

THE EFFECT OF PRODUCT DESIGN, BRAND IMAGE, AND PRODUCT QUALITY TOWARDS PURCHASING DECISIONS OF LAPTOP BRANDS

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Abstract

The study intended to identify factors affecting student's selection of senior high school. The study combines qualitative and quantitative approaches. Qualitative approach was used to identify variables and quantitative approach was used to group the variables into factors. Forty-one variables were derived from interview was converted into a 41 items questionnaire. Using exploratory factor analysis with principal factor extraction, six factors are extracted with 22 remain significant variables. The six factors that contributed to the preference in selecting senior high school were variety of school programs, discipline, school environment, academic quality, focus on spiritual, sport facilities. The highest preference in selecting senior high school was variety of school programs while the least variance was sport facilities. No significant difference was found between male and female students in selecting senior high school.

Keywords: Students' selection, variety of school programs, discipline, school environment, academic quality.

INTRODUCTION

In essence, if a company can become a market leader through a long struggle in winning business competition so that it can control the largest market share; creative innovation; or indeed the first party in entering the market with its specific products (Tjiptono, 2015). If in order to stay better among the competition, then the company must take three steps that must be done, namely: the company must find a way to expand its marketing network based on market demand, take defensive and offensive actions to protect its market share, and trying to increase its market share (Kotler, & Keller, 2016). Therefore, the importance of understanding consumer desires in laptop products that he wants has become a concern for various education worlds ranging from junior high school, junior high school and even to college level. The existence of technological developments at this time many people are not far from the existence of laptops in every day. Market potential in Indonesia, Acer-produced laptops are laptops with brands that are included in a good product class, and are offered at relatively cheap prices when compared to competitors, such as HP, Dell, Lenovo; Toshiba, Sony and Compaq. Good image for Acer because it is a consumer preference for laptops and supports the value of Acer itself. Acer ranked first in the market choice from 2010 to April 2011 with a brand share of 39.2% with a total satisfaction score (TSS) of 4.399 can be seen Table 1.

Table 1

Level of Customer Satisfaction Against Laptop Brands

Brand	Year 2013	Year 2014	Brand Share (%)	TSS
Acer	1	1	39.20	4.399
Toshiba	2	2	16.20	4.246
Levono	3	-	3.00	4.145
HP	4	7	10.70	4.116
Sony	5	6	2.80	4.094
Apple	6	3	5.10	4.073
Axioo	7	5	3.10	4.015
Asus	8	8	3.60	4.005
Compaq	9	-	5.20	3.918
Dell	10	4	2.70	3.858

Source: Data Processing 2017.

Top Brand Award is an award given to brands that receive the Top or best title. Top Brand Award is given to brands in certain product categories that meet two categories, namely: (1) Brands that obtain Top Brand Index minimum of 10%, and (2) Brands that according to survey data are in the top three positions in their product categories. Top Brand Index measurement using 3 parameters, namely: (1) top of mind awareness, which is based on the brand first mentioned by the respondent when the product category is mentioned, (2) last used, which is based on the brand that was last used / consumed by respondents and (3) future intention, which is based on the brand that you want to use or consume in the future.

Table 2.

Data Top Brand Index (%) Laptop Category for 2011 – 2014

Brand	Year 2011	Year 2012	Year 2013	Year 2014
Acer	42.1	41.60	39.30	40.20
Asus	3.00	6.90	9.40	11.00
Lenovo	2.50	3.40	3.70	7.00
Toshiba	15.90	14.60	13.60	12.10
Dell	2.20	3.50	3.50	3.60

Source: Data Processing 2017.

Based on Table 2 it can be seen that Toshiba laptops experienced a significant decrease from 2011 to 2014, namely in 2011 its market share of 15.90% decreased to 12.10% in 2014. While those experiencing an increase in market share were Asus and Lenovo laptops, but the one that experienced a significant increase was the Lenovo laptop in 2011 with a market share of only 2.5%, an increase to 7.0% in 2014. Its main competitor Acer remains a market leader in 2014.

LITERATURE REVIEW

Purchasing Decisions: According to Rachmayanti&Ady (2018) the broad process of purchasing decisions is the most complete type of decision making. Starting from the introduction of consumer problems that can be solved through the purchase of several products. Whereas (Schiffman & Kanuk, 2007; Kotler & Keller, 2016: 195; Harahap, 2015; Oladepo & Abimbola, 2015) the purchasing decisions is the selection of two or more alternative decision choices, meaning that a person can make a decision and there must be several alternative choices. Purchasing decision decisions for everyone is basically the same, it's just that all of these processes are not carried out by consumers (Sumiati, 2014). While Ansah (2017) consumers form the intention to buy the most preferred brand. The purchasing decisions will be made when the consumer has chosen a product that fits their needs (Putra, et al., 2017).

Product Design: According to Rachman & Santoso (2015), product design can be defined as idea generation, concept development, testing and implementation of goods or services. Research on product design carried out by (Poturak, 2014) results in product design having a positive influence on purchasing decisions. A good design reflects the usefulness and appearance of the product. A good designer considers external forms but also creates products that are easy, safe, inexpensive for use and services, easy and economical to produce and distribute (Kotler & Armstrong (2016: 276).

Brand Image: According to Li, et al. (2011) there has been general agreement that brands at least some brand do have images. But other opinion of (Kotler & Armstrong, 2014: 257; Prasetyo & Purwatini, 2017) a brand is a name, term, sign, symbol, design, or a combination of these, that identifies the products or services of a seller of groups of sellers and differentiates them from those of competitors. Bastian (2014) brand image is a hidden vision and trust in the minds of consumers and at the same time an example of an association that is remembered by consumers. According to (Tjiptono, 2015: 105; Kotler & Armstrong, 2016: 227; Kotler & Keller, 2016: 263) brand image is the perception or response from the community to the company or the product of the company. Malik, et al. (2013) as brand image is playing an important role in any business to make it successful therefore the core purpose of this study is to explore the impact of brand image on consumer buying behavior. The company hopes that consumers will buy products because of the specific brand messages and products (Suwarni, et al., 2017) Results of the study (Dharma & Sukaatmaja, 2015; Larasati, et al., 2013) brand image has a positive effect on purchasing decisions.

Product Quality: According to Kotler & Armstrong (2016: 223) the quality of the product is how the product has a value that can satisfy consumers both physically and psychologically which refers to the attributes or traits that contain the nature of an item or result. Supriyadi, et al. (2016) the quality of the product in question is an understanding that the product offered has more selling value that is not owned by a competitor's product, therefore the company tries to focus on the quality of its products and compare it with the products offered by competing companies. One of the advantages of this competition is mainly the quality of products that can

meet consumer desires (Fure, et al., 2015). Research conducted by (Alfred, 2013; Wulansari, 2013) product quality has a positive influence on consumer purchasing decisions.

Analysis Model

The concept from the above framework can be collided into the model in Figure 1 below:

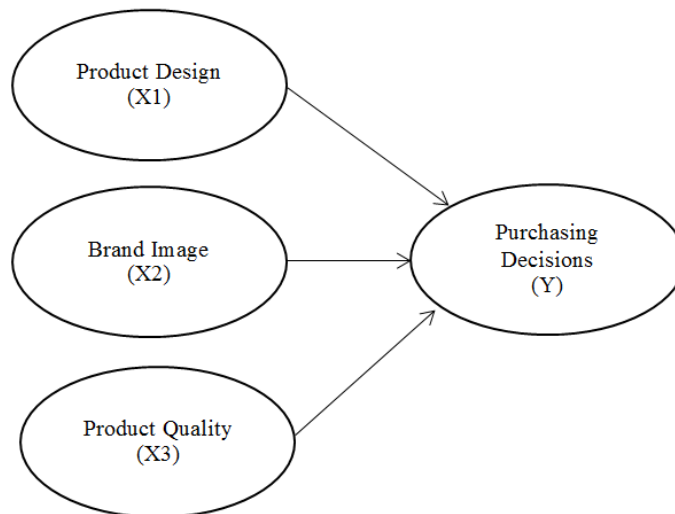


Figure 1. Analysis Model
Source: Data Processing 2017

RESEARCH METHODS

Population: According to Ferdinand (2006), the population is a combination of all elements in the form of events, things or people who have similar characteristics that are the center of attention of a researcher because it is seen as a research universe. In this study the population is all consumers there are 50 consumers.

Sample: According to Ferdinand (2006), the sample is part of the population, consisting of several members of the population. In determining the sample researchers determine for consumers who have bought a laptop product is 50 consumers. Therefore the population used is the same as the number of samples, so the sampling technique is a census because the number of population and the same sample is 50 respondents.

Method of Collecting Data: Respondents were asked to answer the research instruments in the form of closed questions by selecting one answer from the answers provided in each question. In the research instrument given to respondents using a Likert scale with a 1-5 scale in answering the questions given.

Validity Test: According to Ghozali (2011), validity testing is used to measure the validity or validity of a research instrument. A research instrument is said to be valid if the question or statement on the instrument is able to reveal something that will be measured by the instrument. The level of validity can be obtained by comparing (Pearson correlation value with a significant level) and if the significant value is <0.05 , then the measuring instrument is declared valid.

Reliability Test: A scale or instrument for measuring data and data produced is reliable or reliable if the instrument consistently raises the same results every time it takes measurements (Ferdinand, 2011). A construct or variable is said to be reliable if it gives the value of Cronbach Alpha > 0.60 (Ghozali, 2011)

RESULT AND DISCUSSION

In this study, it is necessary to describe the characteristics of respondents, to find out the characteristics of the respondent, then it is collated in Table 3 below:

Table 3
Characteristics of Respondents by Gender

Attribute	Category	Number	Percentage (%)
Gender	Male	36	72
	Female	14	28
Total		50	100

Source: Data Processing 2017.

Validity Test : An instrument is said to be valid (valid) if all statements in a research instrument are able to express something that will be measured by research instruments or questionnaires. The criteria of the instrument are declared valid if the correlation value (pearson correlation) is positive, and the significance value is < 0.05 . The test was carried out using the SPSS version 21.0 statistical program. Based on the analysis carried out, the results of validity testing can be shown in Table 4

Table 4

Validity Test Results

Variable	Indicator	Pearson Correlation	Sig.	Remarks
Product Design (X1)	X1.1	0.603	0.000	valid
	X1.2	0.623	0.000	valid
	X1.3	0.619	0.000	valid
Brand Image (X2)	X2.1	0.654	0.001	valid
	X2.2	0.636	0.000	valid
	X2.3	0.610	0.000	valid
Product Quality (X3)	X3.1	0.651	0.000	valid
	X3.2	0.636	0.003	valid
	X3.3	0.620	0.012	valid
Purchasing Decisions (Y)	Y1	0.651	0.000	valid
	Y2	0.517	0.000	valid
	Y3	0.450	0.000	valid

Source: Data Processing 2017.

Based on the results of the validity test of 30 respondents, all items of statements or questions for all variables (X1), (X2), (X3), and (Y) results are valid because the item has a significance value < 0.05 which means that all statements can measure what you want to measure.

Reliability Test: To test the reliability of the instrument, each variable (X1), (X2), (X3) and (Y) can be analyzed using SPSS version 21.0, the results see Table 5.

Table 5
Reliability Test Results

Variable	Indicator	Cornbrash's Alpha If Deleted	Cornbrash's Alpha.	Remarks
Product Design (X1)	X1.1	0.704	0.706	reliable
	X1.2	0.686		reliable
	X1.2	0.696		reliable
Brand Image (X2)	X2.1	0.696	0.723	reliable
	X2.2	0.707		reliable
	X2.3	0.721		reliable
Product Quality (X3)	X3.1	0.586	0.657	reliable
	X3.2	0.621		reliable
	X3.3	0.656		reliable
Purchasing Decisions (Y)	Y1	0.717	0.718	reliable
	Y2	0.698		reliable
	Y3	0.699		reliable

Source: Data Processing 2017.

Based on the results of the reliability test in Table 5 of 30 respondents, the result is that all indicators are declared reliable.

Results of Multiple Linear Regression Analysis: From the results of multiple linear regression analysis that will be calculated here is to determine the standard value of the regression coefficient that is owned by the independent variable to determine the level of significance of the dependent variable. The results obtained from the analysis using SPSS version 21.0 can be seen in Table 6 below:

Table 6
Results of Multiple Linear Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients
	B	Std. Error	Beta
(Constant)	.133	.523	
X1	.305	.084	.387
X2	.228	.072	.308
X3	.459	.119	.414

a. Dependent Variable:

From the regression results obtained, it can be made the regression equation as follows:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + e$$

$$Y = 0.133 + 0.305 X_1 + 0.228 X_2 + 0.459 X_3 + e$$

The regression coefficient a has a value of 8.931, this shows that if a has decreased by one unit, then the Purchasing Decision (Y) will increase by 0.133. Regression coefficient of Product Design (X1) has a value of 0.305 this indicates that if the Product Design variable (X1) has an increase of one unit, then the Purchase Decision (Y) will increase by 0.305. Regression coefficient of Brand Image (X2) has a value of 228, this shows that if the Brand Image variable (X2) has an increase of one unit, then the Purchasing Decisions (Y) will increase by 0.228. Regression Coefficient of Product Quality (X3) has a value of 0.459, this indicates that if the Product Quality variable (X3) has an increase of one unit, then the Purchasing Decisions (Y) will increase by 0.459.

Hypothesis Testing: Research hypothesis this is done by testing both simultaneously (F test) and partially(t test):

F test (Simultaneous Test): to find out whether the independent variables are Product Design (X1), Brand Image (X2), Product Quality (X3) have a significant effect on the dependent variable namely Purchasing Decisions (Y), then the F test is tested. The results of the F test for Product Design (X1), Brand Image (X2), Product Quality (X3) on the Purchasing Decisions (Y) can be seen in the results in Table 7. The following:

Table 7
F Test Analysis
ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	3.334	3	1.111	20.301	.000 ^b
Residual	2.518	46	.055		
Total	5.852	49			

a. Dependent Variable: Y
Source: SPSS Analysis Results

Data distribution for independent variables with a significance value of $0.000 < 0.05$, it can be concluded that the independent variable (X) has a simultaneous influence on Purchasing Decisions (Y).

t test (Partial Testing): Partial testing (t test) in this study was used to determine the effect of the independent variables of Product Design (X1), Brand Image (X2), and Product Quality (X3), on Purchase Decisions (Y). The results of the t test of the dependent variable can be seen in the results in Table 8 below:

Table 8
t Test Analysis
Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.133	.523		.255	.799
X1	.305	.084	.387	3.609	.001
X2	.228	.072	.308	3.174	.003
X3	.459	.119	.414	3.867	.000

a. Dependent Variable: Y
Source: SPSS Analysis Results

Based on Table 8 can be explained as follows:

- [1] Product Design (X1) with a value of $t = 3.609$ and a significance value of $0.001 < 0.05$, it can be explained that the Product Design variable (X1) has a significant influence on Purchasing Decisions (Y).
- [2] Brand Image (X2) with a value of $t = 3.174$ and a significance value of $0.003, < 0.05$, it can be explained that the Brand Image variable (X2) has a significant influence on Purchasing Decisions (Y).
- [3] Product Quality (X3) with a value of $t = 3.867$ and a significance value of $0.000 < 0.05$, it can be explained that the Product Quality variable (X3) has a significant influence on Purchasing Decisions (Y).

Results of Analysis of Determination Coefficient: The coefficient of determination (R^2) in the study was used to measure and identify how strong the influence of Product Design, Brand Image, and Product Quality had a positive influence on Purchasing Decisions (Y). For more details, see Table 9. below:

Table 9
Determination Coefficient Analysis Results (R^2)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.755 _a	.570	.542	.23397

a. Predictors: (Constant), X3, X2, X1

Source: SPSS Analysis Results

Based on the results of calculations with the help of the SPSS program, it can be seen that the R^2 obtained is equal to 0.570 or 57%. This number means that the Purchasing Decisions is influenced by Product Design (X1), Brand Image (X2), and Product Quality (X3) factor of 57%, while the remaining 43% is influenced by other factors or variables outside this research.

CONCLUSION

Conclusion: Based on the results of the analysis and discussion, it can be concluded as follows:

- [1] Based on the results of the analysis and discussion that product design variables significantly influence laptop purchasing decisions, the effect is quite dominant when compared with the brand image variable.
- [2] Based on the results of the analysis and discussion that the brand image variable has a significant effect on the purchase decision of the laptop, the effect is not dominant when compared to the brand image and product quality variables.

- [3] Then the results of the analysis and discussion show that the product quality variable in addition to significantly influencing the purchase decision but also has the most dominant influence among other researched variables such as product design variables and brand image.
- [4] While the results of the analysis and discussion that the product design variables, brand image and product quality simultaneously or together have a significant effect on laptop purchasing decisions.

Suggestion: Based on the results of the conclusions that have been stated, then the suggestions in this study are:

- [1] In relation to the results of the analysis and discussion, that the product design variable has a fairly dominant influence, the researcher gives advice to a distributor of laptop, at least the product design can be maintained and or add another brand by prioritizing the design factors.
- [2] Based on the results of the analysis and discussion, that the brand image variable has the lowest influence compared to other variables studied, so the researcher suggests to be a distributor of laptop items sales can increase the brand image and one of the alternatives is promotion media.
- [3] It is necessary to maintain the product quality variable, because all consumers have provided statements and the average response is that the quality of the product is stated to be very dominant (the results of multiple regression analysis).

Future Research: Based on the conclusions and suggestions above, then to further optimize the business / business of laptop brands some suggestions or further research include:

- [1] Further research is needed to examine other variables that have not been studied, among others, variables: service quality, price whether it is competitive, aspects of promotion, display design of goods, location factors (easy to reach, parking, etc.)
- [2] Conducting forecasting to determine demand, market share and growth of new players (new competitors).
- [3] Increase cooperation with the Education sector, Government Environment and Industrial / Office Environment.

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REFERENCES

- [1] Tjiptono, F.(2015). *Strategipemasaran*. Edisi 4. Yogyakarta, Andi
- [2] Kotler, P., & Keller, K. L. (2016). *Marketing management* , 15th Edition New Jersey: Pearson Pretice Hall, Inc.
- [3] Rachmayanti, I. dan Ady, S. U. (2018). Kualitasproduksebagaivariabelpemicuutamakeputusanpembeliansusu formula SGM eksplora di Kota Surabaya. *JurnalBisnis Dan Manajemen*, 2 (1). 29 – 43
- [4] Schiffman, L.G., &Kanuk, L.L. (2007). *Perilakukonsumen*. Edisike 7. diterjemahkanoleh ZoelkifliKasip. PT. Indeks. Jakarta
- [5] Harahap, D. A. (2015). Analisisfaktor-faktor yang mempengaruhikeputusanpembeliankonsumen di pajak USU Medan. *JurnalKeuangan dan Bisnis*. 7 (3). 227 – 241
- [6] Oladepo, O. I. & Abimbola O. S. (2015). The influence of brand image and promotional mix on consumer buying decision –A study of beverage consumers in Lagos State, Nigeria. *British Journal of Marketing Studies*. 3. (4). 56 – 79
- [7] Sumiati. (2014). Pengaruhmotivasi konsumen, persepsikualitas, sikapkonsumen, dan brand image pada keputusanpembeliankomputer tablet apple ipad pada emax apple store Surabaya. *JMM17 JurnalEkonomi&Manajemen*. 1 (2). 110 -123
- [8] Anshah, A. (2017). Pengaruhdesainproduk, promosi dan citramerekterhadapkeputusanpembelian. *JurnalAmwaluna*. 1 (2). 178 – 189
- [9] Putra, G.P., Arifin, Z. &Sumarti. (2017). Pengaruhkualitasprodukterhadapkeputusanpembelian dan dampaknya terhadapkonsumen. *JurnalAdministrasiBisnis (JAB)*. 48 (1). 124 – 131
- [10] Rachman, B.J & Santoso, S.B. (2015). Analisispengaruhdesainproduk dan promositerhadapkamantapankeputusanpembelian yang dimediasi oleh citramerek. *Diponegoro Journal of Management*. 4 (1). 2337 – 3792.
- [11] Poturak, M. (2014). Influence of product on purchase decisions. *European Journal of Social and Human Science*, 3 (3). 144 – 150.
- [12] Kotler, P., & Keller, K. L. (2016). *Prinsip-prinsipPemasaran* , Edisi 13. Jilid 1, Jakarta.Erlangga.
- [13] Li, X. G., Wang X. & Cai, Y.J. (2011). Corporate-, product-, and user-image dimension and purchase intentions. *Journal of Computers*. 6 (9). 1875 -1879
- [14] Prasetyo, E. T. &Purwatini, S. (2017). An influence analysis of product quality, brand image, and price on the decision to buy toshiba
- [15] Bastian, D.A. (2014). Analisa pengaruhcitramerek dan kepercayaanmerekterhadapkeputusanpembeliancoklatmonggo PT. Ades alfindoputrasetia. *JurnalManajemenPemasaran Petra*. 2 (1). 1 – 9
- [16] Malik, M.E., Ghafoor, M.M., Ali, H.K.I.Q., Hunbal. H., Noman, M., &Acmad, B. (2013).Impact of brand image and advertisement on consumer buying behavior.*World Applied Sciences Journal*. 23 (1). 117-122

-
- [17] Suwarni, E., Suharyono, & Kumadji, S. (2017). *Pengaruh iklan di televisi, kualitas produk dan harga terhadap citra merek serta implikasinya pada minat pembelian*. *E- Journal Fakultas Ilmu Administrasi Universitas Brawijaya*. 11 (1). 24 – 32
- [18] Dharma, N.P. S.A., & Sukaatmadja, I.P.G. (2015). *Pengaruh citra merek, kesadaran merek, dan kualitas produk terhadap keputusan membeli produk apple*. *E – Jurnal Manajemen Unud*. 4 (10). 3228 – 3255
- [19] Larasati, V., Saputra, R., & Monica, A. (2013). *Analisis faktor - faktor yang mempengaruhi loyalitas pelanggan coffee toffee Jatim Expo di Surabaya*. *Jurnal Gema Aktualita*. 2 (2). 7 – 17.
- [20] Supriyadi, Fristin, Y., & Indra, G.K.N. (2016). *Pengaruh kualitas produk dan brand image terhadap keputusan pembelian*. *Jurnal Bisnis dan Manajemen*. 3 (10). 135 -144.
- [21] Fure, F., Lopian, J., & Taroreh, R. (2015). *Pengaruh brand image, kualitas produk dan harga terhadap keputusan pembelian konsumen di J.CO Manado*. *Jurnal EMBA*. 3 (1). 367 – 377
- [22] Alfred, O. (2013). *Influences of price and quality on consumer purchase of mobile phone in the Kumasi metropolis in Ghana a comparative Study*. *European Journal of Business and Management*. 5 (1). 179 – 186
- [23] Wulansari, A. (2013). *Pengaruh brand trust dan perceived quality terhadap keputusan pembelian ulang produk sari roti (Studi pada konsumen di perumahan Gresik Kota Baru, Manyar Gresik)*. *Jurnal Ilmu Manajemen*. 1 (2). 388 – 401
- [24] Ferdinand, A. (2006). *Metode penelitian manajemen: Pedoman penelitian untuk skripsi, tesis dan disertasi ilmu manajemen*. Semarang: Universitas Diponegoro.
- [25] Ghozali, I. (2011). *Aplikasi analisis multivariate dengan program SPSS*. Semarang: Badan Penerbit Universitas Diponegoro.