THE INFLUENCE OF PRODUCT DESIGN ON PURCHASING DECISIONS OF VIRTUAL ITEMS ON MOBILE LEGENDS BANG-BANG GAME WITH PRICE AS A MODERATION VARIABLE

Junko Alessandro Effendy[1], Thalia Nikky Siswono[2], Fernando Arron Susilo[3]
Vivia Pauline Harliana[4], Catherine Lorena Valentina Franoto[5]
Management Study Program, Ciputra University Surabaya, Indonesia[1]
Communication Science Study Program, Ciputra University Surabaya, Indonesia[2,4]
Tourism Study Program, Ciputra University Surabaya, Indonesia[3,5]
Email: Junko.alessandro@ciputra.ac.id[1] , tsiswono@student.ciputra.ac.id[2],farronsusilo@student.ciputra.ac.id[3],
vpauline@student.ciputra.ac.id[4] , cvalentina@student.ciputra.ac.id[5]

Abstract: This research aims to find the influence of product design on purchasing decisions with price as a moderating variable. The grand theory in this research is relationship marketing, which is an approach to marketing that emphasizes fostering, developing and maintaining long-term relationships with customers rather than just focusing on short-term buying and selling transactions. Researchers used 3 variables in this research, namely product visuals, price and purchasing decisions. The population in this study was all 110 participants who were members of the esports community in Surabaya. After the researchers distributed the questionnaire, it was found that the response rate for respondents in this study was 74.54% or 82 respondents. The results of the first hypothesis show that product design influences purchasing decisions. The results of the second hypothesis indicate that price negatively moderates the relationship between product design and purchasing decisions

Keywords: *Relationship marketing, product design, price, purchase decision.*

1. Introduction

Technological development is a part that is closely related to human life. Recently, societyhas begun to feel the simultaneous impact of developments in communications technology. The development of this industry is becoming a much-discussed topic. In general, communication technology is certainly closely connected with the development of the internet and social networks. The development of communication technology and the internet not only makes things easier for society but also contributes to the country's economy because it makes things easier for many business owners (Yang et *al,* 2022)

As one of the features provided by the development of Internet technology, also game online has become one of the media that has extraordinary development. Indonesia is one of thecountries that has the largest online game players in the world. Figure 1 is a map of player distribution game online in Indonesia.

**Figure 1. Percentage distribution of the number of online game players in Indonesia
Source: Suara.com (2022)**

Based on Figure 1, it can be seen that the largest distribution of online game players is on the island of Java. Then followed by Sumatra in second place and the smallest number of players is in the Papua area. Nevertheless, it can be seen that online game technology has spread throughout Indonesia.

Mobile Legends: Bang Bang players or commonly known by the abbreviation MLBB is one most popular online game. Figure 2 shows that although MLBB ranks third in terms of downloads, it ranks first in consumer spending and monthly active users.

**Figure 2. Tournament Rankings Based on Concurrent Viewers 2022Source:
StreamHatchet.com (2022)**

Based on Figure 2, it is said that MLBB players themselves often make purchases and also continue to play. In the online game, MLBB, there are many interesting virtual items with different designs and prices. Through these virtual items, MLBB can create new opportunities by gainingprofits through various virtual item transactions carried out by consumers such as skin, the effect of adding strength, new hero, emojis¸ and many more. The players can obtain virtual items at online game MLBB in two ways, namely by buying or getting free by participating in certain special events. Virtual items can be purchased by buying diamonds at a certain price rate. The following is the price of diamonds in the MLBB online game.

Table 1. Prices Diamonds (in rupiah) *game online* MLBB

NUMBER OF DIAMONDS	DIAMOND PRICE (IN RUPIAH)
11 Diamonds + Bonus 1	IDR 3,500
77 Diamonds + Bonus 8	IDR 23,000
217 Diamonds + Bonus 23	IDR 65,000
367 Diamonds + Bonus 41	IDR 110,000
503 Diamonds + Bonus 65	IDR 150,000
774 Diamonds + Bonus 101	IDR 230,000
1.704 Diamonds + Bonus 302	IDR 505,000
4.003 Diamonds + Bonus 827	IDR 1,210,000

Source: *game online* MLBB (2023)

Based on Table 1, it can be seen that the greater the number of diamonds purchased, then the unit price for diamonds will be cheaper too. The more magnificent and festive the effect produced by the skin, then the price offered by MLBB is also getting more expensive. The following Figure 3 is a comparison of 2 MLBB hero with standard effects, medium effect and luxury effect

Figure 3. Skin comparison in two different hero Source: *Game Online* MLBB (2023)

Based on Figure 3 it can be seen that the more luxurious the effect skin a hero in *game online* MLBB, players have to spend more and more money. Apart from the skin effects, when playing,players can also show their credibility.

Product design has a very important role in the development game *online* MLBB. Thisis in accordance with research put forward by Khaliq *et al* (2022) which states that product design has an important role in game virtual as a means of getting turnover from consumers. Similar research was also put forward by Tehuayo *et al* (2022) which states that product designhas a very important role before someone buys a product virtually or online. Based on these references, it can be seen that the role of the developer game *online* MLBB in making skin eachnew period has an important role in whether the player wants to buy or not.

Apart from product design, price also plays an important role in players' purchasing decisions game online in the form of skins on MLBB. In research written by Rainga and Widiartanto (2021) apart from product design, price has a vital role in consumer purchasing decisions. Research written by Ramadhani (2022) also states that the price must be paid by online game players is important to increase the credibility of players when competing. Based on existing references, it can be seen that developers need to consider the price aspect.

Based on existing phenomena and references, researchers want to know the influence of productdesign on product purchasing decisions of virtual *game online* MLBB with price as a moderating variable.

2. Literature Review
Basis Relationship Marketing

According to Christopher *et al* (2013), *relationship marketing* is an approach to marketing that emphasizes cultivating, developing and maintaining long-term relationships with customers rather than just focusing on short-term buying and selling transactions. The goal is to increase customer loyalty and maximize long-term profits through customer satisfaction and customer retention. In research written by Ebrahim (2020) and Dash *et al* (2021), There are several important principles in relationship marketing, namely:

1) Focus on Customer Retention: Efforts to retain existing customers are usually cheaper than acquiring new customers. Therefore, maintaining good relationships with existing customers is essential.
2) Two-Way Communication: Interaction with customers is not only one-way, but also involves feedback from customers. Companies must listen to customer needs, complaints and suggestions.
3) Customer Understanding: Understanding customer needs and wants better can help companies provide appropriate products or services.
4) Provide Additional Value: Offering something of value to customers, whether in the form of products, services, or information, can increase loyalty.
5) Long-Term Relationship Building: It's not just about transactions. Companies must view customers as partners in long-term relationships.
6) Prioritize Quality: Consistent product or service quality can build trust and loyalty.

Product Design

According to Khaliq et al (2022) product design is an element that becomes a distinctive characteristic of a product so that it differentiates between products. Therefore, it is necessary to pay attention to the design of a virtual item so that it has its own appeal and characteristics of a virtual item so that it can attract the attention of consumers, (Rainga & Widiartanto,

2021). In research written by Wuryandari et al (2021) stated that there are several factors that influence the purchasing decision of virtual items. These factors are product design, online promotion and influencer. Meanwhile, research written by Loa and Berlianto (2022) states that product design is one of the important factors in someone buying virtual products online on the side of enjoyment, social value and economic value. Indicators of product design based on Wuryandari et al (2021) are graphic quality, uniqueness, sound effects, rarity level and ease of use.
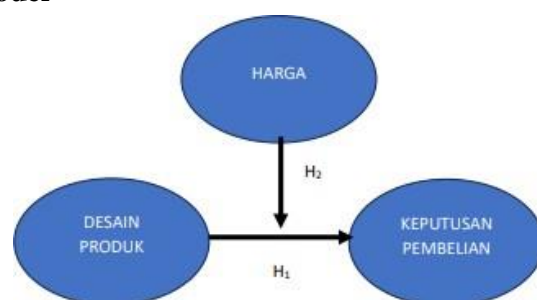
Price

According to Darmansah and Yosepha (2020), price is an aspect from which consumers see a product to be purchased as a low, high and fair price. So it is necessary for the party providing the information to provide simple and complete information as much as possible so that it is easy for consumers to understand and it would be better if it could influence the minds of consumers to feel that the price offered is a good price.

Research conducted by Rosida (2020) stated through the results of her research through partial test results that the price perception variable has a positive and significant influence on purchasing decision variables for products online. Another study written by Anbiya et al (2021) says that price is an important factor in determining someone's virtual purchases on game online. Because consumers tend to pay attention to whether the price given is commensurate with the quality. According to Rosida (2020) there are four indicators for price, namely price affordability, suitability of quality to price, suitability of benefits obtained, and price competitiveness.

Purchase Decisions

According to (Wahyudi, 2022), the purchasing decision is the final stage after consumers have gone through the various stages and considerations they have made. Apart from that, according to Rahmadianti et al (2021) it is necessary for each producer and seller to develop various strategies with the aim that consumers can make decisions about purchasing these products. Therefore, according to Verdynata et al (2023), the purchasing decision is the final stage of various complex decision-making processes. The processes that consumers go through start with consumers identifying whether the product being offered suits their needs, then consumers determine what, when, where, how and from whom consumers will buy the product. Purchasing decision indicators according to Wahyudi (2022) are product selection, dealer selection, purchase amount, timing and payment method.

Research Model

H1 : Product design influences purchasing decisions
H2 : Price moderates the relationship between product design and purchasing decisions

3. Research Methods

The research method used in this research is quantitative using the moderation effect test. Quantitative research is research in which conclusions are drawn based on the results of hypothesis testing through statistical procedures using empirical data from the results of data collection using measurement or quantification (Aksara, 2021). Population is a group of groups that originate from a collection of individuals that can be used as research objects with standards that have been determined from specific characteristics that have been determined (Firdaus, 2021). Several criteria for respondents to meet the criteria as a population include 1) joining the MLBB Surabaya Esports community 2) Having Mobile Legends: Bang Bang skin 3) Make a skin purchase on Mobile Legends: Bang Bang more than once. The population of this study was 110 people who joined the Esports community in the Surabaya area and met all the criteria.

According to Ghozali and Latan (2015), the mediation test is included in the component-based Structural equation model (SEM) using Partial Least Square (PLS) for data analysis. The reason researchers use this method is because: 1. There are many variables and paths that must be analyzed, 2. There are formative and reflective indicators, 3. So they can analyze variables directly based on indicators. According to Ghozali & Latan (2015), there are several tests that must be carried out in structural equation modeling, among others

1) Convergent validity, namely the outer loading or loading factor test for each indicator with a minimum value of 0.70
2) AVE convergent validity for each variable with a minimum value of 0.50
3) Cross loading discriminant validity for each corresponding variable must have the highest value compared to other variables and have a value above 0.70.
4) Cronbach alpha reliability for each variable with a minimum value of 0.70.
5) Composite reliability for each variable with a minimum value of 0.70.
6) Test the hypothesis using t-statistics with a value >1.96. And the p-value is below 0.05
7) The moderation effect test uses t-statistics with a value >1.96 and a p-value below 0.05.

According to Bryan and Haryadi (2018) the moderation effect is classified into 4 types, namely: pure moderator (pure moderator), quasi moderator (pseudo moderator), homogenizer moderator (potential moderator), and predictor moderator (predictor moderator). The following is an explanation of each moderation effect.

- Pure moderator (pure moderator) is moderation that can occur if the variable M has no effect on Y and the moderation effect test has an effect on Y.
- Quasi moderator (pseudo moderator) is moderation that can occur if M has an effect on Y and the moderation effect test has an effect on Y.
- The moderator homogenizer (potential moderator) is a moderation that can occur. M has no effect on Y, and the moderation effect test has no effect on Y.
- Moderator predictor is moderation that can occur if M has an effect on Y but the moderation effect test has no effect on Y.

4. Results and Discussion
4.1. Results
Data Analysis

Based on the questionnaire distributed to all respondents in this study, namely 110 people who are members of Esport Community in Surabaya. Response rate in this study, namely 74.54% or 82 people who filled out the questionnaire. There are several characteristics of respondents which are divided into the following aspects

Table 2. Characteristics of respondents based on gender

Gender	Amount	Percentage
Man	73 People	89,02%
Women	9 People	10,97%

Source: Processed data (2023)

The characteristics of the first respondents in this study were divided into gender. In this study,the majority gender was male with 73 people or 89.02% of the total respondents.

Table 3. Characteristics of respondents based on province of origin

Provincial Origin	Amount	Percentage
Bali	2 Persons	2,43%
West Java	1 Person	1,21%
Central Java	4 People	4,87%
East Java	53 People	64,63%
Kalimantan	7 People	8,53%
Kupang	1 person	1,21%
Lombok	3 people	3,65%
West Nusa Tenggara	1 person	1,21%
East Nusa Tenggara	1 person	1,21%
Sulawesi	8 people	9,75%
Sumba	1 person	1,21%

Source: Processed data (2023)

The second characteristic of respondents in this study is divided into provincial origin. In this study, the majority of respondents came from East Java with a total of 53 people or 64.63%. Followed by Sulawesi in second place with 8 people or 9.75%.

Table 4. Characteristics of respondents based on highest

Highest Skin	Amount	Percentage
Basic Skin	6 People	7,31%
Special Skin	5 People	6,09%
Epic Skin	15 People	18,29%
Collector Skin	6 People	7,31%
Legend Skin	8 People	9,75%
Event Skin Collaboration	42 People	51,21%

Source: Processed data (2023)

The characteristics of the third respondent in this study were divided into:skin highest owned. In this study, the majority of respondents had event skin collaboration with a total of 42 peopleor 51.21%. Followed by epic skin with a total of 15 people or 18.29%

Table 5. Characteristics of respondents based on player roles

Player Role	Amount	Percentage
Assassin	12 People	14,63%
Fighter	17 People	20,73%
Mage	18 People	21,95%
Support	8 People	9,75%
Tank	13 People	15,85%
Marksman	14 People	17,07%

Source: Processed data (2023)

The characteristics of the fourth respondent in this study were divided based on players role in the game Mobile Legends: Bang Bang. The majority of respondents chose mage as the main character with a total of 18 people or 21.95%. Followed by fighters with a total of 17 people or 20.73%.

Validity and Reliability Test

Based on Ghozali and Latan (2015) the first test that must be carried out is the validity test loading *factor.* Validity test loading *factor* is also used to evaluate model improvements whether the model proposed based on the indicators used can represent the related variables or not. Results of validity tests loading *factor* shows that there is 1 indicator that does not meet the minimum value of 0.70 at Y1.4 so that this indicator is considered unable to represent the purchasing decision variable. Table 6 shows the test results loading *factor.*

Table 6. Validity test loading factor

X1.1	0,821	M1.1	0,795	Y1.1	0,878
X1.2	0,827	M1.2	0,727	Y1.2	0,858
X1.3	0,815	M1.3	0,859	Y1.3	0,708
X1.4	0,742	M1.4	0,781	Y1.4	0,647
X1.5	0,827	M1.5	0,890		

Source: Processed data (2023)

The results of the AVE validity test show that all variables meet the value above 0.50. Then for the reliability test Cronbach alpha and composite reliability also shows that all variables meet the value above 0.70. Table 7 shows the results of the AVE validity and reliability test Cronbach alpha and composite reliability.

Table 7. AVE validity test, Cronbach ALPHA Reliability Test, Composite Reliability Test

	AVE	Cronbach Alpha	Composite Reliability
X (Product Design)	0,651	0,866	0,903
Y (Purchase Decision	0,607	0,786	0,859
M (Price)	0,660	0,873	0,906
Moderating Effect	1,000	1,000	1,000

Source: Processed data (2023)

Results of validity test cross *loading* shows that all indicators on suitable variables have values above 0.70 and have the highest values when compared to variables that do not match. Table 8 shows the test results cross *loading*

Table 8: Validity Test *Cross Loading*

	M	M x Y	X	AND
M1.1	0,795	-0,145	0,494	0,632
M1.2	0,727	0,052	0,276	0,332
M1.3	0,859	0,066	0,474	0,507
M1.4	0,781	0,077	0,383	0,343
M1.5	0,890	0,050	0,470	0,437
Moderating	0,004	1,000	-0,068	-0,201
X1.1	0,477	0,023	0,821	0,607
X1.2	0,401	-0,083	0,827	0,544
X1.3	0,431	0,014	0,815	0,619

X1.4	0,448	-0,055	0,742	0,526
X1.5	0,408	-0,158	0,827	0,729
Y1.1	0,529	-0,200	0,734	0,878
Y1.2	0,520	-0,201	0,714	0,858
Y1.3	0,314	-0,168	0,426	0,708
Y1.4	0,424	-0,017	0,380	0,647

Source: Processed data (2023)

Hypothesis Testing

Hypothesis testing is used to see the influence of variable X on variable Y and also to see the moderating effect between variables X and Y. Table 9 shows the results of hypothesis testing in this study

Table 9. Hypothesis Testing

	Original Sample	*T-Statistic*	*P-Value*
X →Y	0,608	5,317	0,000
M x X → Y	-0,194	3,058	0,002

Source: Processed data (2023)

Based on the results of the hypothesis test in Table 9, it can be seen that product design influences purchasing decisions so that H1 is accepted. Then, based on hypothesis testing, it canalso be seen that price negatively moderates the relationship between product design and purchasing decisions.

4.2. Discussion

The Influence of Product Design on Purchasing Decisions

Based on the results of the first hypothesis test, it can be seen that product design influences purchasing decisions of virtual items on game Mobile Legends: Bang Bang. This is shown in the value t-statistic has a value above the minimum limit of 1.96, namely 5.317 and p *value* below 5%. This is in line with research written by Wuryandari *et al* (2021) which states that product design influences purchasing decisions. On virtual items i.e. skin for hero Mobile Legends: Bang Bang, players will visually be spoiled with effects that are of higher quality in comparison to basic skin. This is also in line with the characteristics of the respondents in this study, namely that the majority of respondents are mage users. Mage skin on games Mobile Legends: Bang Bang has a drastic effect, the most high quality and the difference can be seen when compared with basic skin. The uniqueness and rarity of skin owned can also increase a player's confidence when competing, which will increase when using skins.

Price Moderation between Product Design and Purchasing Decisions

Based on the results of the second hypothesis test, it can be seen that price negatively moderatesthe relationship between product design and purchasing decisions of virtual items on game Mobile Legends: Bang Bang. This is indicated by the t-statistic value is above the minimum limit of 1.96, namely 3.058 and p-value is below 5%. The moderation results show a minus number in the table *original sample* so this shows that the role of moderation is negative. This is in line with research written by Indrawati and Suparna (2015) which states that price has a negative effect in moderating the relationship between product design and purchasing decisions. In the case of this research, it can be seen that price is a very important variable for the purchasing decisions of respondents in this research. If respondents look at the price of product design from skin Mobile Legends: Bang Bang,

then purchasing decisions will decrease. Respondents considered many aspects, for example price affordability and benefits of using skin if price are also considered and the internal effects of gameplay

5. Conclusions

1) Product design influences purchasing decisions of virtual items on games Mobile Legends: Bang Bang.
2) Price negatively moderates the relationship between product design and purchasingdecisions virtual items on games Mobile Legends: Bang Bang.

By seeing the two conclusion above, then the owner games Mobile Legends: Bang Bang It isvery important to consider the following aspects

1. Create regular price discount events, so this can attract respondents to make a purchase of skins on Mobile Legends: Bang Bang although the price is quite high.
2. Create special tasks for players and provide prizes in the form of skin at the end of the mission.
3. Team up with a certain merchant or brand that can provide discounts and also reward for skin Mobile Legends: Bang Bang.

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