



## The Effects Of Product Quality Perception And Environmental Awareness On Interests In Buying Electric Motorcycles Among Online Ojek Drivers In Surabaya

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### INFO ARTIKEL

### Abstract

#### Keywords:

Product Quality,  
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*This new electric motorcycle is increasingly intensified by its flagship as an environmentally friendly and more economical vehicle, being a move for manufacturers to market it. Therefore, it is interesting to research the interest in buying electric motorcycles. This research was conducted on online motorcycle taxi drivers in Surabaya.*

*This research aimed to determine the influence of environmental awareness variables (X1) and product quality perception (X2) on the buying interest (Y) of electric motorcycles on online motorcycle taxi rides in Surabaya. The research method used quantitative approaches for researching specific populations or samples. The sampling technique used purposive sampling techniques that the sample used as many as 100 respondents. The data was collected by distributing questionnaires and processed using analysis tools, namely SPSS version 25 and multiple linear regression analysis methods (R2).*

*The results showed that (1) Environmental Awareness did not have a significant effect on the Interest in Buying electric motorcycles online motorcycle taxi riders in Surabaya (2) Product Quality Perception had a positive and significant effect on interest in Buying electric motorcycles in online motorcycle taxi riders in Surabaya (3) Environmental Awareness and Product Quality Perception simultaneously had a positive and significant effect on the interest in buying electric motorcycles on online motorcycle taxi riders in Surabaya with an influence of 13.1%. The remaining 86.9% of interest in buying electric motorcycles for online motorcycle taxi riders in Surabaya was influenced by other variables outside.*

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## Introduction

Environmental problems in the marketing sector are the responsibility of marketers and all consumers. Efforts to create a healthy environment are the basis for improving the quality of human life. Increasing the quality of life can be controlled by individual consumers by making changes in choosing and consuming certain goods that are environmentally friendly (Junaedi, 2015). The environmental problems that occur are a reflection of the lack of environmental awareness in Indonesian society (Fajar & Chaerowati, 2022). Environmental conditions like pollution and global warming raise public awareness about the need to preserve the environment. Driven by awareness of environmental preservation, society demands that producers not only pay attention to marketing attributes such as price, quality, promotion, and availability, but also care about the environment (Paramita & Yasa, 2015).

Extreme climatic changes have been brought on by pollution and global warming, with motorized vehicles directly contributing significantly to the rise in greenhouse gases (Sakinah et al., 2023). Electric cars are one of the possible means of transportation to reduce the use of fossil energy to meet community mobility needs but remain environmentally friendly because they have no pollution or gas emissions (Aryanti & Santoso, 2023). Also, (Kumara, 2008) stated that supporting technology of electric vehicles has developed so much. In such a way that the vehicle has been successfully created. Electricity that is reliable, economical, and has the same level of comfort as conventional motorized vehicles, and even electric vehicle technology has specifications for better operation.

(Tuan et al., 2022)'s research revealed that government support, perceptions of the environment, pricing perceptions, infrastructure features, and performance factors all positively influence attitudes and subjective norms. Attitudes and subjective norms also positively influence Vietnamese people's intentions to purchase electric vehicles. (Brinkmann & Bhatiasevi, 2021)'s study, which focuses on Thailand, attempts to find out what important variables affect young adult buyers' inclinations to buy electric vehicles. The outcome, as determined by ordinary least squares regression analysis, demonstrates that cost and environmental awareness are significant determinants of consumers' propensity to make a purchase. Using the modified theory of planned behavior (TPB) model, (Dutta & Hwang, 2021) investigates the factors influencing consumers' desire to purchase sustainable electric cars (EVs). The findings also showed that Taiwanese people's main concerns about greenhouse gas emissions are related to their objectives for sustainable consumption. Analysis by (Okada et al., 2019) with an emphasis on environmental awareness. The estimations of non-EV users' buy intents and EV users' post-purchase satisfaction are compared. The structures of non-EV users' buy intentions and EV users' post-purchase pleasure differ, according to the results. The assessment of EVs reveals that while environmental awareness has an indirect impact on an EV user's post-buy satisfaction, it has a direct impact on the purchase intention of a non-EV user.

A study in Indonesia in 2021, found that only 36% of 514 respondents were interested in switching to electric motorbikes. This research analyzes Indonesian people's perceptions of the adoption of electric motorbikes, such as environmental and economic benefits, risks and costs, incentive policies, subjective norms, public knowledge, and attention to the environment (Nasution & Fitriyanti, 2023). The General Chair of the Indonesian Guard Online Motorcycle Taxi Driver Association, Igun Wicaksono, estimates that the number of online motorcycle taxi drivers who already use electric motorbikes is no more than 20 percent of the total number of online motorcycle taxi drivers throughout Indonesia. However, online motorcycle taxi

drivers who have used electric motorbikes on average complain about reduced income and inefficient time. Another obstacle is that the infrastructure for public electric vehicle charging stations (SPKLU) still needs to be improved. The limited number of SPKLUs makes it difficult for drivers when their motorbikes run out of electricity. Even though battery exchange facilities are available, the problem that motorbike taxi drivers often encounter is that the batteries provided need to be fully charged. Makes their time to replace or charge the battery longer, reducing their operational time to get orders (Rachmawati, 2023).

Based on the problems described, this research examined the influence of environmental awareness and product quality perceptions on interest in buying electric motorbikes among *online motorcycle taxi drivers* in Surabaya.

## RESEARCH METHODS

The methods used in this research are quantitative research methods and survey methods using the Validity Test, Reliability Test, Normality Test, Heteroscedasticity Test, Multicollinearity Test, Multiple Linear Regression Analysis Test, Hypothesis Test, and Multiple Determination Coefficient Test (R<sup>2</sup>). Data processing in this research used the SPSS (*Statistical et al.*) program version 25 so that data processing ran automatically, and the results were then interpreted.

## RESULT

The subjects used as respondents in this research were *online motorcycle taxi drivers* who used two-wheeled vehicles, namely motorbikes, and did not have an electric motorbike and were in Surabaya. The questionnaire in this study was distributed to 30 respondents for instrument testing and then redistributed to 100 respondents for data processing.

### Validity Test Results

Table 1. Validity Test

Variable	Indicator	R Count	R Table	Information
<b>Enviromental Awareness (X1)</b>	X1.1	0,795	0,361	Valid
	X1.2	0,889		Valid
	X1.3	0,750		Valid
<b>Product Quality Perception (X2)</b>	X2.1	0,858		Valid
	X2.2	0,655		Valid
	X2.3	0,820		Valid
	X2.4	0,805		Valid
	X2.5	0,402		Valid
	X2.6	0,489		Valid
<b>Buying Interest (Y)</b>	Y.1	0,791		Valid
	Y.2	0,730		Valid
	Y.3	0,790		Valid
	Y.4	0,807		Valid

Source: SPSS v.25 Test Results (2023)

The table above shows that the R-value for each variable is > R table (0.361), so it can be concluded that all the indicators used to measure the variables Environmental Awareness, Perceived Product Quality, and Purchase Intention in this research are valid.

### Reliability Test Results

Table 2. Reliability Test

Variable	Cronbach's Alpha	Standar	Information
<b>Enviromental Awareness (X1)</b>	0,740	0,6	Reliabel
<b>Quality Product Perception (X2)</b>	0,759	0,6	Reliabel
<b>Buying Interest (X3)</b>	0,784	0,6	Reliabel

Source: SPSS V.25 Test Results (2023)

Based on the table above, the Cronbach's alpha ( $\alpha$ ) value for all variables is greater than the reliability standard (0.60), so it can be concluded that the indicators or questionnaires used for the variables Environmental Awareness, Perception of Product Quality and Purchase Intention are declared to be reliable. (reliable) as a measuring tool for research variables and can be reused for further research.

### Normality Test Results

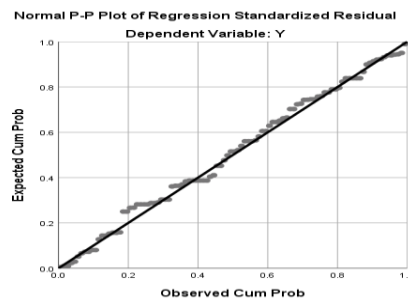


Figure 1. Normality Test  
Source: SPSS v.25 Test Results (2023)

Based on the picture, the points are spread around the diagonal line and follow the direction of the diagonal line, so the data in this study is usually distributed.

### Heteroscedasticity Test Results

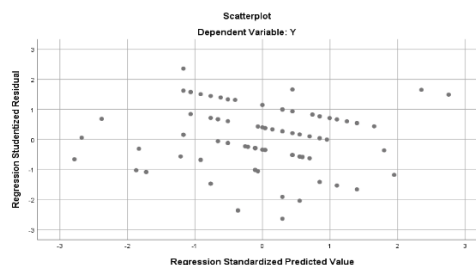


Figure 2. Heteroscedasticity test  
Source: SPSS v.25 Test Results (2023)

Based on the picture, it can be seen that the dots spread up and down the number 0 and do not form a clear pattern, so it can be concluded that the research data does not have heteroscedasticity problems.

### Multicollinearity Test Results

Table 3. Multicollinearity Test

Variable	VIF	Tolerance	Decision
Environmental awareness (X1)	1.038	10.000	multicollinearity free
Quality Product Perception (X2)	1.038	10.000	multicollinearity free

Source: SPSS v.25 Test Results (2023)

The table above shows that the tolerance value for each variable is > 0.1, and the VIF value for each independent variable has a value of < 10. Thus, it can be concluded that there is no multicollinearity between the independent variables in the regression model or no multicollinearity problem between the independent variables in the regression.

### Multiple Linear Regression Test Results

Table 4. Multiple Linear Regression Test

Variable	B	t	Sig.	Decision
Constant	9.825	5.329	0.000	Accepted
Environmental Awareness (X1)	0.085	0.74	0.461	Not Accepted
Quality Product Perception (X2)	0.231	3.834	0.000	Accepted

Source: SPSS v.25 Test Results (2023)

From the table above, we get the equation:

$$Y = 9.825 + 0.085 X1 + 0.231 X2 + e$$

The results of the multiple linear regression equation above provide the understanding that:

1. The constant value (a) is 9.825, which means that if the independent variables of environmental awareness and perception of product quality are constant, then the size of the dependent variable, namely buying interest, is 9.825 units. The constant value (a) is positive, namely 9.825, meaning that buying interest will increase if environmental awareness and perceived product quality are equal to zero (0).

In this research, because the environmental awareness variable does not affect purchase intention, the environmental awareness variable must be removed from the regression equation.

2. Environmental awareness (X1) has a coefficient value of 0.085, indicating that the environmental awareness coefficient (X1) positively influences purchasing interest.
3. Perception of product quality (X2) has a coefficient value of 0.231, indicating that the product quality perception coefficient (X2) positively influences purchasing interest. If the perception of product quality increases by one unit, then purchase interest will increase by 0.231 units, which means that the higher the perception of product quality, the higher the buying interest.

### t Test Results

The interpretation of the t-test results is as follows:

- a. A partial test between the independent variable environmental awareness (X1) and purchasing interest (Y) obtained the t value count  $0.740 < t$  table  $1.984$  and a significance value of  $0.461 > 0.05$ , which shows that the environmental awareness variable (X1) partially does not affect buying interest (Y). Thus, H1 is not accepted.
- b. A partial test between the independent variable product quality perception (X2) and purchase interest (Y) obtained the t value count  $3,834 > t$  table  $1.984$  and a significance value of  $0.000 < 0.05$ , this shows that the product quality perception variable (X2) partially has a significant effect on buying interest (Y). Thus, H2 is accepted.

### F Test Results

Table 5. F test

Model	F	Sig.	Decision
Regression	8,476	0.000	Accepted

Source: SPSS v.25 Test Results (2023)

Based on the results of the F Test processing above, it is known that the calculated F value is  $8.476 > F$  table  $3.090$ , and the significance value is  $0.000 < 0.05$ , which shows that environmental awareness (X1) and perceived product quality (X2) simultaneously have a significant effect on Purchase Interest (Y). Thus, H3 is accepted.

### Multiple Determination Coefficient Test Results (R<sup>2</sup>)

Table 6. Multiple Determination Coefficient Test (R<sup>2</sup>)

R	R Square	Adjusted R square
0,386	0,149	0,131

Source: SPSS v.25 Test Results (2023)

The adjusted value of the coefficient of multiple determination (R<sup>2</sup>) (Adjusted R Square) is 0.131, meaning that the independent variables environmental awareness and product quality perception influence the Purchase Interest variable by 13.1%, which means that the environmental awareness variable and product

quality perception influence the Purchase Interest variable by 13.1%. Other variables outside this research influence 13.1% and the remaining 86.9%, for example, price variables, electronic word of mouth, brand image, and others.

## **DISCUSSION**

The results of this study show that the environmental awareness variable indicators of knowledge, attitudes, and behavior or actions do not significantly affect the interest in buying electric motorbikes among online motorcycle taxi drivers in Surabaya. The result aligns with research conducted by (Junaedi, 2015) proving that environmental awareness does not affect intention to purchase environmentally friendly products.

Online motorcycle taxi drivers regarding the high air pollution in Surabaya caused by motorized vehicles prove that environmental awareness in this study does not influence online motorcycle taxi drivers' interest in buying electric motorbikes. It is necessary to provide outreach to all motor vehicle drivers, especially online motorcycle taxi drivers, so that they have the view that the more conventional motorbike riders switch to electric motorbikes, the less air pollution will occur. The lack of socialization by the government and electric motorbike manufacturers has led to a lack of understanding of the causes of high air pollution, which pollutes the environment. Apart from that, it is suspected that online motorbike taxi drivers' considerations for buying electric motorbikes are more about operational cost efficiency because they are more economical than fuel (fuel oil) rather than considering environmental/ecological impacts, which in this case requires further research to be true. As stated in research (Agustian et al., 2022), the alleged reason for considering operational cost efficiency is that electric vehicles using batteries can save costs. By converting fuel oil into electrical power, this technology has the advantage of having more extended durability and being economical to use.

The results of this study show that the variable indicators of product quality perception are performance quality, reliability, feature, durability, conformance quality, and style positively and significantly affect interest in buying electric motorbikes among online motorcycle taxi drivers in Surabaya. The perception of electric motorbike product quality is good, generating buying interest among online motorcycle taxi drivers in Surabaya. The result is in line with research conducted by (Putri, 2017) which states that perceived quality has a significant influence on the intention to purchase a Suzuki Karimun Wagon R Ags. (Michael et al., 2022) discovered that the main obstacles to the adoption of EVs in the Indian context are threefold: lack of infrastructure for charging, vehicle performance hurdles, and financial constraints. There have been complaints from careless drivers regarding the difficulties of utilizing electric vehicles. This information can help producers of hybrid electric vehicles (HEVs) create automobiles that are straightforward to use and possess user-friendly features. To sell hybrid electric automobiles, marketers could concentrate more on the utilitarian side of their target audience. Because most consumers are averse to new technology because they lack understanding or are unsure of its quality, marketers should accurately convey the functional benefits of automobiles. Marketers who incorporate the functional values of hybrid electric vehicles (HEVs) into their campaigns stand to gain a lot of customers, especially for their vehicles (Zamil et al., 2023).

The results of the analysis carried out show that environmental awareness and perception of product quality simultaneously have a positive and significant effect on the Interest in Buying Electric Vehicles among motorbike taxi drivers Online in Surabaya, which means that if environmental awareness is higher and the perception of product quality is better, interest in buying electric motorbikes among online motorcycle taxi drivers in Surabaya will increase. The adjusted coefficient of

multiple determination (Adjusted R<sup>2</sup>) was obtained at 0.131, which shows that the interest in buying electric motorbikes among online motorcycle taxi drivers in Surabaya is influenced by environmental awareness variables and perceived product quality simultaneously by 13.1%. In contrast, the rest is influenced by other external variables. This research includes, for example, price variables, electronic word of mouth, brand image, and others. The discussion of the results is argumentative in nature regarding the relevance of the results, theory, previous research and empirical facts found, as well as showing the novelty of the findings.

## CONCLUSION

Based on the test results and discussion, to answer the problem formulation, the researcher concluded that Environmental awareness does not affect interest in buying electric motorbikes among *online motorcycle taxi drivers* in Surabaya. Perception of product quality has a positive and significant effect on interest in buying electric motorbikes among *online motorcycle taxi drivers* in Surabaya. Environmental awareness and perceived product quality positively and significantly affect the interest in buying electric motorbikes among *online motorcycle taxi drivers* in Surabaya.

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