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The Antecedents of Purchasing Intention on Electric Vehicles in Indonesia

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Abstract

The purpose of this study is to find out what is the attraction or that makes people in Indonesia interested in buying electric vehicles. In this study using several variables, namely feelings of environmental responsibility, environmental values, environmental knowledge, perceptions of environmental advertising, perceptions of electric vehicles, and the intention of purchasing electric vehicles. This research is basic research and uses quantitative methods. The correlation and regression matrices used are then processed with the stages of measurement model and structural model. Respondents were obtained by distributing questionnaires to as many as 300 respondents who understood electric vehicles and / or environmental issues. The results showed significant results except for environmental knowledge and perceptions of environmental advertising on electric vehicles. Advertisements in circulation are still few and not affected by environmental knowledge so that purchase intentions cannot be encouraged through this.

Keyword: Sense of environmental responsibility, environmental value, perception of electric vehicles, purchase intention

1. INTRODUCTION

At present, environmental issues have become a thing to be taken into account. There are several sectors of concern ranging from property, business, tourism, and others (El-Zeiny, 2011; Saffuan et al., n.d.; Yusof et al., 2011). The current condition of the market has an interest and increasing attractiveness of environmentally friendly goods. This is very visible in the automotive business. Now many car and motorcycle manufacturers are producing electric vehicles. Electric vehicles are vehicles that use batteries and plug-in hybrids (Thomas, 2012).

Eze & Ndubisi (2013) also found a correlation between environmental value and purchase intention towards environmentally friendly products. Knowledge of environmental issues is also correlated with purchase intentions towards environmentally friendly products (Chan & Lau, 2000; Eze & Ndubisi, 2013). However, there are also those who state that there is no relationship between environmental knowledge and the purchase intention of environmentally friendly products (Ramayah et al., 2010; Wolsink, 2007). The

perception of environmentally friendly products or labeling eco-friendly products motivates consumers to buy these eco-friendly products (Young et al., 2010).

Rahbar & Wahid (2011) examined the positive significance of the perception of environmentally friendly products described as eco-label and eco-branded with consumer purchasing behavior. This consumer behavior can also be described as the intention of purchase. The study was conducted in Malaysia. The results of this study show a positive significance between the perception of environmentally friendly products and consumer purchase intentions. This happens because the perception of this environmentally friendly product already has a positive image that encourages consumers to want to buy. Coupled with awareness of eco-friendly brands that increase their intention to buy is influenced by their belief in the benefits of using environmentally friendly products and they participate in protecting the environment by buying environmentally friendly products.

Khare (2014) environmental values derived from individual norms and social norms show no significance affecting the intention of purchasing environmentally friendly products. This could indicate that there is no influence of environmental values with the perception of electric vehicles. The perception of electric vehicles arises from previous consumer experiences. Likewise, environmental advertising is not affected by environmental values so that it does not lead to the intention of purchasing environmentally friendly products.

There are factors that can influence the purchase intention of electric vehicles. In this study, the factors studied were a sense of responsibility, environmental value, environmental knowledge, perception of environmental advertising, and perception of environmentally friendly products of electric vehicles. There are also differences with previous studies where Kim et al. (2010) showed significant environmental advertising perceptions of electric vehicle purchase intentions.

1.1. Consumer Behavior

Blair et al. (2022) said that in consumer behavior there are 3 constructions, namely behavior, intention to suggest, and intention to buy. From these three constructions gave rise to the consumer paradigm, namely attitude-intention-behavior. This paradigm is known as the theory of planned behavior. Shakeel (2022) explains that planned behavior theory is a very powerful tool to explain why people do what they do. The SDGs help individuals understand why they made these decisions. Also explain consumer actions and intentions of consumers. Their intentions will influence the actions they will take. The design of the SDGs

relies on customer understanding and information. Carette et al. (2012) concluded that consumer behavior of environmentally friendly products is influenced by 3 themes of consumer confusion, trust, and credibility, policymakers and marketers can adjust their regulative actions, their marketing offerings, and their communications. Lack of environmental knowledge and education on environmental issues at the lower social strata is a thing that happens and it has an influence on the purchasing behavior of environmentally friendly products. Through advertising, knowledge of the environment also cannot increase their environmental knowledge.

1.2. Feelings of Environmental Responsibility and Perceptions of Environmental Advertising

A sense of responsibility can trigger the intention to purchase environmentally friendly products. Social norms cause this sense of responsibility to emerge. (Khare, 2014) a sense of responsibility for the environment can be manifested in the form of awareness of the importance of environmental issues that occur today. With this awareness, consumers are influenced to buy environmentally friendly products. Consumers who are pro to the environment will buy environmentally friendly products. The intention to buy environmentally friendly products is influenced by consumer confidence in environmentally friendly products themselves and the desire to protect the environment. Buyers who do not have environmental awareness tend not to understand about eco-friendly products and make them not believe in the performance of eco-friendly products and it becomes difficult to want to identify the product.

L. C. Leonidou et al. (2010) said environmental advertising refers to all attractions related to ecology, sustainable environment, and environmentally friendly messages that target the needs and desires of stakeholders who care about the environment. There are 3 main categories, the first is one that directly and indirectly discusses the relationship between products/services and the natural environment. The second is one that promotes an environmentally responsible lifestyle with or without highlighting products/services. The third is what shows companies that are environmentally responsible.

A sense of responsibility can also be evoked from advertising. Alamsyah et al. (2020) also said that the level of environmental awareness can be increased through the company's marketing strategy based on the environment with environmental advertising.

H1: The feeling of responsibility has a positive influence on the perception of environmental advertising.

1.3. The Effect of Environmental Values and Perceptions of Environmental Advertising

Norm values are part of environmental values. Both of these have an influence on the intention of purchasing environmentally friendly products. Jansson (2011) Social norms influence the prediction of beliefs and attitudes that are pro to the environment. Values, beliefs, norms and habits influence consumers' desire to purchase environmentally friendly products. From the value of the environment comes influence with environmental advertising and electric vehicle products.

L. C. Leonidou et al. (2010) describes environmental advertising, one of which is a value shown by companies that protect the environment. Advertising aims to show the value of the existing environment as well. Henning & Karlsson (2011) explain that environmental values are also influenced by human norms. This norm can also arise from advertisements that air.

H2: Environmental Value has a positive influence on the perception of environmental advertising.

1.4. The Influence of Environmental Knowledge and Perception of Environmental Advertising

Yusuf & Fajri (2022) explained that knowledge is a tool that can be a tool to trigger concern among people, especially in developing countries. Environmental knowledge is not only information about the environment but also strengthens critical thinking, helps solve problems, and provides the ability to make effective decisions. With the awareness of knowledge about the environment will provide individuals to know or get facts about environmental problems so as to allow individuals to make more responsible decisions.

H. Wang et al. (2019) stated that environmental knowledge can be defined as individual knowledge on facts, concepts, and relationships related to environmental protection and its main ecosystem. In other words, environmental knowledge includes the things individuals know about the environment, its relationships and key influences, the identification of environmental capabilities, and the responsibilities necessary for sustainable development.

Rahbar & Wahid (2011) explained that the perception of environmental advertising is an environmentally friendly marketing tool. Used to increase consumer knowledge on environmentally friendly products. This shows the contribution of responsibility to the environment that has been taken by consumers. Henning & Karlsson (2011) explain that

environmental knowledge has a strong relationship with a person's behavioral intentions. Ads can give their viewers or listeners knowledge.

H3: Environmental Knowledge has a positive effect on the perception of environmental advertising.

1.5. The Influence of Feelings of Environmental Responsibility and Perceptions of Electric Vehicles

Carette et al. (2012) say environmental and ecologically responsible behavior involves an action that involves a person either individually or in a selective scenario. Favoring the conservation of natural resources to get a better environment. Behavior commonly referred to as pro-environment. Alamsyah et al. (2020) said that awareness of the environment can change the customer's point of view. They reduce the consumption of conventional products switching to environmentally friendly products.

Henning & Karlsson (2011) state that a sense of responsibility is a predictor of environmental behavior. With a sense of responsibility, it can be realized in the perception of electric vehicles as a form of environmental friendliness. Alamsyah et al. (2020) stated that environmental awareness can also arise from the impact effect of customer views on these environmentally friendly products.

H4: Feelings of environmental responsibility have a positive effect on the perception of electric vehicles.

1.6. The Influence of Environmental Values and Perceptions of Electric Vehicles

Jansson (2011) consumers are divided into 2, namely adopters and non-adopters of environmentally friendly innovations. They are distinguished from norms, attitudes, novelty-seeking behavior, and perceptions of innovation. Consumers will want to adopt eco-friendly products if they feel that they are not complex, compatible, and appear easy to use. Therefore, the feeling of responsibility also has an influence on the perception of environmentally friendly products, namely electric vehicles.

Yeouw & Loo (2022) explain that in environmental values, there are subjective norms in SDGs referring to a belief of a person or important group that is approved by them and supports several behaviors. Existing perceptions can also influence this subjective norm. Therefore, the existing environmental value can affect the perception of electric vehicles.

H5: Environmental values have a positive effect on the perception of electric vehicles.

1.7. Environmental Knowledge and Perception of Electric Vehicles

Zameer & Yasmeen (2022) environmental awareness will encourage environmental knowledge shown through knowledge of environmentally friendly products themselves. Knowledge of environmentally friendly products is knowledge or understanding of information about the product that helps consumers make decisions. From this knowledge, it can encourage higher purchase intentions.

Yusuf & Fajri (2022) explained that environmental knowledge can be formed in the form of education that not only contains information about the environment but also strengthens critical thinking, helps solve problems, and can bring out decision-making skills. From this environmental knowledge can also affect the perception of existing electric vehicles.

H6: Environmental knowledge has a positive effect on the perception of electric vehicles.

1.8. Environmental Advertising and Purchase Intentions

The purpose of advertising is to influence the purchasing behavior of consumers to buy products that do not harm the environment and direct their attention to the positive consequences of their purchases for the environment (Rahbar & Wahid, 2011).

Rizqiyana & Wahyono (2020) explained that in green marketing, environmental advertising is one component in it. This environmental advertisement facilitates the perception and awareness of the meaning and characteristics of environmentally friendly products, so that it can lead consumers to buy environmentally friendly products.

Liao et al. (2020) show that in green marketing, one of the components in it is advertising. The purpose of this ad is to promote these eco-friendly products. Advertising is considered significant in achieving sustainable growth by showing competitive advantages and good product image. Therefore, this advertisement can encourage consumers to make a decision to buy.

H7: Environmental advertising perception positively influences purchase intent.

1.9. The Influence of Electric Vehicle Perception and Purchase Intentions

Rahbar & Wahid (2011) said the perception of electric vehicles can also be called by labeling the product with an environmentally friendly label. Identify the product as environmentally friendly. This becomes information for consumers. This labeling is used as a marketing tool to consumers.

Alamsyah et al. (2020) explained that the perception of electric vehicles can also be described by the assessment made by customers of the product itself. The brand image of an environmentally friendly company is not only portrayed through the company's social activities but also portrayed through the products offered. Therefore, the perception of electric vehicles is also illustrated through assessments from customers.

Abdula et al. (2020) show that customer perception is very important to encourage environmentally friendly activities companies can survive in the market. With this strong perception, it can have a strong influence on influencing customers. Therefore, the perception of customers towards a product can greatly affect their purchase intentions.

H8: Electric vehicle perception has a positive effect on purchase intentions.

2. METHOD

This study used a sample of 300 respondents by distributing questionnaires. The requirements for respondents are respondents who have knowledge / concern for electric vehicles and / or environmental conditions. Data processing method using SPSS and SEM AMOS. Several tests were held such as the validity test of the significance level of 0.05, reliability tests with Cronbach Alpha values greater than 0.6 considered to have good internal consistency, AMOS SEM tests, and hypothesis tests.

3. RESULTS AND DISCUSSION

3.1. Validity Test

Based on the results of the validity test conducted, it was found that the results of each variable showed a valid value. Each variable represents an r value > 0.361 . Here's a breakdown of the values of each variable:

Table 1
Validity Test Results

Variable	Calculated R Value	Information
Feeling of responsibility	>0.361	Valid
Environmental Value	>0.361	Valid
Environmental Knowledge	>0.361	Valid
Environmental Advertising Perception	>0.361	Valid

Quiet Eco-Friendly Products (Electric Vehicles)	>0.361	Valid
Purchase Intention	>0.361	Valid

3.2. Reliability Test

Based on the results of the reliability test conducted, it was found that the results of each variable showed a reliable value. Cronbach's alpha score > 0.6 . Here are the details of the results of the reliability value of each variable:

Table 2
Reliability Test Results

Variable	Cronbach's Alpha	Information
Jawan's Feeling of Responsibility	0,862	Reliable
Environmental Value	0,870	Reliable
Environmental Knowledge	0,855	Reliable
Environmental Advertising Perception	0,799	Reliable
Perception of Eco-Friendly Products (Electric Vehicles)	0,880	Reliable
Purchase Intention	0,883	Reliable

3.3. Description of Respondents

There were 300 respondents. Here are the details of the respondent data obtained:

Table 3
Respondent Gender Data

No	Gender	Sum	Percentage (%)
1	Male	196	65,3
2	Woman	104	34,7
	Total	300	100

Table 4
Age Data of Respondents

No	Age	Sum	Percentage (%)

1	17-19 years	1	0,3
2	20-30 years	106	35,3
3	31-40 years	84	28,0
4	> 40 years	109	36,3
Total		300	100

Table 5
Respondent Earnings Data

No	Income	Sum	Percentage (%)
1	< IDR 3,000,000	12	4,0
2	IDR 3,000,000 - IDR 10,000,000	108	36,0
3	IDR 10,000,001 - IDR 20,000,000	107	35,7
4	> IDR 20,000,000	73	24,3
Total		300	100

3.4. Test the hypothesis

Table 6
Hypothesis Test Results

Hypothesis	Influence	Std. Estimate	CR	Sig	Information
H1	Responsibility Feeling à Perception of Environmental Advertisement	0,180	2,691	0,007	Significant
H2	Environmental Values à Perception of Environmental Advertisement	0,230	3,389	0,000	Significant
H3	Environmental Knowledge à Perception of Environmental Advertisement	0,011	0,169	0,866	Insignificant
H4	Responsibility Feeling à Perception of Environmental Friendly Product	0,167	2,610	0,009	Significant
H5	Environmental Values à Perception of Environmental Friendly Product	0,169	2,644	0,008	Significant

H6	Environmental Knowledge à Perception of Environmental Friendly Product	0,216	3,353	0,000	Significant
H7	Perception of Environmental Advertisement à Purchase Intention	0,083	1,359	0,174	Insignificant
H8	Perception of Environmental Friendly Product à Purchase Intention	0,503	7,619	0,000	Significant

3.5. Discussion

These results conclude that feelings of environmental responsibility have a significant positive effect on perceptions of environmental advertising. This means that the feeling of responsibility is higher, will significantly increase the perception of environmental advertising. Based on these results, the hypothesis that the feeling of responsibility has a positive effect on the perception of environmental advertising is acceptable (H1 is significant). Environmental value has a significant positive effect on the perception of environmental advertising. This means that the higher the environmental value, will significantly increase the perception of environmental advertising. Based on these results, the hypothesis that predicts that environmental values have a positive effect on perceptions of environmental advertising is acceptable (H2 is significant). Environmental knowledge has no significant positive effect on the perception of environmental advertising. This means that the higher the Environmental Knowledge, does not significantly increase the Perception of Environmental Advertisement. Based on these results, the hypothesis that environmental knowledge has a positive effect on perceptions of environmental advertising is unacceptable (H3 is not significant). The higher the Responsibility Feeling, the Perception of Environmental Friendly Product will significantly increase. Based on these results, the hypothesis that the feeling of responsibility for the environment has a positive effect on the perception of electric vehicles is acceptable (H4 is significant). Perception of Environmentally Friendly Product. This means that the higher the Environmental Values, the Perception of Environmentally Friendly Product will significantly increase. Based on these results, the hypothesis that predicts environmental values has a positive effect on the perception of electric vehicles is acceptable (H5 is significant). Environmental Knowledge has a significant positive effect on Perception of Environmental Friendly Product. This means that the higher the Environmental Knowledge, the Perception of Environmental

Friendly Product will significantly increase. Based on these results, the hypothesis that predicts environmental knowledge has a positive effect on the perception of electric vehicles is acceptable (H6 is significant). Perception of Environmental Advertisement has no significant positive effect on Purchase Intention. This means that the higher Perception of Environmental Advertisement does not significantly increase Purchase Intention. Based on these results, the hypothesis that assumes that environmental advertising perceptions have a positive effect on the purchase intention of electric vehicles, is unacceptable (H7 is not significant).

4. CONCLUSION AND IMPLICATIONS

4.1. Conclusion

Some variables show insignificant results such as environmental knowledge that does not affect the perception of environmental advertising and the perception of environmental advertising does not affect purchase intentions. Both of these are in line with Kusuma & Handayani (2018) where environmental knowledge influences behavior directly does not affect the advertisements seen by consumers. Yusof et al. (2011) showed that advertising only shows or tells consumers but cannot influence them to make purchases. To increase purchase intentions can be increased through the perception of environmentally friendly products (electric vehicles) itself. L. Wang et al. (2022) electric vehicles have emotional value that can be felt by someone so that they can be encouraged to buy electric vehicles.

4.2. Implications

This research can provide information on companies that produce and sell electric vehicles. It is necessary for companies to pay attention to what aspects can encourage consumers to buy electric vehicles. Such as the perception of electric vehicles that can be encouraged so that consumers become interested in buying electric vehicles.

For companies, it is advisable to really understand consumers to encourage purchase intentions. It is important to understand the current condition of Indonesia in encouraging purchase intentions. What needs to be prioritized is the experience for potential customers that is felt so that their purchase intentions can be aroused. The experience provided by consumers can be done through vehicle trials. Any company can hold an event for consumers to gather and test drive the vehicle. In addition, infrastructure facilities also need

to be improved first so that complexity is not felt by potential customers. Fulfillment of infrastructure facilities can be done in cooperation with the government

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