

# Influences of Product Quality, Price Perception and Service Quality on Consumer Decision for Electric Motorcycle

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**Abstract:** *This research investigates the impact of Product Quality, Price Perception, and Service Quality on Purchase Intention and Decision at an electric motorcycle dealer in Karawang. Employing Structural Equation Modeling with AMOS software, the study finds that while Product Quality, Price Perception, and Service Quality do not significantly influence Purchase Interest, Purchase Interest notably impacts Purchasing Decisions.*

**Keywords:** Product Quality, Price Perception, Service Quality, Purchase Interest, Purchasing Decision

## 1. Introducing

### 1.1 Background of the problem

Transportation is one of the important aspects of human life. Improved to Motorized vehicles, such as motorbikes, have become an essential means of transportation in modern society. However, the use of fossil fuels as an energy source for motorized vehicles has become a major concern in recent years, because it can have a negative impact on the environment and human health. Therefore, electric motorbikes are an attractive alternative as a solution to reduce air and noise pollution caused by motorized vehicles using fossil fuels. In addition, electric motorbikes are considered more efficient and cost-effective, because they only require electric charging. Electric motorbikes are still relatively new in Indonesia, but their development has shown positive signs in recent years. Many electric motorcycle vehicle manufacturers in Indonesia are starting to develop their electric motorcycle products.

Rephrased as Government Policy Support, including the National Electricity Program PKN, has significantly contributed to the development of electric vehicles. which targets that by 2025, 23% of the energy used in Indonesia will come from renewable-energy sources. Several subsidy and incentive programs for the purchase of electric vehicles provided by the government and companies have also helped drive the growth of the electric vehicle market in Indonesia (Source: ministry of energy and mineral resources).

With the rapid development of electric motorbikes, it is hoped that electric vehicles can become a more environmentally friendly and efficient alternative in overcoming air pollution problems and increasing sustainable environmentally friendly mobility in Indonesia. Even though the availability of infrastructure is still limited, there are several electric charging stations for motorbikes available in several big cities such as Jakarta, Bandung and Surabaya. Some hotels and shopping centers

also provide charging facilities for electric vehicles. Even though it is still limited, the demand for electric motorcycles in Indonesia is starting to increase along with increasing public awareness of the importance of a sustainable healthy environment.

The XYZ Karawang electric motorcycle dealer, whose address is Jalan Raya Teluk Jambe no.169, Teluk Jambe sub-district, Karawang district, was inaugurated on September 7 2020, CEO of the XYZ Karawang electric motorcycle dealer Mr. Achmad Djohansyah said many people were curious about electric motorbikes. This is because the technology is different from gasoline engines in general. "That's why we are here in Karawang City to provide the unit, because consumers who buy this electric motorbike will later be equipped with STNK, BPKB and Police Number.

One of the things that is of interest to us is a lot of electric motors, including the existence of advanced and modern technology through this electric motor, the operational costs are much cheaper, electric motors are not only cheap, but also free from maintenance costs, oil changes and so on. Improved to Those curious about the technology can directly visit our dealership.

With this phenomenon, the authors are interested in conducting research on the effect of product quality, perceived price and service quality on purchase intention and purchase decisions for electric motorbikes using the Structural Equation Modeling method at the Xyz Karawang dealership. So that it can be known which variables are very influential on buying interest, and the decision to buy an electric bicycle.

### 1.2 Formulation of the problem

Based on the description of the background above that underlies this thesis, the formulation of the problem which is the object of study includes:

- 1) How does product quality affect the interest in buying electric motorbikes at XYZ Karawang Dealers?

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- 2) How does price perception affect the interest in buying an electric motorbike at the XYZ Karawang dealer?
- 3) What is the effect of Service Quality on the interest in buying an electric motorbike at the XYZ Karawang Dealer?
- 4) How does buying interest affect the decision to purchase an electric motorbike at the XYZ Karawang Dealer?

## 2. Methodology

The type of research used in this research is quantitative research. This research is carried out with steps and stages from identifying the problem, studying the literature to determining the problem and the method to be used to completion.

In this study, the population is 168 consumers who come to the dealer. The sample in this study was conducted using Non-Probability Sampling. The selected Non-Probability Sampling technique was the saturation sampling method, where all members of the population were taken as samples. So the authors took a 100% sample from the total population, namely a total of 168 consumers of the electric motorbike dealer for the last 3 months.

Price's perceptions can be influenced by economic, psychological, social, and cultural factors. Consumers who have positive price perceptions tend to be more likely to buy the product or service, while consumers with negative price perceptions tend to look for alternative products at better prices [1].

According to Garvin (1987), product, quality can be defined from eight dimensions, namely performance, features, reliability, durability, ease of maintenance, aesthetics, perception, and service quality.

Service quality can be measured by various methods, such as

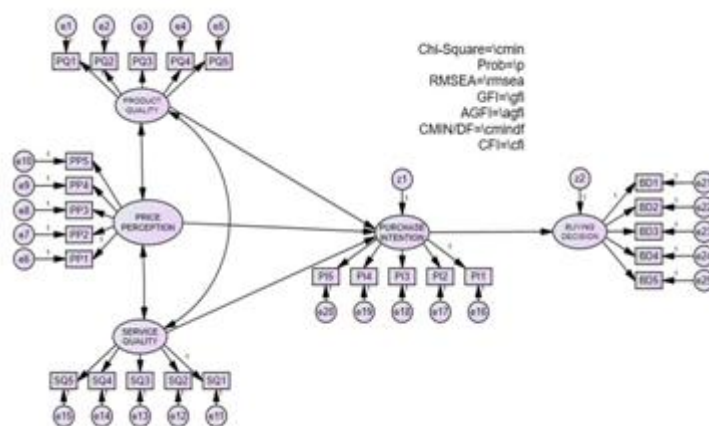


Figure 1: Path Diagram Research Results

In this study, 4 variables were formed with 25 statement indicators, while variables and statement indicators included exogenous constructs. Product quality was measured by 5 statement indicators, namely PQ1, PQ 2, PQ3, PQ4, PQ5, for the Price Perception construct it was measured by 5 statement indicators, namely PP1, PP2, PP3, PP4, PP5, for the Service Quality construct is measured by 5 statement

measuring customer satisfaction, improving customer service, and data analysis to measure company performance in providing services. Good service quality will increase customer satisfaction, help retain existing customers, and increase company competitiveness in the market [2].

Purchase intention is the desire and interest of consumers to buy or use a product or service. Marketing experts have developed several theories and models that explain the factors that influence consumer buying interest. Purchase intention is the initial stage in the process of making consumer purchasing decisions [3].

Blackwell et al. (2001) suggested that purchase intention consists of several stages, namely problem recognition, information search, alternative evaluation, purchase decision, and post-purchase behavior. Each of these stages is influenced by several factors, such as product characteristics, individual characteristics, and environmental factors.

The measuring tool used in the data collection process is using a questionnaire sheet. The research instrument is used to measure the value of the variables studied, or in this study are the variables Product Quality (X1), Perceived Price (X2), Service Quality (X3), Purchase Intention (Y) and Purchase Decision (Z). Each instrument must have a scale, in this study, the scale used is a Likert scale of 1-5.

In this study, the data analysis tool used was Structural Equation Modeling, which was operated using AMOS 24 software to test product quality, perceived price and service quality on purchase intention and purchase decisions for electric motorbikes.

## 3. Result and Discussion

Below is a Path Diagram of Research Results:

indicators namely SQ1, SQ2, SQ3, SQ4, SQ5, for the Purchase Intention construct it is measured by 5 statement indicators namely PI1, PI2, PI3, PI4, PI5, then Purchase Decision is measured by 5 statement indicators, namely BD1, BD2, BD3, BD4, BD5.

From the results of the validity test on all indicators, it

shows that the construct variables X and Y have significant regression weights with values above 2.0 with a p value less than 0.05. Thus it can be stated that all means all the indicators that make up the constructs of the X and Y variables can be declared valid (Table 1).

Validity test with the Average Variance Extracted (AVE) Test, which is a confirmatory test by looking at the average of the variance extracted between indicators of a latent variable. Meets the requirements if  $AVE > 0.5$  (Table 2).

A research instrument is declared reliable if the acceptable reliability threshold value is construct reliability  $> 0.7$ . While reliability 0.6 - 0.7 is still acceptable [4] (Table 3).

Based on the results obtained from testing the reliability of the research instruments on the table above, because the reliability coefficient value of construct reliability is  $> 0.7$ , it can be stated that the research instrument is reliable.

**Confirmatory Factor Analysis:** The five variables used in this study will be observed and confirmed whether these variables are strong enough to reflect a dimension of an unfit factor. The following shows the Goodness Of Fit table :

**Table 4:** Goodnes of Fit Confirmatory Factor Analysis

GOF	Cut of Value	Results	Information
	Count df(0.05;df) = 268.000		
Chi-Square	$\chi^2$ table $> \chi^2$	263.659	Fit
Prob	$> 0.05$	0.563	Fit
RMSEA	$< 0.08$	0.000	Fit
GFI	$> 0.90$	0.893	Marginal
AGFI	$> 0.90$	0.870	Marginal
CMIN/DF	$< 2.00$	0.984	Fit
TLI	$> 0.90$	1.001	Fit
CFI	$> 0.95$	1.000	Fit

Based on table 4, the theoretical model and sample model are said to be appropriate, so they can proceed to hypothesis testing.

### Hypothesis testing

After going through the process of confirmatory factor analysis and analysis of the full model, it can be seen that the model can be well received. Based on Goodness Of Fit Evaluation. So the next step is to test the proposed research hypotheses based on the results of the analysis that has been done. Hypothesis testing was carried out using a one-tailed test with a significance level of 5%. The hypothesis will be accepted if it has a t-value greater than 1.64 [5]. The t-value in the AMOS 24 program is the Critical Ratio (CR) value in the Regression Weights of the fit model. If the Critical Ratio (CR)  $\geq 1.64$  or the probability value (P)  $\leq 0.05$  then H0 is rejected (the research hypothesis is accepted). The results of processing by AMOS 24 appear in the following table:

**Table 5:** Hypothesis testing Results

Hypothesis	Tract	P	Results
H <sub>1</sub>	Product Quality $\rightarrow$ Purchase Intention	0,984	Rejected
H <sub>2</sub>	Price Perception $\rightarrow$ Purchase Intention	0,989	Rejected
H <sub>3</sub>	Kualitas Layanan $\rightarrow$ Purchase Intention	0,966	Rejected
H <sub>4</sub>	Purchase Intention $\rightarrow$ Buying Decision	***	Accepted

The table above shows the results of the hypothesis testing that in total, there were four hypotheses tested. However, there was only one hypothesis that was accepted, namely H<sub>4</sub>, while the other three hypotheses were rejected, namely H<sub>1</sub>, H<sub>2</sub>, and H<sub>3</sub> because the P value was more than 0.05.

## 4. Conclusion

The study concludes that while Product Quality, Price Perception, and Service Quality do not significantly influence Purchase Interest in electric motorcycles, Purchase Interest itself is a crucial determinant of Purchasing Decisions. This finding underscores the need for electric motorcycle dealers to focus on cultivating consumer interest to drive sales.

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Attachments

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## Author Profile



Graduated from the Bandung Institute of Textile Technology (1984), Magister from STIE IPWIJA Jakarta Concentrate Marketing (2022), now a Lecturer in Textile Engineering Study Program SIT Wastukencana Purwakarta.

**Table 1:** Validity Test with CFA

	Estimate	S.E.	C.R.	P	Label
PQ1 <--- PRODUCT_QUALITY	1,000				
PQ2 <--- PRODUCT_QUALITY	,926	,071	13,081	***	par_1
PQ3 <--- PRODUCT_QUALITY	1,038	,069	15,109	***	par_2
PQ4 <--- PRODUCT_QUALITY	,901	,069	13,107	***	par_3
PQ5 <--- PRODUCT_QUALITY	,985	,069	14,285	***	par_4
PP1 <--- PRICE_PERCEPTION	1,000				
PP2 <--- PRICE_PERCEPTION	,884	,068	13,066	***	par_5
PP3 <--- PRICE_PERCEPTION	,976	,072	13,480	***	par_6
PP4 <--- PRICE_PERCEPTION	,973	,072	13,536	***	par_7
PP5 <--- PRICE_PERCEPTION	,975	,073	13,413	***	par_8
SQ1 <--- SERVICE_QUALITY	1,000				
SQ2 <--- SERVICE_QUALITY	,935	,076	12,338	***	par_9
SQ3 <--- SERVICE_QUALITY	1,014	,080	12,671	***	par_10
SQ4 <--- SERVICE_QUALITY	1,029	,078	13,126	***	par_11
SQ5 <--- SERVICE_QUALITY	1,092	,082	13,243	***	par_12
PI2 <--- PURCHASE_INTENTION	,987	,078	12,700	***	par_13
PI3 <--- PURCHASE_INTENTION	,976	,080	12,182	***	par_14
PI4 <--- PURCHASE_INTENTION	,935	,078	11,949	***	par_15
BD1 <--- BUYING_DECISION	1,000				
BD2 <--- BUYING_DECISION	,939	,071	13,146	***	par_16
BD3 <--- BUYING_DECISION	,931	,074	12,601	***	par_17
BD4 <--- BUYING_DECISION	,926	,071	13,141	***	par_18
BD5 <--- BUYING_DECISION	,969	,075	12,985	***	par_19
PI1 <--- PURCHASE_INTENTION	1,000				
PI5 <--- PURCHASE_INTENTION	,995	,081	12,218	***	par_23

**Table 2:** Results of the Average Variance Extracted Validity Test

Variable	AVE
Product Quality (PQ)	0.699
Price Perception (PP)	0.679
Service Quality (SQ)	0.664
Purchase Intention (PI)	0.649
Buying Decision (BD)	0.664

**Table 3:** Reliability Test Results

Variable	Construct Reliability
Product Quality (PQ)	0.921
Price Perception (PP)	0.914
Service Quality (SQ)	0.887
Purchase Intention (PI)	0.903
Buying Decision (BD)	0.908