regression equation is as follows:

$$Y = 0.858 + 0.166X1 + 0.295X2 + 0.189X3 + e$$

Hypothesis testing based on table 1 above:

1. Hypothesis 1, which says "Character Competency (X1) has a positive and significant effect on Purchase Intention (Y) online games," is NOT SUPPORTED. This is indicated by a positive regression coefficient value of 0.166 but has a significance of 0.096 or more than 0.05.
2. Hypothesis 2, which says Price Utility (X2) has a positive and significant effect on Purchase Intention (Y) online game " SUPPORTED. This is indicated by a positive regression coefficient value of 0.295 and a significance of 0.038 or less than 0.05.

3. Hypothesis 3, which says Functional Quality (X3) has a positive and significant effect on Purchase Intention (Y) online games, is NOT SUPPORTED. This is indicated by a positive regression coefficient value of 0.189 but has a significance of 0.207 or more than 0.05.
4. Hypothesis 4 states that "Character Competency (X1), Price Utility (X2) and Functional Quality (X3) have a simultaneous effect on Purchase Intention (Y) online games" SUPPORTED ".

For details, the following is a table that shows the results of the F Test analysis.

TABLE 2: Anova.

	Df	F stat	Sig
Regression	3	8.592	0.000
Residual	96		
Total	99		

The coefficient of determination measured using Adjusted R Square shows a value of 0.187. This means that only 18.7% of the Purchase Intention (Y) variable variation can be explained by the three variables tested in this study, meaning that there are still 72.3% other variables that can explain Purchase Intention (Y). For details, the following is a table that shows the results of the coefficient of determination:

TABLE 3: Coefficients of Determination.

R	R Square	Adjusted R Square	Std. Error of the Estimate
.460 ^a	0.212	0.187	0.77885

5. Discussion

Hypothesis 1 which says Character Competency (X1) has a positive and significant effect on Purchase Intention (Y) online games, is not supported. Character Competency (X1) has a positive but not significant effect on Purchase Intention (Y) online games. It may be explained that game developers design the abilities of each character in a balanced way that aims to create ideal gameplay in the game. The context of this research can explain the phenomenon that occurs; most respondents play the Mobile Legends game. In fact, the character's abilities in the Mobile Legends game are indeed balanced, so that this is a contributing factor that the character's competence does not affect the intention to purchase virtual items. Self-image is more influential for players because they try to improve their self-image as players by having great[10]. Aesthetic factors play a greater role in a person's purchase intention of virtual items[1].

Hypothesis 2 says Price Utility (X2) has a positive and significant effect on Purchase Intention (Y) online games are supported. Price Utility (X2) has a positive and significant effect on online game Purchase Intention (Y). Respondents in this study have money/income per month in the amount of IDR 1,000,000-IDR 2,000,000; this can be categorized in the middle financial level category. Hence, it can explain how respondents care about the price in the game; they noticed that the virtual item prices had to be reasonable. Research results from[3] explain that in developing country markets, players get virtual items through playing games and not by purchasing them because of the cost-saving factor.

Hypothesis 3, which says Functional Quality (X3) has a positive and significant effect on Purchase Intention (Y) online games, is not supported. Functional Quality (X3) has a positive but not significant effect on online game Purchase Intention (Y). The context of this research can explain the phenomenon that occurs; most respondents are respondents who play the Mobile Legends game; in this game, there are virtual items that can be purchased called skins. Skin sometimes does not affect the game character's function because it only affects the player's prestige. Game players buy virtual items because they are motivated by prestige to change their character's appearance. Games are played online as a place for social interaction between players worldwide. Character appearance is something people want to show because it is related to fame.

As stated by Hamari[7], this finding is an element of competition in the game so that a virtual item that is rare and different makes players more socially viewed. Toward[2], there is a possibility that players buy virtual game items only for identity needs, concluded that players more consider social factors because of the social value felt in the virtual game community. Based on the F test and the coefficient of determination, the results of multiple linear regression tests show a simultaneous influence between all X variables and Y variables with a calculated F value of 8,592. Thus hypothesis 4, which states that Character Competency (X1), Price Utility (X2), and Functional Quality (X3) have a simultaneous effect on Purchase Intention (Y) online games, are supported. The findings of this study prove that if partially there are two unsupported hypotheses together, the influence of the variables X1, X2, and X3 on Y shows that there is an effect simultaneously.

6. Conclusion

They can interact with each other in a virtual room by having conversations via chat media for online game players. The appreciation of other players for using rare virtual

items will enhance the social image of players in the game's virtual community. The results of this study show that the character competence and functional quality of virtual items do not affect the purchase intention of virtual items. Social factors and self-image need to be tested because they are considered to affect players' purchase intentions, such as influence in virtual communities.

This study supports the opinion of Ho[4] that we can understand that game players want to improve their social self-image through purchasing virtual items and getting more attention, and becoming symbols in the community. Then, functional quality does not affect purchase intention because digital goods are considered something abstract and does not decrease quality functions like real goods. The difference is in the results of the price utility test. Chou[3] stated that price utility does not affect because virtual items do not describe the value of pleasure and self-image and a description of how worthy the virtual item is. An exception to our study, the results of this study indicate that there is one hypothesis supported, i.e., price utility; the income level of the respondents can influence this. In the context of our research in developing countries, virtual items are only to improve self-image and the possibility that respondents already have a how deserving the virtual item's price.

The results of this study indicate that social factors are thought to influence the purchase intention of virtual items. According to Lin[8], having fun, interacting with other players, and feeling that players are smart using their cash to buy virtual items are important factors before buying virtual items. Virtual item sales are the primary source of income for game developers, so understanding virtual item consumption behavior is the right thing to do. Researchers agree with Lin[8] that buying virtual items can improve player loyalty, so game developers need to consider social and psychological factors to maintain the sustainability of virtual communities in the games they build.

For further researchers, they can add a more significant number of samples for this study. The samples that researchers use are students though numerous gamers are younger. Other variables also need to be done, for example, the enjoyment variable and trying to extend the social aspects and the player's self-image. This study also did not conduct special testing of a single game title, but several titles are the most popular players in Indonesia. Changing the context of the research will provide additional insights for further research to obtain more consistent results.

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