Analysis of Factors Influencing Laptop Purchase Decisions

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Article Info

ABSTRACT

Consumers are currently vying for laptops as desirable electronic goods. Customers consider price, brand, and quality while making laptop purchases. The study's goal covered the considerations while buying a laptop. Utilizing tools from linear regression analysis, the study methodology combines quantitative descriptive methodologies. The Likert scale is used to collect data using SPSS version 27, and 200 students are sampled from the student body of APP Polytechnic who utilize laptops. The t-test results indicate that purchasing decisions are positively and significantly influenced by price, brand image, and quality. The F test findings show that the variables together have a 13.7% influence, with other factors accounting for the remaining 86.3%.

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1. INTRODUCTION

The current state of technology has been shaped by the constantly expanding fields of research and technology. The advent of the computer age is largely due to the numerous positive effects that technological advancement has on human life from a variety of angles. For the majority of people, living in a computerized world with internet access has become essential, and it offers them the ability to create freely.

The laptop is one of the modern technical innovations that is both noticeable and widely used. Since laptops are becoming necessary rather than merely desirable, they are currently rather common in Indonesia. This is why laptop makers need to be able to quickly adapt their long-term strategy to changing consumer preferences. By doing so, they can determine the needs of the community and select laptop models that meet evolving demands and styles. It is necessary for producers to know the market share to be targeted in order to locate customers. One way is for manufacturers to understand how customers behave.

[1] The actions taken by people, groups, or organizations in relation to the process of making decisions about the acquisition and use of economically driven goods and services are referred to as consumer behavior. [2] Consumer behavior refers to the decisions made by individuals, groups, or organizations about the acquisition and utilization of economic goods or services that are subject to environmental influences. [3] Making definitions for decisions When making a purchase, a buyer first identifies the issue, then looks for information on a specific brand or product, and finally assesses how well each potential solution will address the issue before deciding which one to buy. Price, product quality, and brand image are factors that affect what a buyer decides to buy. These

factors serve as a standard for determining how much a product's efficacy influences consumers' decisions to buy.

Study by [4] The price of a good or service is the amount that is paid for it, or it is the amount that customers must pay in exchange for the advantages of having it or utilizing it. Futhermore [5] The price of a good or service is the sum of money needed to purchase it, along with any associated advantages or services.

Product quality by [3] constitutes "a characteristic of a product or service that depends on its ability to satisfy stated or implied customer needs". According to [6] Anything that may be purchased, utilized, consumed, or presented to the public and satisfy consumer demands or wants is considered a high-quality product.

Brand perception is the next element affecting the decision to buy. According to [7] A person's perceptions, assumptions, and opinions about an item collectively form their brand image. Brand image is defined as the consumer's view and level of trust that is ingrained in the consumer's mind and memory, according to [8].

The laptop brand Asus is one of the popular and commonly used laptops in use today. Both adults and teenagers in Indonesia can now get the laptop they need thanks to the Asus brand. The attractiveness of Asus laptops is evident in their dynamic and fashionable designs, and their output goods consistently have a classy appearance in a range of color options. This pie chart is from the retail version of an Asus traditional sharing laptop:

Source : review1.st.com

The pie chart above shows that Asus laptops account for 59.8% of Indonesian laptop sales. Asus laptops are well-known for their robust build quality, with the most popular models being from the Zenbook and Vivobook series. The Zenbook and Vivobook models are designed with gamers in mind.

The most well-liked consumer laptop line in Indonesia in 2021 is Asus, which includes the ZenBook and VivoBook series. Asus laptops continue to dominate the Indonesian market, despite a decline in market share in early 2021. In the Indonesian consumer laptop market, Asus once again demonstrated its supremacy. The market share of Asus laptops is leading, according to Microsoft activation data through November 21, 2021. In Indonesia, Asus has a 43.59% market share for consumer laptops. The data suggests that in 2021, Asus will continue to rule the market. It is anticipated that this study will deepen our knowledge of how brand image, pricing, and quality affect consumers' decisions to buy laptop products. Furthermore, it is anticipated that this research will serve as a reference for future studies on the interest in buying laptop items.

Based on the reasons above, researchers are interested in conducting more in-depth research on price, brand image and quality on laptop product purchase decisions by taking the research title "ANALYSIS OF FACTORS THAT INFLUENCE LAPTOP PURCHASE DECISIONS". Based on the background above, the formulation of the problem in this study that wants to be studied more deeply, is: (1). How does price affect the purchase decision of laptop products?. (2) How does brand image affect laptop product purchasing decisions?. (3) How does quality affect laptop product purchasing decisions?. (4) How does price, brand image and quality affect laptop product purchasing decisions?

2. LITERATURE REVIEW

2.1 Definition of Price

Price is defined as the sum of money that customers pay for a good or service, or as the amount of money they exchange for the advantages of having the good or service. This is according to [4]. Price is the sum of money required to purchase a specific quantity of

goods, advantages, and services, according to [5].

Some definitions are offered by [9], who states that the price is the item's worth stated in monetary terms. Price can be a good indicator of a product's brand quality, since people tend to assume that high costs correspond with high quality. Prices have a significant impact on individuals, businesses, and the macroeconomy, as stated by [10]:

2.2 Pricing Strategy

Geographic pricing, price discounts and incentives, promotional pricing, and price discrimination are the five categories into which pricing strategies are divided, according to [4]. The business chose to set its product prices according to the needs of customers in various nations and regions. Regarding pricing breaks and business rewards in general, it will modify prices, offer rebates and incentives for prompt payments, quantity of sales, off-season purchases, and the latter, promotional pricing.

2.3 Brand Image

When consumers lack sufficient knowledge about a product, they will utilize its brand image as a heuristic to help them evaluate it, according to [11]. According to [3], the measurement of a brand's image may be carried out by considering its strength, favorability or advantage (favorability of brand associations), and originality (uniqueness of brand associations).

2.4 Quality

2.4.1 Definition of Quality

Quality, according to [7], is a reflection of how customers feel about a brand in general. Within the context of consumer behavior, a consumer's perception of quality is crucial, and manufacturers engage in a variety of strategies to meet consumer expectations and deliver high-quality goods and services.

2.4.2 Quality Perception Indicators

Opinions are included in the quality perception factor. [12], the seven categories that comprise the quality perception dimension are as follows: (1) Performance: includes a number of essential operational traits. (2). Service: indicates the capacity to offer services related to the product. 3. Durability: indicates how long a thing will last economically. (4). Product performance and consistency from one purchase to the next is known as reliability. (5). Additional components of the product, or what are referred to as features, are product characteristics. (6) Conformity to specifications refers to the degree of quality achieved during the manufacturing process (i.e., none from the factory) in relation to pre-established and verified requirements. (7). Leads to a perceived quality that incorporates the six previously mentioned dimensions.

2.5 Purchase Results

The final purchasing behavior of consumers—individuals as well as households—who purchase products and services for their own use is referred to as a purchase choice, according to [8]. A purchasing decision is defined by [3] as the process by which a customer identifies his problem, looks for information about a certain brand or product, assesses how well each alternative addresses his problem, and ultimately decides what to buy. As per [13], the moment when a customer makes a decision, buys the product, and consumes it is known as the purchasing decision. Customers can choose to buy themselves physically, but they can also choose for others to do so.

2.6 Previous research

This study can make use of a number of earlier investigations as references, such as: Product quality, pricing, and buy decisions on Asus laptops are in the good category, according to [14], who carried out a study on "The effect of product quality and price on the purchasing decisions of Asus laptop consumers." Furthermore, every variable—partial or simultaneous—has a big impact on consumer buy choice factors and purchasing decisions themselves. Brand awareness, brand association, quality perception, and brand loyalty all work together to impact the buying choice of Acer laptop products, according to a study done by [15] titled "Acer laptop product purchase decisions in the Covid-19 era".

[16] carried out a study titled "Analysis of factors that influence consumer buying interest in choosing acer laptops at the Manado Computer Lestari store." The study's findings included information on customer interest in Aspire, operating system preferences, product quality, prices, and promotions, all of which have an impact on consumers' interest in purchasing Acer laptops. [17] carry out study "Influence Brand Equity and product quality against the purchase decision of asus brand laptops in Tabanan city". Findings of the research indicate that: (1) brand equity and product quality have a 69.2% significant impact on purchase decisions; (2) brand equity Purchase decisions are positively and significantly influenced by product quality by 31.5%, and by 31.3% and 31.5%, respectively. A study titled "The Effect of Price and Product Quality on the Purchase Decision of Acer Brand Laptops" was carried out by [18]. The study's partial findings indicate that, while price has a positive and significant influence on purchasing decisions, product quality also has a good and significant influence. Price and product quality both positively and significantly affect consumers' decisions to buy.

2.7 Framework of Thought

As stated in [19] The conceptual framework for research variables examines the relationships between theories pertaining to the independent and dependent variables that will be the subject of the study.

The conceptual framework suggests the factors to be examined, which are purchase decisions as dependent variables and price, brand image, and quality variables as independent variables. The following image serves as the basis for this study's framework:

Figure 2.1
Frame of Mind
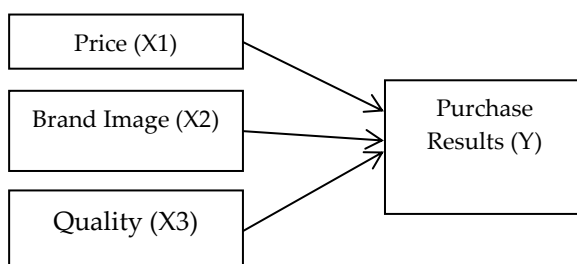
2.8 Hypothesis

[20] Formulating a hypothesis is a stopgap measure to address a research topic that has been formulated as a question.

Therefore, theories that provide empirical solutions through data collecting can also be articulated as hypotheses in response to research problem formulations. The following is the study's temporary hypothesis, which is based on the previously mentioned problem formulation and conceptual framework:

H1: Price has a positive and significant partial effect on the Purchase Decision of Asus brand laptops for APP Jakarta Polytechnic students.

H2: Brand Image has a positive and partially significant effect on the Purchase Decision of Asus brand laptops for APP Jakarta Polytechnic students

H3: Product Quality has a positive and significant partial effect on the Purchase Decision of Asus brand laptops for APP Jakarta Polytechnic students.

H4: Price, Quality and Brand Image simultaneously have a significant influence on the Purchase Decision of my laptop

3. METHODS

3.1 Research Desain and Sample

The APP Jakarta Polytechnic Campus is where the research is being undertaken. The research project is scheduled to run from March 2023 until October 2023. Primers and seconds are included in the data gathering. Primary data is information gathered directly from the item under analysis by individuals or organizations. It may take the form of interviews or observations depending on the needs of the particular study. The information is already prepared. Other parties, such as literature studies and print media (books, journals, and mass media), have gathered and processed it.

According to Ferdinand (2006), a population is a collection of elements that take the shape of things, events, or individuals with comparable traits that are the focus of a researcher since it is viewed as a universe of investigation. Students from APP Polytechnic who utilize computers and complete online

surveys make up the study's population. According to Sugiyono, the sample reflects the quantity and qualities that the population possesses (2010). In this study, 200 laptop users made up the sample.

3.2 Operational Limitations and Variable Operations

Table 1
Variable Operationalization

Variable	Definition	Indicator	Measurement Scale
Price (X1)	A sum of money spent by APP Polytechnic students to benefit from the use of laptop products	1 Priced 2 Price offered according to benefits 3 Price comparison with competitors' products 4 The price tag with Product Quality	Likert
Brand Image (X2)	Perception of APP Jakarta Polytechnic students towards laptop products	1 Easy to recognize 2 Brand platform 3 Has a lot of variety 4 Good track record	Likert
Quality (X3)	The ability of laptop products to carry out their functions as expected by APP Jakarta Polytechnic students	1 Performance 2 Reliability 3 Compliance with specifications	Likert
Purchase Results (Y)	A series of processes passed by APPJakarta Polytechnic students in making decisions to buy laptop products	1 Consumer needs 2 Information search 3 Evaluation of confident alternatives to buy	Likert

Source: Data Processed

3.3 Variable Measurement Scale

This study's variable indicators are measured using the Likert scale, which is accomplished by gathering statements or questions and assigning a range score to each item. The Likert scale is employed to assess an individual's or a group's attitudes and opinions regarding social issues. Variable indicators are used to describe the variables to be measured using the Likert scale. Then, the indication is utilized as a reference point to build instrument items, which may take the shape of queries or statements. The five responses on the Likert scale are as follows:

The following are the scoring guidelines:

Table 3.2
Likert Scale Instrument

No.	Question	Score
1.	Totally Agree	5
2.	Agree	4
3.	Nervous	3
4.	Disagree	2
5.	Strongly Disagree	1

Source: [21]

3.3 Data Analysis Methods
3.3.1 Validity Analysis

A measure of a research instrument's validity's extent is its validity test. If there is a higher correlation coefficient than the critical value between the item score and the total variable score, the measurement instrument requirement is considered valid.

Testing the validity of a test involves comparing the item score to the total score. In this study, the correlation method employed for this purpose is Carl Pearson's "product moment" correlation approach. $\sigma = 0.05$ with r table = 0.159 is the significance threshold that is being employed. If r count is more than r table, then the data is considered legitimate. Any inaccurate information or items ought to be removed.

3.3.2 Test for Reliability

An index that indicates a measuring device's degree of trustworthiness or dependability is called a reliability test. When a measurement tool is stable—that is, steady, dependable, and predictable—it is considered to have high dependability. In this study, Cronbach Alpha methodologies will be employed to determine the degree of reliability or trustworthiness. The more stable a device is in measuring symptoms, the higher its reliability. measurement indicators for reliability as per [22], which divide several reliability levels based on the subsequent standards (1). Good dependability (2) is between 0.8 and 1.0. Reliability range: 0.6 to 0.799 = Acceptable (3).less than 0.6 ~= unreliable

3.5 Test Hypothesis

3.5.1 Double Linier Regression Analysis

This tool is used to determine the effect between independent variables (x) on dependent variables (y), where the independent variable consists of more than two variables. The formula used is:

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + e$$

The t-test is used to determine the significance of the effect of an independent variable on a dependent variable. It involves formulating null and alternative hypotheses and calculating the t-value. If the significance

is less than 0.05, the null hypothesis is rejected, indicating a significant effect of the independent variable. If the significance is greater than 0.05, the null hypothesis is accepted, indicating no significant effect. The F-test, on the other hand, determines the combined effect of multiple independent variables on the dependent variable. It also involves formulating null and alternative hypotheses and calculating the F-value. If the significance is less than 0.05, the null hypothesis is rejected, indicating a significant combined effect of the independent variables. If the significance is greater than 0.05, the null hypothesis is accepted, indicating no significant combined effect. The regression coefficient, represented by R2, measures the proportion of the dependent variable's variance explained by the independent variables. A value close to 1 indicates a strong influence, while a value of 0 indicates no influence.

4. RESULTS AND DISCUSSION

4.1 Data Description

A total of 200 respondents were given questionnaires, each of which contained 18 questions about research variables such as price (X1), brand image (X2), and quality (X3) as independent variables and Purchase Decision (Y) as a dependent variable in qualitative descriptive research. This method of data collection was used. In order to shed light on the attributes of the concerned respondent, the following respondent data will be displayed in a table:

4.1.1 Characteristics of respondents by semester

The classification of respondents based on semester level can be seen in table 3.1 below:

Table 4.1
Characteristics of respondents by semester

No	Semester	Sum	Percentage
1	I	44	22%
2	III	101	50,50%
3	V	55	27,50%
Sum		200	100%

4.1.2 Characteristics of respondents by age

Table 4.2
Characteristics of respondents by age

No	Age	Sum	Percentage
1	17	3	1,50%
2	18	52	26%
3	19	55	27,50%
4	20	46	23%
5	21	24	12%
6	22	15	7,50%
7	23	5	2,50%
Sum		100	100%

4.1.3 Characteristics of respondents based on the source of income (pocket money).

Table 4.3

Characteristics of respondents based on source of income (pocket money)

No	Hobbies	Sum	Percentage
1	Parents	188	94%
2	Already working	12	6%
Sum		100	100%

4.2 Test Validity and Reliability

Test the validity and reliability of the instrument in this study using the SPSS program version 27, statistic for windows. Respondents in this study were 200 people.

4.2.1 Validity Test

The results of the validity test in this study are illustrated in the following table with the provisions of the Validity Test (r table = 0.138):

Table 4.4
Validity Test

Variable	Question Item	r calculate	r table	Information
X1	1	0,783	0,138	Valid
	2	0,760	0,138	Valid
	3	0,784	0,138	Valid
	4	0,828	0,138	Valid
X2	1	0,766	0,138	Valid
	2	0,805	0,138	Valid
	3	0,751	0,138	Valid
	4	0,615	0,138	Valid
X3	1	0,849	0,138	Valid
	2	0,878	0,138	Valid
	3	0,856	0,138	Valid
Y	1	0,818	0,138	Valid
	2	0,871	0,138	Valid
	3	0,834	0,138	Valid

From the calculation above, all question items on variables X1, X2, X3 and Y are valid because r-count is greater than r-table by (r-table = 0.138). This means that all items in the questionnaire questions can be used for future testing.

4.2.2 Reliability Test

Table 4.5
Reliability Test

Variable	Cronbach's Alpha	Information
X1	0,793	Reliable
X2	0,714	Reliable
X3	0,825	Reliable
And	0,788	Reliable

From the table above, all variables have a Cronbach's Alpha value greater than 0.7 which indicates that all research variables are reliable, so that henceforth each item on each variable is worthy of being used as a measuring tool.
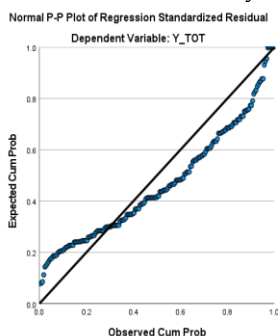
4.3 Classical Assumption Test
4.3.1 Normality test

Normality testing in this study used a normal probability plot test. The results that have been processed by researchers are as follows:

Figure 4.1

Results of Normal Probability Plot Test

Source: Data Processed (SPSS Output 27), 2023

Because the normal graph form does not veer to the right or left, figure 4.1 indicates that the data is normally distributed. The distribution of the points (data) around the diagonal line is depicted in the image, and it follows the diagonal line's direction. Thus, it can be said that the regression model of how price, brand image, and quality affect decisions to buy indicates that the data is normally distributed and satisfies the assumption of normalcy, as demonstrated by the normality test.

4.3.2 Multicollinearity Test

The tolerance value and VIF (Variance Inflation Factor) value must be examined in order to test for multicollinearity symptoms and identify whether multicollinearity exists between variables. Regression analysis can conclude that there is no multicollinearity in the model if the tolerance value is larger than zero point one zero (tolerance value > 0.10) or the VIF value is less than ten (VIF < 10.00). The following tests were run to determine whether multicollinearity was present or absent:

Table 4.6

Multicollinearity Test

Model		Collinearity Statistics	
		Tolerance	BRIGHT
1	(Constant)		
	X1_TOT	.921	1.086
	X2_TOT	.925	1.081
	X3_TOT	.912	1.097

Source: Data Processed (SPSS Output 27), 2023

The multicollinearity test's tolerance value and VIF value are displayed in the table above as follows: (1) The VIF value of 1.086 < 10.00 and the tolerance value of 0.921 > 0.10 are assigned to the price variable. (2) Its VIF value is 1.081 < 10.00 and its tolerance value is 0.925 > 0.10 in the brand image variable. (3) The quality variable's VIF value is 1.097 < 10.00 and its tolerance value is 0.912 > 0.10. All three variables—price, brand image, and quality—have tolerance values larger than 0.10 and VIF values less than 10, according to

the data above. Therefore, the conclusion that these independent variables do not exhibit multicollinearity can be drawn.

4.4 Multiple regression hypothesis test
4.4.1 Partial Test (t-Test)

To find out how much an independent variable contributes to the explanation of a dependent variable on its own, one can utilize a partial test (t-test). Following the analysis, the following outcomes were found:

Table 4.7

Partial Test Results (t-Test)

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Say.
1	(Constant)	1.896	.510		3.720	.000
	X1_TOT	.108	.047	.158	2.295	.023
	X2_TOT	.110	.051	.147	2.142	.033
	X3_TOT	.245	.069	.245	3.547	.000

Source: Data Processed (SPSS Output 27), 2023

It can be seen from table 4.6, with this appears the multiple regression equation as follows:

Y =1,896 + 0,108X1 + 0,110X2 + 0,245X3 + e

The choice to buy a laptop can be explained by each independent variable in the manner listed below: (1). When the variables for price, brand image, and quality are all almost zero (0), the purchase decision variable has a constant value of 1.896, indicating that its value is between 1.896 and 1.966. (2). The price variable's multiple regression value is 0.108 in the positive direction. Thus, the purchase decision variable will increase by 0.108 if all independent variables stay the same and the price level rises by one. (3). A positive multiple regression of 0.110 is observed for the brand image variable value. The purchase decision variable will rise by 0.110 if other independent variables stay the same and the degree of brand image rises by one. (4). A positive multiple regression with a value of 0.245 is found for the quality variable. That is, the purchasing decision variable will increase by 0.245 if other independent variables stay the same and the quality level rises by one.

4.4.2 Test t

Partially, the following conclusions can be drawn from the preceding table:

How pricing affects decisions to buy It is required to test the hypothesis in order to determine whether or not pricing influences buying decisions. Decision-making is based on the following:

H0 =   *There is no influence between price and purchase decision*

H1 =   *There is an influence between price and purchase decisions*

When the regression coefficient exhibits a positive sign of 0.108 and the significance level of 0.023 < 0.05 is met, H1 is deemed to be valid. Drawing conclusions from these findings, one may say that factors related to price level have a noteworthy and favorable influence on buying decisions. This leads to the conclusion that when prices increase, more people will choose to buy.

The hypothesis needs to be tested in order to ascertain whether brand image influences purchase decisions. Decision-making is based on the following: H0 = There is no relationship between brand perception and purchase decisions, and H1 = There is a relationship between brand perception and purchase decisions. The following results are shown based on the t test table above: The regression coefficient is positive (0.110), indicating a substantial influence, and the significant threshold is 0.033 <0.05, which supports the acceptance of H1.

Based on these findings, it can be said that the variable degree of brand image has a major and positively directional influence on purchasing decisions. From this, it follows that a rising brand image will lead to a rising purchasing choice.

It is vital to test the hypothesis in order to ascertain whether quality influences purchase decisions. Decision-making is based on the following: H0 = Decisions on what to buy are unaffected by quality H1 = Quality has an impact on decisions made about purchases. The findings are as follows, based on the t test table above: Given that the

significance threshold is 0.000 <0.05 and H1 is accepted, there is a significant effect where the regression coefficient (0.245) is positive.

Based on these findings, it can be said that the variable quality level significantly and favorably influences consumers' decisions to buy. From this, it may be inferred that as quality increases, so will consumer choice.

4.4.3 Simultaneous Test (F-Test)

To find out how much the independent variables contribute to explaining the variation in the dependent variable, a simultaneous test (f-test) is utilized. The following are the conclusions drawn from the analysis:

Table 4.8
Simultaneous Test Results (F-Test)

ANOVA

Model		Sum of Squares	df	Mean Square	F	Say.
1	Regression	117.284	3	39.095	11.517	.000b
	Residual	665.336	196	3.395		
	Total	782.620	199			

a. Dependent Variable: Y_TOT

b. Predictors: (Constant), X3_TOT, X2_TOT, X1_TOT

Source: Data Processed (SPSS Output 27), 2023

It is evident from table 4.7 that the value is assigned 0.000. A comparison of the significance value 0.000 and the significance value 0.05 was made based on the acquired results. In summary, the findings indicate that decisions about laptop purchases are significantly influenced by price, brand image, and quality at the same time.

4.4.4 Coefficient of Determination

Table 4.9
Coefficient of Determination Test Results
Model Summaryb

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.387a	.150	.137	1.84244	1.907

a. Predictors: (Constant), X3_TOT, X2_TOT, X1_TOT

b. Dependent Variable: Y_TOT

Source: Data Processed (SPSS Output 27), 2023

Price, brand image, and quality—the three independent variables—all have an impact on purchasing decisions when taken as a whole, as Table 4.8 demonstrates. Of the total, 86.3% is determined by other factors, with variables X1, X2, and X2 having a 13.7% influence on variable Y.

5. CONCLUSION

These conclusions can be made in light of the data analysis results and the examination of the factors that influence APP Jakarta Polytechnic students' laptop purchases, as detailed in chapter IV: The data analysis indicates that price factors have a substantial and favorable impact on laptop purchasing decisions. The data analysis indicates that brand image factors significantly and favorably influence people's decisions to buy laptops. Quality factors significantly and favorably impact laptop purchasing decisions, according to data analysis findings. Price, brand image, and quality all have a favorable and considerable impact on laptop purchase decisions when taken into account together, according to data analysis results.

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