

# The Analysis of Factors Influencing Decisions When Buying Laptop

Josua Ferdinand Sedua<sup>\*1</sup>, Indrajit<sup>2</sup>, Ika Prayanthi<sup>3</sup>

<sup>1</sup>PT. Indomarco Prismaatama; Amurang

<sup>2,3</sup>Fakultas Ekonomi dan Bisnis, Universitas Klabat; Airmadidi

e-mail: \*josuasuedua97@gmail.com, <sup>2</sup>indrajit@unklab.aci.id, <sup>3</sup>ikaprayanthi@unklab.ac.id

## Abstract

*This study aims to find out what factors influence students' interest in buying laptops. This study used a combination of qualitative and quantitative methods and statistical exploratory factor analysis techniques. The qualitative methods were used in identifying the variables studied, while quantitative methods were used in grouping or categorizing these variables into certain factors. This study used 22 variables that were developed from the results of interviews and filling out questionnaires by 200 student respondents. The results of the study found that there were 5 factors that had the greatest contribution in influencing students to buy laptops. These factors were functional factors, social factors, conditional factors, emotional factors, and hobby factors. The factor that had the greatest influence was the functional factor and the smallest was the hobby factor.*

**Kata kunci**— buying laptop, purchase decision

## 1. INTRODUCTION

The rapid development of technology in the era of globalization makes the need for technology-based products is increasingly needed by the public in supporting work activities to be more effective and efficient. Competition between companies in technology industry is getting tougher so that every company engaged in technology must be able to make innovations with standards that are in accordance with the development of information technology and telecommunications. (ICT) [1]. Furthermore, it is said that the encouragement of technology acceptance from the customers makes the technology industry compete to innovate by releasing products that have certain specifications to provide a better experience to customers. One of the technology-based products needed in this era of globalization is a laptop. The function of the laptop itself is the same as the computer in general, somehow the laptop has a smaller size and lighter, so that it is more portable, and people prefer to buy and use the laptop instead of the computer.

Nowadays, especially in era of globalization, laptop users are no longer dominated by office employees but also have been widely used by young people, especially college students [2]. It happens because of a change in the literature approach at several universities that use electronic media to assist teaching and learning activities, making it mandatory for students to have laptops [3]. Considering the importance of the role of laptops in supporting students' education, students are required to be more observant when they want to buy a laptop.

The more students use laptops, it becomes a special chance or opportunity for laptop companies. Currently, many laptop companies that have been circulating in the market are competing to innovate to create sophisticated laptops. However, according to Stone [3] the more increasingly number of competitors in the technology industry, especially laptops, it is not enough

for companies to only innovate, but also need to develop more effective strategies to survive in the market.

One of the strategies that companies need to do is find out the factors that influence consumers when buying a laptop. According to Saeed et al [4] there are 4 things that motivate consumers when they want to buy and use products that offer innovation: (1) functional needs, the desire of consumers to get functional benefits from a product, (2) hedonic needs, consumers want products that can provide pleasure or satisfaction, (3) social needs, where consumers want products that can increase status and prestige or in other words consumers want products that have their own uniqueness that is different from other products, (4) cognitive needs, the existence of consumer curiosity to use a product. Nevertheless, each consumer has different considerations when they want to buy a product.

In addition to the four things stated by Shaeed et al [4] at this time the rapid development of technology has also changed consumer behavior. According to Nofianti that currently consumers tend to follow the existing trends when buying a product. It is further explained that one of the factors causing consumer behavior to follow this trend is the feeling of being threatened with being outdated when not using products that are trending or being used by many people [5].

One of the current trends is the interest to buy laptop products from America. Many young people today have been greatly influenced by globalization, and the rapid development of technology, so that in terms of choosing laptop products, most young people in Asia prefer laptop products from America, although the Asian market also produces laptop with specifications that are not inferior to the American laptop product [6]. In addition, another study found that students tend to choose Apple brand laptops which incidentally are American laptop products. Furthermore, this study also uses several factors that are used as benchmarks for students when buying laptops such as price, quality, and brand image [6]. Based on research conducted, it was found that price, quality, brand image are still the main factors that are considered by students when buying laptops. In addition, from these two studies were found that there was an influence of brand image from the country of origin that influenced purchasing decisions. Based on the description of the background above, the researcher is interested in researching what factors influence students when buying a laptop [6]. Through this studies using different method from previous research, this studies does not empirically prove the results of previous research, but tries to explore naturally from the respondent what other factors determine customer's purchase decision in buying laptops which may be something new. Through this studies companies that sell laptops can get information that is more relevant to the factors that causes purchase decision because it is obtained directly from the cusomters.

## 2. LITERATURE

The theoretical basis used in this research is the theory of consumption values and the theory of taxonomy of buying decision approaches. In the Theory of Consumption Values found that there are 5 factors that customers consider when they decide to consume a particular product [7]. The five factors are Functional Value, Social Value, Conditional Value, Emotional Value, Epistemic Value. Functional Value is a factor that drives customers to make purchasing decisions based on the performance and functional quality obtained directly from the product (goods or services) or process. Furthermore, Social Value is that customers decide to buy a product when they think the product can improve their social status. Then, Conditional Value is a factor that encourages someone to make a buying decision as a result of a condition that occurs suddenly. Emotional Value is a factor value where customers decide to buy a product because they feel happy. Epistemic Value, namely the curiosity felt by the customers to encourage them to buy a certain product [8]. Taxonomy Buying Decision is a concept where in making a buying decision everyone will go through several steps, namely: (1) Search for Information, (2) Use of Analysis Techniques, (3) Proactive Focusing, and (4) Procedural Control. Search for Information is that

customers first collect relevant information about a product to be purchased before deciding to buy a product. Use of Analysis Techniques is that customers will use certain techniques formally or quantitatively to evaluate a product before making a buying decision. Proactive Focusing is when customers make a purchase decision, they will first consider a product based on the expected period for using the product. Procedural control is that customers will make purchasing decisions based on certain rules and procedures they go through during the product offering process [9].

Functional value is a value that encourages customers to make purchasing decisions based on the performance and functional quality received from the product [7]. Based on this definition, it can be concluded that in making purchasing decisions, customers will consider the quality of the product in fulfilling its functional requirements. At this time amid many products circulating in the market, consumers tend to judge product quality based on price and brand image of a product [10]. In a marketing literature it is stated that this is a visible characteristic of a product or service that allows consumers to make inferences about product attributes that cannot be observed such as product durability or service quality, which lead consumers to determine perceptions of product quality [11]. In a study conducted by Toivonen found that the real product quality can be determined through the characteristics of the product technical and performance aspects[12]. However, in a previous study conducted by Sweeney, Soutar, & Johnson found that the most important factors for product quality are ease of use and suitability of product features with consumer needs [8]. In addition, according to Bao, Bao, & Sheng aspects such as product defects, durability, appearance, and distinctiveness are some of the things related to product quality. It is further added that perceived quality is related to consumer purchasing decisions[9].

The next factor that can influence purchasing decisions is the social value of a product. According to Mason, Conrey, & Smith that social value can affect a person's beliefs, feelings and behavior[13]. In a study conducted by Auter found that friends and family members are the most important social factors to promote products[14]. These results support previous research conducted by Sriwardiningsih, Angelia, & Aulia found that family and friends are the most influential social factors on a person's behavior[15].

Meanwhile, another study conducted by Hsu & Lin found that customers will buy products following the people around them[16]. These results support previous research conducted by Kastanakis & Balabanis which found that consumers tend to buy a product that is popular and widely used by others[17]. This happens because of the behavior of consumers who want to buy products that can improve social status so that they are not outdated and can be admired by others [5]. Based on existing research, it can be concluded that consumers are vulnerable to social influences through observations and perceptions of decisions made by others [18].

Sheth defines emotional value as a factor value where customers decide to buy a product because they feel happy [7]. Another definition according to Calista & Suparna is that emotional value is a purchase decision based on internal criteria and factors from within the consumer[19]. Therefore, purchasing decisions that involve emotions are closely related to hedonistic consumer behavior [20]. In a study conducted by Rizaldi, it was found that the background of hedonism consumer behavior who buys is to develop curiosity about change, want to improve social status, hobbies, and also because of a consumptive lifestyle[21]. These results support previous research conducted by Ekasari & Hartono which found that purchasing decisions are influenced by consumer lifestyles in which there are indicators such as hobbies, community, and entertainment. Based on these two studies, it can be concluded that emotional value can be one of the factors that influence purchasing decisions[22].

Sweeney & Soutar define Epistemic Value as the curiosity felt by the customers to encourage them to buy a certain product[8]. In a study conducted by Hedman & Gimpel, it was found that one of the factors that can influence a customer's buying decision is curiosity [23]. It was further explained that customers tend to buy a product that is considered new and unique.

Meanwhile, research conducted by Poushneh & Parraga found that there are two possibilities that consumers will make purchasing decisions based on Epistemic Value[24] . Firstly, there is an understanding from the consumers about technology, and the second one, there

is an unsatisfaction feeling with the current product or technology. These results support the previous research conducted by Won, Yoo, & Chung that Epistemic Value will be the basis for purchasing decisions for innovative consumers[25]. Based on these two studies, it can be concluded that Epistemic Value or curiosity about a new product can influence purchasing decisions if the customer has knowledge about the product, especially technology-based products.

### 3. METHOD

This study aims to determine the factors that are considered for students when buying a laptop. To be able to find out these factors, the researchers used a research approach called exploratory factor analysis (EFA), which was used to identify the factors included in these variables [26]. This study uses a combination method with qualitative and quantitative approaches using statistical exploratory factor analysis (EFA) techniques. The qualitative method was used in identifying the variables studied, and the quantitative methods are used in grouping or categorizing these variables into certain factors. Yong and Pearce say that EFA can be used when researchers want to know about what factors contribute to certain variables, and to analyze what variables have the same measurement or can be combined into one variable. Furthermore, it is said that EFA is the best approach to place variables into categories of variables that are more meaningful[26].

This research was conducted at Universitas Klabat in 2020, with students as the object of research. When the questionnaire was developed, using a purposive sampling technique, the questionnaire was filled out by 40 students with the criteria, students who had laptops. The results of the tabulation of data from filling out the questionnaire after being tested for validity and reliability were then distributed to be filled out by 200 students. The technique of selecting 200 students used accidental random sampling. The researcher took a reference according to the minimum number of samples recommended in the Maximum Likelihood (ML) estimation method where the recommended number of samples in the ML method was 150-400 data (Sin121). In accordance with the research design, the type of data used in this study is primary data. Data were collected using a questionnaire that had been previously developed by the researcher based on the results of deep interviews with 18 students who had laptops. The number of respondents interviewed depends on the level of saturation of the information obtained, in which the interview will end when the data obtained has been stratified or no new information is found. After that, the information is made in the form of a transcript so that later variables will be found to form the basis for the formation of questions that will be carried out. The questions then were carried out pilot testing to 40 other students to be tested for validity and reliability. After the instrument has met the validity and reliability test standards, the questionnaire is re-run to students based on the number of samples referring to the ML sampling method, which are 200 people.

After conducting pilot testing to 40 students, the data was then tested for validity and reliability using the SPSS program. The results of the validity test if the r-count is less than the r-table value of 0.316 then the question is removed from the questionnaire details. Then each question will be considered valid if it has symbols \* and \*\*, for questions that do not have these symbols are considered invalid and removed from the questionnaire.

Based on the results of the run in SPSS, 2 invalid statements were found from the 24 statements submitted. Thus the 2 questions must be removed from the questionnaire, so that only 22 statements will be submitted in the questionnaire.

The data is reliable if the Cronbach alpha value is greater than the specified value, which is 0.60.

Based on the results of the run in SPSS, it was found that the Cronbach alpha value was 0.742 or greater than the specified value of 0.60. Thus, the data is reliable so that it can be used as an instrument in this study.

Statistical analysis used in this research is Exploratory Factor Analysis by using SPSS. For this reason, statistical analysis is carried out through the following stages:

1. Determine the variables to be analyzed using SPSS by looking at the following values:
  - a. *Kaiser-Meyer-Olkin's measure of sampling adequacy* value should be  $> 0.6$
  - b. The value of Barlett's test of sphericity must be significant at  $p \text{ value} \leq 0.05$
  - c. Diagonal value (a) or calculation of sample adequacy (measure of sampling adequacy/MSA) seen from the Ani-Image value the correlation must be  $> 0.5$ , otherwise the item must be removed from the variable.
2. Determining the number of extracted factors, it is necessary to carry out statistical tests and then with reference to the eigenvalues where the value must be  $> 1$ . These eigenvalues are used to determine the number of factors to be retained.
3. Determine the component variables that can be categorized into factors. In this step, statistical tests are used to obtain the Varimax Rotation (Rotated Factor Matrix) value where rotation is carried out to maximize the loading factor of each variable. The minimum value for the loading factor for variable components that can be categorized into one particular factor is  $> 0.5$ .
4. Grouping these variables into the existing factors and then giving a name to each of these factors. The highest variable value that contributes to a certain factor can be used as a reference name for that factor.

To see the difference in considerations when buying a laptop between male and female students, a t-test was carried out.

#### 4. RESULTS AND DISCUSSION

Based on the research method used, it has been found that the results of the assumption test value have met the criteria where the Kaiser-Meyer-Olkin's (KMO) value is 0.880 or greater than the specified standard, which is 0.6. Thus, these results indicate that the sample used meets the number of sample adequacy. In addition, the results of Bartlett's test of sphericity are less than 0.05, which is 0.00 which shows how strong the correlation between variables is, as shown in the following table.

Table 4.1 Kaiser-Meyer-Okin and Bartlett's Test Value

The results value produces 5 students when namely (1), (2) Social Factors, Factors, (4), (5) Hobby Factors. Overall, the value that influences students' buying decisions is 61.118%, where functional factors are 32.903%, social factors are 12.063%, conditional factors are 6.449%, emotional factors are 5.145%, and hobbies are 4.557%. The overall results of the basic components in factor analysis can be seen in table 4.2	Kaiser-Meyer-olkin Measure of Sampling Adequacy		.880
	Bartlett's Test of Sphecirity	Approx. Ch-Square	1,84E3
		df	231
		Sig	.000

of testing the eigen factors that influence choosing a laptop, Functional Factors, (3) Conditional Emotional Factors,

Table 4.2 Percentage of Variance after Varimax Rotation

Each factor found by loading factor value consists of several questions with a value greater than 0.5%. in table 1.5 can be seen the variables of each question that can be categorized

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Eigen Value	4.560	2.506	2.464	2.281	1.636
Variability %	32.903	12.063	6.449	5.145	4.557
Cumulative %	32.903	44.966	51.416	56.561	61.118

in a separate factor. From the results in table 1.5 it will be seen that the first factor is that I like laptops that are easy to use in college activities ( $r=.773$ ) followed by I like laptops that have large storage memory ( $r=.766$ ). For group 1, this factor is a functional factor. Next, factor 2 is social factor, where I like laptops, whose brands are well-known in the market ( $r=.728$ ) followed by I only like 1 particular brand ( $r=.607$ ). Factor 3 is the conditional factor, where I bought a laptop because I got information from a laptop seller ( $r=.806$ ) followed by I like laptops that have a lot of color variations ( $r=.623$ ). Factor 4 is the emotional factor, where I want a laptop that can play dvd/cd ( $r=.754$ ) followed by I like a laptop that has a reliable warranty ( $r=.607$ ). Factor 5 is that I like a laptop that can play games ( $r=.762$ ) followed by I want a laptop that can run heavy programs ( $r=.554$ ).

The results of this study are in accordance with the theory stated by Sheth et al (1991) where there are 4 of 5 factors that influence customers when consuming products, namely functional factors where customers will buy based on the quality function offered from a product,

then social factors, namely customers will use the product. which can improve their social status, the third factor is the conditional factor, where the customer will buy the product due to a sudden condition, the fourth factor is emotional factor, where the customer buys a product because of feeling happy. As for the hobby factor itself, it can be classified as an emotional factor because it involves one's feelings when buying a product.

*Table 4.3 Factors*

No.	Questions	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
1	I like laptops that have large RAM.	<b>x</b>				
2	I like laptops that have large storage memory.	<b>x</b>				
3	I like laptops that are easy to use in lecture activities	<b>x</b>				
4	I want a laptop that can run heavy programs					<b>x</b>
5	I want a laptop that can play dvd/cd				<b>x</b>	
6	I like laptops that have a simple shape and are easy to carry everywhere.	<b>x</b>				
7	I want a laptop that is durable (not easily damaged)	<b>x</b>				
8	I like a laptop that is comfortable to use for typing	<b>x</b>				
9	I want a laptop that has a price that matches the quality offered	<b>x</b>				
10	I want a laptop that has an affordable price	<b>x</b>				
11	I like a laptop that can be used to play games					<b>x</b>
12	I like laptops that have a lot of color variations			<b>x</b>		
13	I like laptops that have a modern shape		<b>x</b>			
14	I like laptops that have brands that I often use (only like 1 brand)		<b>x</b>			
15	I like laptops whose brands are well known in the market (many use laptops of that brand)		<b>x</b>			
16	I like laptops that have easy-to-find and reliable service points				<b>x</b>	
17	I bought a laptop because I saw reviews done by people on you tube		<b>x</b>			
18	I bought a laptop that has a discount			<b>x</b>		

19	I like laptops that have a reliable warranty				<b>x</b>	
20	I bought a laptop that has clear information from the ad		<b>x</b>			
21	I bought a laptop on the recommendation of a friend			<b>x</b>		
22	I bought a laptop because I got information from a laptop seller			<b>x</b>		

The five factors obtained from the results of statistical testing are factors that influence student decisions when buying a laptop. These factors are then categorized as shown in table 4.4

*Table 4.4 Category Factors*

No.	Factors
1	Functional Factors
2	Social Factors
3	Conditional Factors
4	Emotional Factors
5	Hobby Factors

The results of this study are also in accordance with the research conducted by Selva, Yunarni, & Hidayat that functional value affects purchasing decisions through brand loyalty. It was further explained that when a customer is satisfied with a product from a particular brand, the customer tends to make a repurchase decision[27].

## 5.CONCLUSION

This study aims to find out the factors that influence student decisions when buying a laptop. The sample used in this study were Universitas Klabat students who had laptops. The results of this study found 5 factors that influence students' decisions to buy laptops, the five factors are functional factors, social factors, conditional factors, emotional factors, and hobby factors. From the five factors, the most influential factor is the functional factor. Then followed by social factors, conditional factor, emotional factor, and finally the hobby factor. Furthermore, based on the results of the t-test, it was found that there was no significant difference between men and women in making the decision to buy a laptop.

The limitation of this study is that the time and number of samples used are limited, so it is necessary to consider further research on the factors that influence student decisions when buying laptops to increase the number of respondents both from the interview stage to the stage of distributing questionnaires. This study has a limited number of populations, that was Universitas Klabat students, so it is highly recommended that in future research, it will use a different population and to find other new factors.

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