

**THE EFFECT OF PRICE AND VISUAL DESIGN ON PURCHASING DECISIONS  
AND ITS IMPLICATIONS ON CONSUMER SATISFACTION OF VIRTUAL  
ITEMS IN THE ONLINE GAME MOBILE LEGENDS: BANG BANG AMONG  
GEN Z IN PONTIANAK CITY**



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**Abstract**

In today's world, technology is rapidly advancing, especially among young people. Gaming has developed significantly in Indonesia, particularly in Mobile Legends. Therefore, this study was conducted to determine and analyze the influence of price and visual design on purchasing decisions virtual items. The implications of the Mobile Legends game on consumer satisfaction among Gen Z players of Mobile Legends in Pontianak City. The method used is quantitative, using Structural Equation Modeling (SEM) as a data analysis method, using the Smart-PLS 4 application. Data collection was carried out through distributing questionnaires on Google Form which were shared through closest friends, social media and mobile legends players who played in coffee shops, using a Likert scale, distributing a sample of 100 respondents. This study concluded that price had a significant effect on purchasing decisions with a significant value of  $0.024 < 0.05$ . Visual design had a significant effect on consumer satisfaction with a significant value of  $0.032 < 0.05$ . Purchasing decisions had a significant effect on consumer satisfaction with a significant value of  $0.033 < 0.05$ .

**Keywords:** Price, Visual Design, Purchasing Decision, Consumer Satisfaction

## INTRODUCTION

Rapid technological developments are driving major transformations in the digital entertainment industry, particularly online gaming. As a form of internet-based interactive entertainment, online games allow players from various locations to interact, compete, and collaborate in a virtual world. Online games are a form of digital entertainment played over the internet, allowing players to interact with others from various locations. Online games are often played by multiple individuals in different locations, allowing players to communicate information and play games through an internet connection within a virtual world.(Costikyan & Muligan, 2004)

The number of internet users in Indonesia continues to increase annually, with the majority of them being young people, particularly students. The internet is now more than just a communication and information tool, but also a very popular entertainment medium. Gen Z internet users in Indonesia account for approximately 87% of internet penetration, or internet usage, in Indonesia.(APJII INTERNET SURVEY RESULTS, 2024)

At the time of this technological development, online games have been very popular with users since the Covid-19 era, which has made online games an activity at home to fill the free time of young people, especially Gen Z. Gen Z is Children born between 1997 and 2012. Gen Z ranges in age from 12 to 27. They are children who have been exposed to the internet and the web since they were still in their parents' arms. They are a generation born at a time when technology has already impacted every corner of the world, often referred to as the internet generation. Therefore, they are a primary target market for online gaming. One of the most popular games among this group is Mobile Legends, a MOBA game.

Mobile Legends: Bang Bang is one of the leading mobile games featuring a multiplayer online battle arena (MOBA) gameplay. Launched by Moonton in 2016, the game has captured the attention of millions of players in Indonesia and around the world. Visual design is crucial in encouraging players to top up diamonds and make purchases. The following table shows Mobile Legends: Bang Bang's global revenue growth.

**Table 1.**  
**Worldwide Gross Revenue Mobile Legends: Bang Bang**

Year	Gross Revenue (in millions USD)
2020	221,000,000
2021	223,320,000
2022	185,250,000
2023	183,850,000
2024	94,470,000

Source: Statista.com, August 19<sup>th</sup>, 2024

Based on the data above, judging by its growth rate, Mobile Legends: Bang Bang's revenue growth has been unstable each year, as shown in the Mobile Legends revenue diagram. Although Mobile Legends: Bang Bang's global revenue dropped sharply from approximately USD 183.85 million in 2023 to USD 94.47 million in 2024,(Clement, 2024). Therefore, the Indonesian market continues to show strong performance. In Southeast Asia, MLBB actually recorded 6% revenue growth, with Indonesia as the main contributor—

accounting for 44% of global downloads and recording download growth of up to 72% in Indonesia. (ma, 2024) This illustrates the crucial role of Indonesia's Gen Z in maintaining the dynamics of the mobile gaming market, through their massive download intensity and in-game purchase behavior.

In Mobile Legends, there's a wide variety of heroes to choose from, with over a hundred available. Each hero has unique skills and attributes. With such a wide variety of exciting heroes, Gen Z enjoys shopping for virtual items in Mobile Legends: Bang Bang.

Virtual items are digital items that have no physical form but hold high value in the eyes of online game players, such as character skins, special costumes, diamonds, or other items. In the context of Gen Z in Indonesia, purchasing virtual items has become an integral part of their digital lifestyle. This generation is willing to spend real money to purchase items. Generation Z grew up with the internet and gaming culture, so they view owning exclusive items as a status symbol and a way to express identity in the virtual world. Transactions to obtain virtual items

Virtual items are often purchased regularly through top-ups, driven by social media trends, in-game competitions, and the desire for recognition from friends or the gaming community. Virtual items can also serve social or entertainment purposes, such as acquiring clothing or accessories for a player's character. (Wu a & Hsu b, 2018)

According to (Kotler & Armstrong, 2017) Price is the amount of money charged for a product or service. Pricing plays a role in influencing consumer behavior. A price perceived as commensurate with the benefits offered, whether through item functionality or aesthetic value, tends to encourage players to make a purchase. The diverse range of virtual items sold in Mobile Legends: Bang Bang, including skins, diamonds, and other exclusive items, makes Gen Z highly influential in purchasing these virtual items.

In this study, the phenomenon to be studied is the influence of price and visual design on purchasing decisions and their implications on consumer satisfaction with online game virtual items. Mobile Legends: Bang Bang among Gen Z in Pontianak. Based on initial observations at the research location, many Gen Z members spend their time playing Mobile Legends in cafes, and many of them purchase attractive virtual items from the games they play.

Therefore, researchers are very interested in examining Gen Z in Pontianak's online game Mobile Legends: Bang Bang, their level of decision-making and satisfaction with purchasing virtual items they have used. This research aims to provide in-depth and more practical insights for Moonton in developing more effective marketing strategies.

## **REVIEW OF LITERATURE**

### **Price**

Price is a key component in any company. Prices enable companies to generate profits. In the Mobile Legends game, the price of virtual items like skins, heroes, or diamonds is a key factor in purchasing decisions. Developers set prices by considering item rarity, demand, and monetization strategies such as seasonal events, gacha systems, or other rewards.

Bundling packages. This creates a sense of urgency and increases player interest in topping up diamonds and purchasing items.

Previous research has shown that price significantly influences purchasing decisions for virtual game items. Price can also be influenced by the rarity and design of virtual items, such as in-game skins.(Khaliq, Listyorini, & Pradhanawati, 2022).(Kotler & Armstrong, 2017)Price is the amount of money charged for a product or service.

### **Visual Design**

Visual design is the aesthetic quality of a product and has a significant impact on consumer preferences (Can & Erdil, 2018). Visual design is one of the most important factors influencing users' affective experiences and emotional engagement in online environments.(Hassenzahl & Tractinsky, 2006).

Virtual items in Mobile Legends, such as skins, diamonds, and heroes, are designed with visuals that provide aesthetic value to players and also serve as exclusive item strategies. The more appealing an item's visuals are, the higher its perceived value and the higher the player's gaming experience. The better the design, the higher the purchasing decision (Khaliq, Listyorini, & Pradhanawati, 2022)

### **Buying Decision**

In purchasing a virtual game item that is *inonline game*, There are many influences that can influence buyers in making purchasing decisions. Purchasing decisions are a process carried out by consumers in determining their choices and are influenced by economic finance, technology, politics, culture, price, location and promotions carried out by sellers or organizations.(Fasha, Robi, & Windasari, 2022).Purchasing decision variables with dimensions include purchasing certainty, purchasing decisions because of the most preferred brand, purchasing according to wishes, recommendations from others.(Indirwan, Basalamah, & Normaladewi, 2023).

1. **Buying confidence**– a condition where consumers are confident and sure to make a purchase without any doubt.
2. **Purchase decision due to preferred brand**– consumers choose a product because they have a special preference for a particular brand that is considered better and more attractive to buy.
3. **Buy according to your wishes**– purchases are made because of personal urges or desires desired by the consumer.
4. **Other people's recommendations**– purchasing decisions influenced by advice, experience, or testimonials from other people such as playmates or hangout buddies.

### **Customer Satisfaction**

Consumer satisfaction is a person's feeling of pleasure or disappointment arising from comparing a product's perceived performance (or outcome) to their expectations (Kotler and Keller, 2017). Consumer satisfaction with a virtual item arises when users feel happy or satisfied after purchasing and using it. This satisfaction can be due to direct benefits (e.g., making a game easier or unlocking new features), pleasure and entertainment (hedonic), feelings of pride or exclusivity when owning a rare item (affective), and the pleasurable experience of purchasing and using it on a digital platform. Therefore, satisfaction with a virtual item is not only about function, but also about the emotions and experiences felt.

According to(Gunawan & Wellyantony, 2021)In previous research, Mobile Legends Bang Bang has provided a direct impression and uniqueness to consumers when playing Mobile Legends through innovations in design and quality of logos that attract the attention of game players. So that consumers are satisfied with the various displays of Mobile Legends games provided by the company.

## RESEARCH METHOD

This research is an associative research. According to Siregar(Siregar, 2017, p. 7)"Associative/relationship research is research that aims to determine the relationship between two or more variables." Using this research, we will examine the relationship between price and visual design on purchasing decisions and customer satisfaction. The research location is Pontianak City. The population in this study is Gen Z who have purchased virtual items from the Mobile Legends game. According to Siregar,data

(2017, p. 33): "Purposive sampling is a method of determining respondents to be sampled based on certain criteria." Purposive sampling was taken with criteria based on age in Gen Z ranging from 12-27 years, mobile legends players, having purchased virtual items and playing mobile legends daily. Sampling in Generation Z orChildren born between 1997 and 2012 are those known as Generation Z. Gen Z's age ranges from 12-27 years.

In this study, the population size is not known with certainty, so to determine the sample, the Rao Purba formula (2006) in Mudianto (2015, p. 5) is used, namely as follows:

$$n = \frac{z^2}{4 + (Moe)^2}$$
$$n = \frac{1,96^2}{4 + (0,10)^2}$$
$$n = 96,04$$

Information:

n = Number of Samples

Z = Normal distribution level at 5% significance level = 1.96

Moe = Margin of error, namely the maximum level of sampling error that can still be achieved.

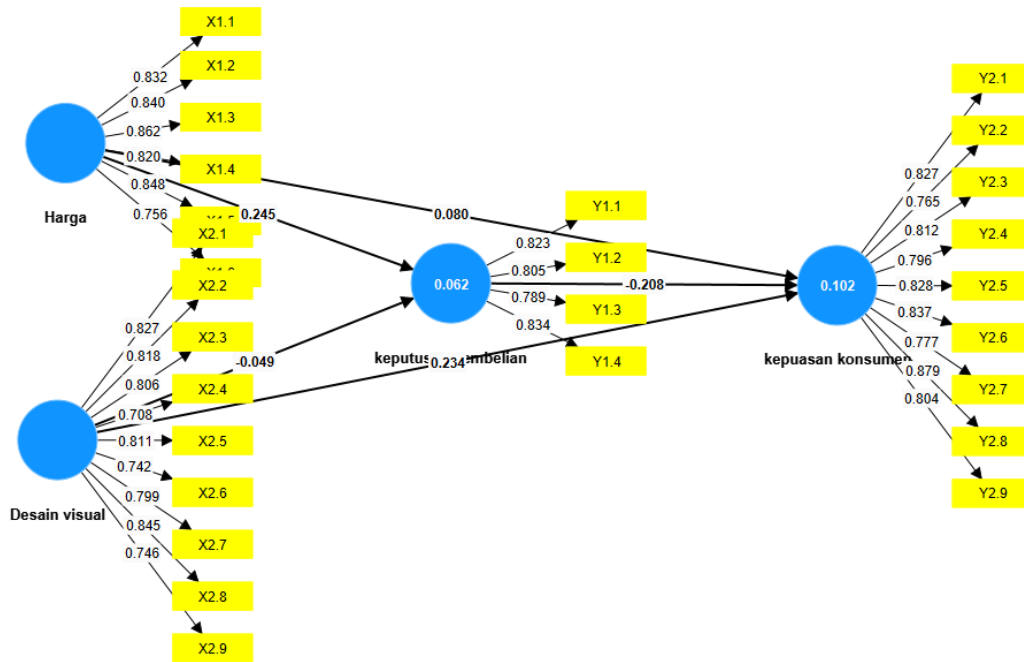
The determination of the margin of error of 10% is based on methodological considerations. Given the limitations of research resources and the assumption that the population has relatively similar characteristics, a 10% error rate is still considered adequate and acceptable to achieve the research objectives. Thus, the sample size for this study was obtained. n = 96.04 rounded to 96. The total sample size used was 96 people. However, the author rounded the sample size to 100 people to anticipate the questionnaire used in the research or data processing to simplify sample calculation in this study.

## Data Analysis Techniques

This study uses Structural Equation Modeling (SEM). SEM allows researchers to simultaneously estimate complex relationships between multiple dependent and independent variables. Two popular methods dominate SEM practice: Covariance-Based SEM (CB-SEM) and Partial Least Squares SEM (PLS-SEM).(Hair Jr, et al., 2021). Data processing was carried out with the help of Smart-PLS software with the initial data collection, then

continued with Validity test, discrimination test, reliability test, R-square test and path coefficient hypothesis testing. Smart-PLS is one of the data processing software for structural equation modeling (SEM) with the partial least squares (PLS) method.

**RESULTS AND DISCUSSION**



Based on the PLS output image above, there are factor loading values for each indicator indicated by the arrows connecting the variables and indicators. The path coefficient values are also visible, located on the arrow line between the independent and dependent variables. The R-Square value reflects how well the dependent variable explains the purchasing decision of the dependent variable circle.

**Valid Convergent**

**Table 2.**  
**Validity Test**

Variables	Price	Visual design	Buying decision	Customer satisfaction	AVE
Price	X1.1	0.832			0.684
	X1.2	0.840			
	X1.3	0.862			
	X1.4	0.820			
	X1.5	0.848			
	X1.6	0.756			
	X2.1		0.827		
	X2.2		0.818		
	X2.3		0.806		

Design visual	X2.4	0.708	0.625
	X2.5	0.811	
	X2.6	0.742	
	X2.7	0.799	
	X2.8	0.845	
	X2.9	0.746	
Decision purchase	Y1.1	0.823	0.661
	Y1.2	0.805	
	Y1.3	0.789	
	Y1.4	0.834	
Satisfaction consumer	Y2.1	0.827	0.664
	Y2.2	0.765	
	Y2.3	0.812	
	Y2.4	0.796	
	Y2.5	0.828	
	Y2.6	0.837	
	Y2.7	0.777	
	Y2.8	0.879	
	Y2.9	0.804	

Based on the table above, it can be seen that the loading factor values for all statement items are  $>0.70$ . Therefore, it can be concluded that all statement items can be declared convergently valid. Furthermore, the outer loading and AVE values have exceeded 0.5, indicating that the indicator meets the validity criteria.

#### Discriminant validity

**Table 3.**  
**Discriminant Validity**

	Visual Design	Price	Customer Satisfaction	Buying Decision
Visual Design	<b>0.790</b>			
Price	0.032	<b>0.827</b>		
Customer Satisfaction	0.246	0.037	<b>0.815</b>	
Buying Decision	-0.042	0.243	-0.198	<b>0.813</b>

Source: SmartPLS 4

Based on the table above, it can be seen that the AVE root values for each variable  $>$  the correlation between the construct and other constructs, so it can be concluded that all variables are declared valid discriminants.

#### Reliability Test

**Table 4.**  
**Validity and Reliability Test**

	Cronbach's alpha	Composite reliability (Rho_c)
Price	0.927	0.937

Visual Design	0.912	0.928
Buying decision	0.937	0.947
Customer satisfaction	0.830	0.886

Source: SmartPLS 4

In the table above, the Cronbach's alpha and composite reliability values for all variables are >0.07, indicating that the variables in the image above are reliable. Furthermore, Cronbach's alpha meets the desired criteria, which is between 0.70 and 0.90 (Hair et al., 2017).

**R Square Analysis**

**Table 5.**  
**R-Square**

	R-Square	R-Square adjusted
Buying Decision	0.062	0.042
Customer Satisfaction	0.102	0.074

Source: SmartPLS 4

Based on the table data, it is revealed that the R-square value for the purchasing decision variable value reaches 0.062 and the adjusted R-square is at 0.042. While the R-square on consumer satisfaction is 0.102 and the adjusted R-square is 0.074. In the data above, that price and visual design can provide 4.2% that occurs in purchasing decisions, while 95.8% of the remaining variation is likely due to other variables. On price and visual design can provide 7.4% that occurs in consumer satisfaction, while 92.6 of the remaining variation is likely due to other variables not covered in this study. This value is very low and theoretically, this figure shows that the independent variables used are only able to explain a small portion of the variation in purchasing decisions and consumer satisfaction.

The low R<sup>2</sup> also indicates the possibility of other variables, where other factors that should have an influence (e.g., price, product quality, service, promotion, or brand trust) are not included in the model. A smaller Adjusted R<sup>2</sup> further confirms that the independent variables used not only contribute less but also do not improve the model's predictive ability.

The low R<sup>2</sup> values (6.2% and 10.2%) indicate that although the relationship between the variables is statistically proven, in practice the influence is very small so that the results of this study are not strong enough to be used as a basis for company strategy. indicates that purchasing decisions and consumer satisfaction are more influenced by other factors outside the model, such as product quality, price, service, or brand image. Thus, the implication of this finding is that companies cannot rely solely on the variables studied, but there are other additional factors so that marketing strategies and efforts to increase consumer satisfaction are more effective.

**Hypothesis Testing**

In this study, the hypothesis was tested by applying a significant value to a two-tailed test, where a p-value below 0.05 indicates a relevant significant value. Therefore, a t-statistic value greater than 1.96 indicates significant data.

**Table 6.**  
**Path Coefficient**

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Value
Price-> Purchase Decision	0.245	0.259	0.108	2,260	0.024
Price-> Consumer Satisfaction	0.080	0.081	0.099	0.809	0.419
Visual Design-> Purchase Decision	-0.049	-0.054	0.145	0.339	0.734
Visual Design-> Consumer Satisfaction	0.234	0.254	0.110	2,140	0.032
Purchasing Decision-> Consumer Satisfaction	-0.208	-0.216	0.098	2,134	0.033

Based on the table above, conclusions can be drawn regarding the influence between variables and significance by considering the p value and t statistics as follows:

**Price -> Purchase Decision**

Based on the data analysis above, the price variable (X1) has a p-value of 0.024, indicating that it is below the threshold of 0.05. Furthermore, the t-statistic was recorded at 2.260, a value that is higher than 1.96. Based on this, it can be concluded that the price variable has a significant impact on purchasing decisions. The results of this study are in accordance with research from others who have conducted similar research, namely from (Purnamasari, Kurniasari, & Samsudin, 2019), which states that price influences purchasing decisions.

**Price -> Customer Satisfaction**

Based on the analysis of the data above, the price variable (X1) has *p-values* 0.419, the value obtained shows a higher tendency compared to 0.05 and the t statistic value of 0.809, this figure is less significant because it is less than 1.96. Thus, it can be concluded that price does not have a significant impact on consumer satisfaction. Thus, the insignificant effect of price on consumer satisfaction is likely due to the character of respondents who are not very sensitive to price. In this context, consumer satisfaction may be more influenced by other factors such as product quality and service. The results of this study are in accordance with research from others who have conducted similar research, namely from (Aditia & Suhaji, 2012), which states that price does not affect consumer satisfaction.

**Visual Design -> Purchase Decision**

Based on the data above, the visual design variable (X2) has a value *p-values* 0.734, The value obtained shows below the value above 0.05, and the t-statistic value is 0.339, which means the value obtained shows a tendency to be lower than the value of 1.96. This shows that the visual design variable does not have a significant impact on purchasing decisions. This shows that the visual design variable does not influence purchasing decisions, possibly because the majority of respondents do not make the visual aspect a primary consideration in purchasing a product.

### **Visual Design -> Customer Satisfaction**

Based on the data listed above, it is revealed that the visual design variable (X2) has a p-value of 0.032, which means that the value is below the threshold value of 0.05, the t-statistic value of 2.140, the value obtained shows a higher tendency than 1.96. So this shows that visual design has a significant impact on consumer satisfaction. The results of this study are in accordance with research from others who have conducted similar research, namely from (Handayani, Derriawan, & Hendratni, 2020), which states that design influences consumer satisfaction

### **Purchasing Decision -> Consumer Satisfaction**

Based on the data above, data analysis shows that the purchasing decision variable (Y1) has a p-value of 0.033, which means that the value is below the threshold of 0.05, the t-statistic value of 2.134 shows a higher tendency than 1.96. This shows that purchasing decisions and consumer satisfaction have a significant impact on consumer satisfaction. The results of this study are in accordance with research from others who have conducted similar research, namely from (Santoso, 2016), that purchasing decisions influence consumer satisfaction.

## **CONCLUSION**

Based on the results and analysis of the research above, the following conclusions can be drawn: a) There is a positive and significant influence between the price variable and Mobile Legends players' purchasing decisions in purchasing virtual items. This indicates that price is an important factor that encourages players to make purchases, so that the right pricing strategy will improve purchasing decisions. b) The price variable does not have a significant influence on consumer satisfaction. This finding suggests that although price influences the initial decision to purchase, it does not necessarily impact the level of satisfaction after the purchase. This could be because consumers value the quality of the gaming experience more than the price they pay. c) Visual design does not have a significant influence on purchasing decisions. This finding is quite interesting, because although the visual aspect is often the main attraction in games, it is not a determining factor in making decisions to purchase virtual items. This indicates that players are more rational in considering other factors, such as price or in-game needs. d) Visual design has a positive influence on consumer satisfaction. This means that character design, color selection, and sound effects can increase player satisfaction after making a purchase. This emphasizes the importance of a quality gameplay experience for players. e) These findings need to be examined critically, as they may indicate a discrepancy between player expectations before purchasing and actual post-purchase experiences. Players may feel they are not receiving the benefits commensurate with their costs, thus lowering their satisfaction levels.

Based on the research results, it is recommended that Mobile Legends developers align prices more closely with the quality of benefits players receive. This way, purchasing decisions are not driven solely by immediate needs but can also provide long-term satisfaction for players. Furthermore, improvements to the visuals and gameplay experience should be continuously pursued, as these have been shown to increase satisfaction, even if they don't directly influence purchasing decisions.

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