Identify Product Quality, Brand Image and Promotion on Purchasing Decisions of Epson Ink Products in Batam City

Fuad Arif Rahman[1][✉], Fandy Bastian Harlan[1], Nora Pusfita Sari[1]

[1]Management and Business Department, Politeknik Negeri Batam, Batam, Indonesia
`fuadar@polibatam.ac.id`

Abstract. PT. Epson Batam (PEB) is a manufacturer of inkjet printer cartridge products, devices, and scanners, which are shipped to customers around the world. Based on this description, this study aimed to determine the influence of brand image, promotion, and product quality on consumer purchasing decisions regarding Epson ink products in Batam City. The research sample comprises 96 respondents or consumers who have purchased Epson ink products and have used Epson ink in Batam City. Various regression and descriptive analyses were employed in this study. The research findings indicated that brand image, product quality, and promotion all exert a positive and significant influence on consumer decisions regarding Epson ink products in Batam City, with a coefficient of determination of 0.506. However, when examined individually, product quality showed no positive and significant effect on purchasing decisions for Epson ink in Batam City, whereas brand image and promotion both have a positive and significant impact on these purchasing decisions.

Keywords: brand image, promotion, and product quality

1 Introduction

The inkjet printer cartridge production industry is currently an excellent business opportunity because of its large market share and ability to connect with people from all walks of life. Of course, manufacturers must take advantage of this opportunity in order to create products that are in demand. The rapid advancement of technology and information in recent years has replaced the modern business era into one of disruption, a period in which new innovations continue to enter the market, making the effect of change strong enough to change the previous market structure. Each organization strives to be able to identify optimal opportunities and become market leaders in their respective plants [1]. To achieve this goal, concentration and attention to product quality should be a high priority. Product quality refers to a product's ability to fulfil its functions, which include overall product longevity, dependencies, and enhancements, and other product attributes [2]. Customers will rely on brand image on actual brand attributes to lure purchasing decisions as more products and markets become more and more marketed, so brand image will become an increasingly important factor [3].

Promotion is a way to inform and educate consumers about the product specifications of a company, with the aim of increasing customer interest in buying listed products. Therefore, the author believes that promotion is a motivating factor for consumers to buy a product [4].

PT. Epson Batam (PEB) is a Japanese company that is a subsidiary of Seiko Epson Corporation located in Batam, Indonesia. PEB is a manufacturer of inkjet printer cartridge products, devices and scanners. PT. Epson Batam's main goal in terms of innovation is to try to exceed consumer expectations of its products. The abundance of ink products that exist now encourages consumers to carry out product recognition activities in choosing brands that meet their ideal ink product standards so that sales of Epson ink products have decreased sales because the market continues to face challenges in terms of product quality, brand image, and promotions that lead to the company's ability to compete with old or new brands.

2   Theoretical Studies

2.1   Product Quality

A product's quality is determined by how many features and qualities affect how well it can satisfy consumer needs according to [1,5]. Thus, from this theory can be concluded product quality is one of the keys to beating competition in business. When a company is able to provide high-quality products, it has built a foundation for creating customer satisfaction.

2.2   Brand Image

A title, term, sign, image, plan, or a mix of these things used to differentiate one product from another and can distinguish from competing products or services is known as a brand image [6]. Brand images are valuable because they have the ability to influence a customer's choice to make a purchase decision [3]. Customers will think that the stated product is high-class if a brand is well-known and holds positive values in their minds [7]. Customers then will be happy, and they will be less willing to switch brands.

2.3   Promotion

Promotion is a type of direct persuasion that uses incentives to encourage product purchase decisions and can subsequently increase the quantity of products that consumers nuy [4,8]. Thus, from this theory it can be concluded that promotion is an activity to convey the advantages or benefits of products to persuade target consumers to buy products. relationship methods and messaging that informs, entices, or informs customers, intermediaries, or both.

2.4   Purchasing Decision

When a person chooses to purchase a good or service, they do so because they have faith and confidence in that good or service [9]. Thus, from this theory, a decision can

be made is a purchase decision is an attitude carried out by customers in buying products or services that have been believed to meet needs.

2.5 Hypothesis

A hypothesis is a quick fix for an issue that has to be verified with more comprehensive and helpful facts. A hypothesis is a quick fix for an issue that has to be verified with more comprehensive and helpful facts. This study was carried out to ascertain the impact of item quality, brand picture, and advertising on Batam City consumers' decisions to purchase Epson ink goods. This is the hypothesis developed as a result of this research:

H_1 = It is suspected that product quality significantly influences on Epson's ink purchasing decisions in Batam City.

H_2 = It is suspected that brand image significantly influences on Epson's ink purchase decision in Batam City.

H_3 = It is suspected that the promotion significantly influences on the decision to purchase Epson ink in Batam City.

H_4 = It is suspected that product quality, brand image and promotion simultaneously affect Epson's ink purchasing decisions in Batam City.

3 Research Method

In this study, descriptive analysis methods were combined with research tool testing, traditional assumption tests, coefficients of determination, and hypothesis tests. The population in this study comprised all consumers who had purchased Epson ink products and had used Epson ink in Batam City. A sample of 96 respondents was selected using the Cochran formula.

Primary and secondary data, obtained from respondents' responses and literature studies, were utilized. In quantitative research, questionnaires or questionnaire methods were employed to collect data. In this study, Google Forms were used by the author to distribute questionnaires and obtain direct feedback from respondents. Figure 2 illustrates the various stages of data management.

4 Research Findings

4.1 Validity Test

A sample of 96 people was used for effectiveness testing in the study. Therefore, in the table1, r-value for n=(N-2) = (96-2) is 0.262. According to the table above, it can be obtained that the sum of the relationships between the calculated values of all calculated items used to measure all variables is greater than r-tabel (t-calculate > r-table). It is safe to say that all variable is declared valid.
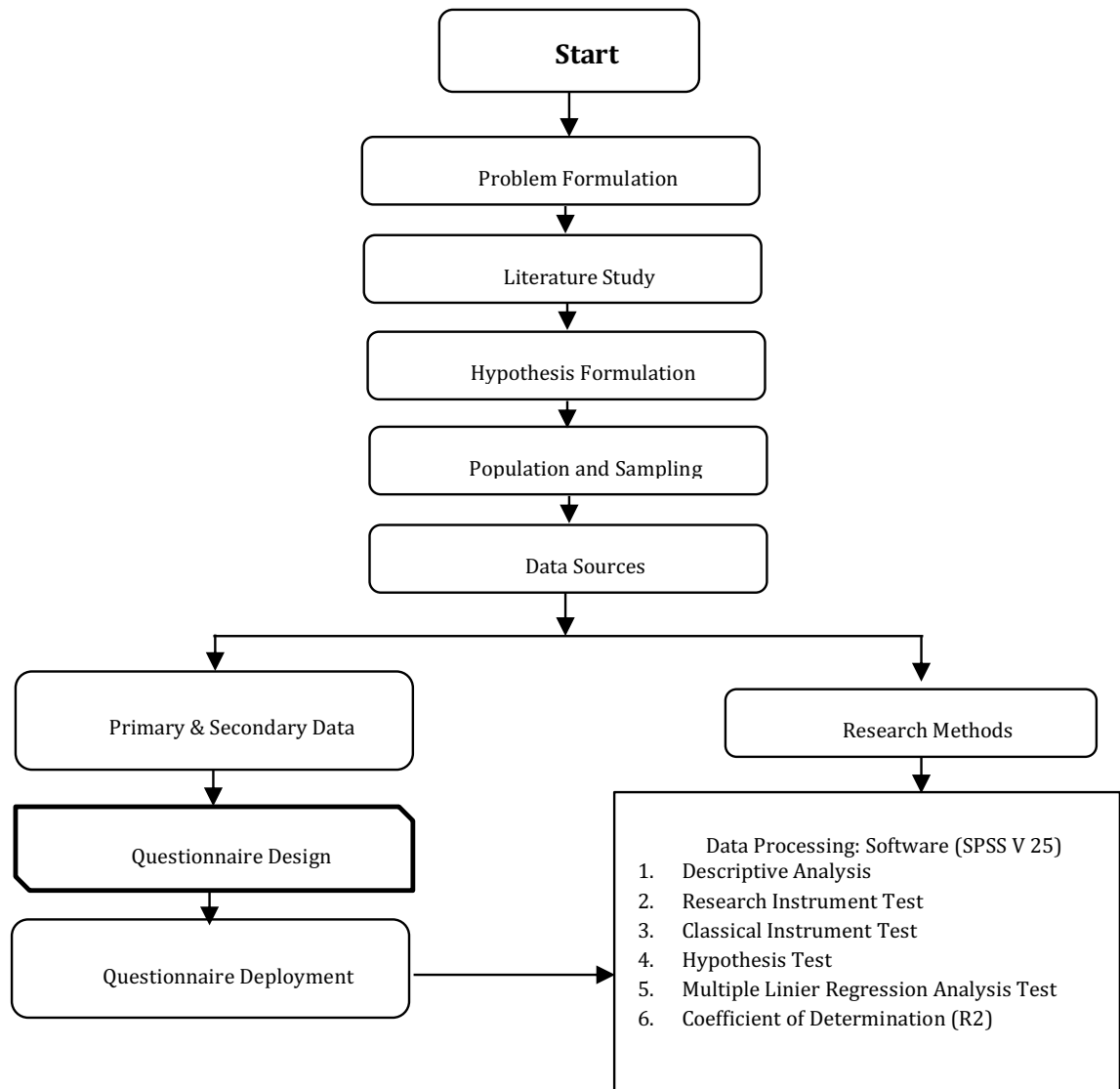
Fig. 1. Stages of Data Management

4.2   Reliability Test

All statement indicators in the variable Product Quality (X1), Brand Image (X2), Promotion (X3), and Purchase Decision (Y) have an Alpha Cronbach value more than 0.60, indicating that they are all reliable, according to the reliability test results in Table 2.

4.3   Descriptive Analysis

Based on the questionnaire results, the product quality of Epson Ink in Batam City with a value of 4,156 strongly agrees with the statement "Epson Ink has reliability in color quality in printing". The lowest score with the statement "The performance produced by Epson inks is in line with my expectations". So it can be interpreted that the majority of respondents regarding Epson Inks have reliability in color quality in printing. This

is because consumers consider Epson Ink products to have a good ability to print in terms of color.

Table 1. Validity Test Results

Variable	State-ment Item	r count	r ta-ble	Infor-mation
Product Quality (X1)	X1.1	0,682		Valid
	X1.2	0,834		Valid
	X1.3	0,873	0,262	Valid
	X1.4	0,705		`Valid
	X1.5	0,829		Valid
Brand Im-age (X2)	X2.1	0,767		Valid
	X2.2	0,876		Valid
	X2.3	0,779	0,262	Valid
	X2.4	0,764		Valid
	X2.5	0,747		Valid
Promotion (X3)	X3.1	0,665		Valid
	X3.2	0,814		Valid
	X3.3	0,854	0,262	Valid
	X3.4	0,697		Valid
	X3.5	0,806		Valid
Purchasing Decision (Y)	X4.1	0,536		Valid
	X4.2	0,644		Valid
	X4.3	0,775	0,262	Valid
	X4.4	0,831		Valid
	X4.5	0,688		Valid

Source: Primary data using SPSS (2023)

Table 2. Reliability Test Results

No.	Variable	Cronbach' Alpha Value	Criterion	Conclusion
1	Product Quality	0,845	0,60	Reliable
2	Brand Image	0,846	0,60	Reliable
3	Promotion	0,827	0,60	Reliable
4	Purchasing Decision	0,724	0,60	Reliable

Source: Primary data using SPSS (2023)

Brand image variables have an average of 4,385 strongly agree with the statement "When you want to buy ink, the brand that is very remembered is the Epson brand". This demonstrates that personal branding on the Epson brand has examined the methods used to maintain assets by focusing on efficiency and effectiveness in achieving goals.

The promotion variable had an average of 4,072 strongly agreeing with the statement "Epson Company does a good job of contact". This is because consumers buy Epson

Ink products because of good promotions given to sellers so as to form a good relationship between sellers and buyers. The purchase decision variable has an average of 4,420 strongly agree with the statement "I decided to buy Epson inks because of the steadiness of a product". So it can be interpreted that the majority of respondents or consumers buy Epson Ink products because of the consistency of each product that decides consumers to make purchases.

4.4   Classical Assumption Test

Based on Table 3, The Asymptotic Significance (2-tailed) value of 0.200 indicates that the esteem is more prominent than the alpha esteem of 0.05. As a result, the variable data in this investigation, determined to be normally distributed. It is said to be normally distributed if the data in the Normal P-Plot of Regression picture maintains a diagonal line and does not spread out.

Table 3. Normality Test Results

| **One-Sample Kolmogorov-Smirnov Test**		
		Unstandardized Residual
N		96
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	2.38215293
Most Extreme Differences	Absolute	.069
	Positive	.040
	Negative	-.069
Test Statistic		.069
Asymp. Sig. (2-tailed)		.200[c,d]
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		
d. This is a lower bound of the true significance.		

Source: Primary data using SPSS (2023)

Table 4. Multicollinearity Test Results

Coefficients[a]			
Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Total_X1	.984	1.016
	Total_X2	.913	1.095
	Total_X3	.912	1.097

a. Dependent Variable: Total_Y

Source: Primary data using SPSS (2023)

All variables have tolerances greater than 0.1 and VIF s greater than 10, as shown in Table 4. For this reason, the study did not show any association or sign of multicollinearity.
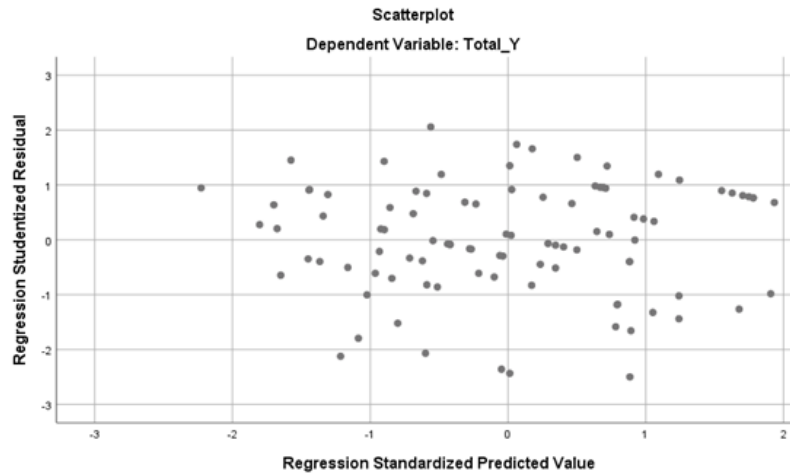
Fig. 2. Scatterplot Chart (Primary data using SPSS, 2023)

Based on Figure 4 above, showing the spread of points randomly or not produces specific patterns and spreads above or lower than 0 on the Y axis (Ghozali, 2012). This indicates that the regression model's homoscedasticity (heteroscedasticity) is not apparent, meaning that it can be used.

4.5 Test the hypothesis

T-Test Results (Partial). Meaning of only a partial How independent variable X affects dependent variable Y should be tested using the T test. In accordance with Table 5, the degree of freedom (df) value can be calculated as follows: df = (n - k), df = (96 - 4), df = (92) with a 5% significance level, resulting in t = 1.662.

Table 5. T Test Results

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.246	2.388		3.453	.001
	Total_X1	.103	.071	.132	1.457	.148
	Total_X2	.255	.092	.260	2.761	.007
	Total_X3	.262	.075	.327	3.475	.001
a. Dependent Variable: Total_Y						

Source: Processed from primary data using SPSS (2023)

As a result, the following partial influence can be seen in this analysis:

a. *Product Quality (X1)*

The calculated value of goods inventory (X1) is 1.457 tabel 1.622 and the sig value is 0.148 > 0.05 based on the T Test (Partial) results. As a result, is acknowledged that the product is a quality variable (X1) minor impact on the purchase decision of Epson Ink products in Batam City. As a result, H1 which states that "product quality partially dosnt significantly affect the purchase decision of Epson Ink products in Batam City" can be determined.

b. *Brand Image (X2)*

The calculated value of brand image (X2) is 2.761 > t table 1.622 and the sig value is 0.007 > 0.05 based on the partial findings of the T test. As a result, the brand image variable (X2) has a partially positive and insignificant effect on the purchase decision of Epson Ink products in Batam City. As a result, H2 which states that "the decision to acquire Epson Ink products in Batam City is influenced by brand image in a positive and significant way" can be determined.

c. *Promotion* (X3)

The promotion calculation value (X3) is 3.475 > table 1.622 based on the T Test (Partial) results, and the sig value is 0.001 0.05. In this way, the promotion variable (X3) can be said to have a considerable and partially favorable impact on Batam City consumers' decisions to purchase Epson Ink products. As a result, H3 (which states that "the Promotions have an important and favorable effect on consumer spending. decision of Epson Ink products in Batam City") can be determined.

Table 6. F Test Results (Simultaneous)

ANOVAª						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	185.866	3	61.955	10.573	.000ᵇ
	Residual	539.092	92	5.860		
	Total	724.958	95			

a. Dependent Variable: Total_Y

b. Predictors: (Constant), Total_X3, Total_X1, Total_X2

Source: Processed from primary data using SPSS (2023)

According to table 6, the Ftable value is 2.81. The Fcalculate value of 10.573 > Ftable 3.093 and the sig value of 0.000 0.05 demonstrate that the regression model of product quality, brand image and promotion all have a positive and significant impact on the decision to purchase Epson Ink products in Batam City.

4.6 Multiple Linear Regression Analysis

It uses multiple linear regression analysis to predict how the dependent variable behave.

Table 7. Multiple Linear Regression Test Results

Coefficientsª				
Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.

		B	Std. Error		Beta		
1	(Constant)	8.246	2.388			3.453	.001
	Total_X1	.103	.071		.132	1.457	.148
	Total_X2	.255	.092		.260	2.761	.007
	Total_X3	.262	.075		.327	3.475	.001

a. Dependent Variable: Total_Y

Source: Processed from primary data using SPSS (2023)

Based on Table 7, the regression model or equation can be obtained as follows:

$$Y = 8{,}246 + 0{,}103\ X1 + 0{,}255\ X2 + 0{,}262\ X \qquad (1)$$

The equation (1) explains that the constant of 8.246 means that if the product quality (X1), brand image (X2), and promotion (X3) are all zero, then the buying choice (Y) is made 8.246. Product quality (X1) has a regression coefficient value of 0.103 indicates that the product quality has improved by one unit. Brand image (X2) has a regression coefficient value of 0.255, meaning If the brand image has improved by one unit. Promotion (X3) has a regression coefficient value of 0.262, meaning that if the promotion increases by one unit.

4.7 Test Coefficient of Determination (R^2)

The model's capacity to account for variations in the dependent variable is measured by the coeficient of determination (R^2).

Table 8. Test Results of Coefficient of Determination (R^2)

Model Summary^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.506^a	.256	.232	2.421	2.063

a. Predictors: (Constant), Total_X3, Total_X1, Total_X2

b. Dependent Variable: Total_Y

Source: Processed from primary data using SPSS (2023)

According with the model summary results presented in Table 8 , the dependent variables of warehousing management receive a 50.6% contribution from the variables of product quality, brand image, and promotion. Variables excluded from the study were used to account for the balance.

5   Discussion

All research variables were well-conducted, except for product quality, which had a mean value of 4.156 (strongly agree) and emerged as the item that most strongly

influences purchasing decisions. This response indicated that Epson Inks have reliable color quality in printing. Brand image, with a mean value of 4.385 (strongly agree), showed that the Epson ink brand was perceived as the largest brand in the world. Promotion, with a mean value of 4.072 (strongly agree), indicated that the Epson Company is performing well in terms of contact.

Product quality, brand image, and promotion, when considered together, collectively had a substantial impact on warehousing management, with a coefficient of determination of 50.6%, while other variables accounted for 49.4% of the influence. The findings of this study align with and are reinforced by the results of research conducted by Mardyono & Digdowiseiso in 2023, where their research showed that product quality, promotion, and personal selling have a positive and statistically significant effect on consumer buying interest in Amazink Ink products in Cirebon City [10]. This indicates that the variables examined in this study have a positive and significant impact on consumer purchasing decisions.

6   Conclusion

The objective of this study was to investigate the impact of product quality, brand perception, and advertising on the purchasing behaviour of Epson ink products in Batam City. The findings of this research indicate that factors related to product quality have a minimally positive and insignificant effect on purchase decisions. On the other hand, brand image factors significantly and moderately positively influence purchase decisions. Similarly, promotional factors also have a significant and moderate positive impact on purchase decisions. Overall, the decision to purchase Epson ink products in Batam City is positively and significantly influenced by variables such as product quality, brand image, and promotion.

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