



Innovation, Brand Image, and Green Product Awareness Effects on Electric Vehicle Purchase Intention through Trust

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Abstract

Purpose: This study aims to analyze the effects of innovation, brand image, and green product awareness on electric vehicle purchase intention with trust as an intervening variable. This study also examines the role of trust in strengthening the relationship between consumer perceptions and purchase intention toward electric vehicles.

Research Methodology: This study applies a quantitative approach with a causal research design. Data were collected through online questionnaires from 135 electric vehicle users in Surabaya using the total sampling technique. The data were analyzed using Structural Equation Modeling (SEM) based on Partial Least Squares (PLS) with SmartPLS software.

Results: The results indicate that innovation and green product awareness significantly influence trust, while brand image does not significantly influence trust. Furthermore, innovation, brand image, green product awareness, and trust significantly affect purchase intention. Trust significantly mediates the relationship between green product awareness and purchase intention, but does not mediate the effects of innovation and brand image on purchase intention.

Conclusions: This study concludes that innovation, environmental awareness, and trust are important factors in increasing consumer purchase intention toward electric vehicles.

Limitations: This study is limited to electric vehicle users in Surabaya, which may affect the generalizability of the findings to broader populations.

Contributions: This study contributes to marketing literature by integrating innovation, brand image, green product awareness, and trust into a purchase intention model. The findings provide practical implications for electric vehicle companies in developing strategies to enhance consumer trust and adoption.

Keywords: Brand Image, Green Product Awareness, Innovation, Purchase Intention, Trust

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1. Introduction

The increasing price of fossil fuels, limited availability of energy resources, and growing environmental concerns have encouraged the development of environmentally friendly and energy-efficient transportation alternatives. These global challenges, as highlighted in the Education for Sustainable Development (ESD) framework, have accelerated the transition toward electric vehicles

(EVs) as a potential solution for reducing dependence on conventional fuels and supporting sustainable development ([Jelti, Allouhi, & Tabet, 2023](#); [Hossain, Kumar, Islam, & Selvaraj, 2022](#)). In Indonesia, the growth potential of the electric vehicle market has been strengthened through government policies, including the Value Added Tax Borne by the Government (PPN DTP) incentive for electric vehicle purchases regulated under Minister of Finance Regulation Number 38 of 2023 ([Pambudi & Juwono, 2023](#)). This policy has increased market competition among electric vehicle manufacturers, making it essential to understand the factors that influence consumer purchase intention toward electric vehicles.

Consumer trust is considered an important factor in encouraging electric vehicle adoption. Trust reflects consumers' confidence in the competence, reliability, and sincerity of a business or brand in fulfilling its commitments ([Kotler, & Armstrong, 2018](#); [Sullivan, & Kim, 2018](#)). Previous studies have demonstrated that consumer trust positively influences purchase intention ([Mahliza, 2020](#); [Ihsan, & Indayani, 2022](#); [Luki yana, & Anjani, 2022](#)). However, other studies have reported different findings, indicating that the relationship between trust and purchase intention requires further investigation, particularly in the context of electric vehicle adoption ([Pakpahan, AK, & Ryan, 2022](#)).

Several factors are considered capable of strengthening consumer trust and influencing purchase intention toward electric vehicles, including innovation, brand image, and green product awareness. Innovation represents a company's ability to develop products that meet changing consumer needs and expectations. Previous studies have shown that innovation positively influences brand trust and purchase intention because consumers tend to perceive innovative products as more valuable and reliable ([Maulana, YS, & Alisha, 2020](#); [Tanuwijaya, Tandrayuwana, & Aprilia, 2022](#)). In the electric vehicle context, technological innovation, such as battery efficiency, driving performance, and smart features, may increase consumer confidence and encourage purchase decisions.

Brand image is another important factor influencing consumer perceptions of a product. A strong brand image can create positive associations, increase consumer confidence, and encourage purchase intention. Previous research indicates that brand image positively affects purchase intention because consumers tend to consider brands with favorable reputations as more trustworthy and valuable ([Benhardy, KA, Hardiyansyah, Putranto, & Ronadi, 2020](#); [Haitao, 2022](#)). In the electric vehicle market, a positive brand image can reduce consumer uncertainty regarding product quality, reliability, and long-term benefits.

Furthermore, increasing environmental awareness has encouraged consumers to consider environmentally friendly products in their purchasing decisions. Green product awareness reflects consumers' understanding and concern regarding products that provide environmental benefits. Previous studies have found that environmental concerns and green product awareness positively influence green purchase intention because consumers are increasingly motivated to support sustainable products ([Alamsyah, DP, & Febriani, 2020](#); [Mensah, 2021](#); [Junarsin, Pangaribuan, CH, Wahyuni, Hidayat, Putra, OPB, Maulida, & Soedarmono, 2022](#)). For electric vehicles, green product awareness may strengthen consumer trust by emphasizing the environmental advantages and sustainability value of these products.

Although previous studies have examined the influence of innovation, brand image, and green product awareness on purchase intention, empirical findings remain inconsistent, particularly regarding the mediating role of trust. Some studies suggest that trust acts as an important mechanism that strengthens consumer purchase decisions, while other studies indicate that several factors may directly influence purchase intention without involving trust ([Wu, & Huang, 2023](#); [Wang, Zhang, Zhou, & Lai, 2019](#)). Therefore, further research is needed to understand how these variables interact in explaining consumer interest in purchasing electric vehicles.

Based on these research gaps, this study aims to analyze the influence of innovation, brand image, and green product awareness on consumer trust and purchase intention toward electric vehicles. Specifically, this study examines the direct effects of innovation, brand image, and green product awareness on purchase intention, as well as the indirect effects through trust as an intervening

variable. The findings of this study are expected to provide theoretical contributions to marketing literature, particularly regarding consumer behavior toward sustainable products, and practical implications for electric vehicle manufacturers in developing strategies to increase consumer trust and adoption.

2. Literature Review and Hypothesis/es Development

2.1 Purchase Intention

Purchase intention refers to the willingness or tendency of consumers to purchase a product or service in the future based on their perceptions, evaluations, and expectations toward the product ([Kytö, Virtanen, & Mustonen, 2019](#)). Purchase intention is an important concept in consumer behavior because it reflects the decision-making process before actual purchasing behavior occurs. In the context of electric vehicles, purchase intention represents consumers' readiness to adopt environmentally friendly transportation alternatives as a response to technological development and increasing environmental concerns ([Dutta & Hwang, 2021](#)).

Consumer decisions to purchase electric vehicles are influenced by various factors, including perceived product value, technological advantages, environmental awareness, brand perceptions, and consumer trust ([Yang, Tu, & Jiang, 2020](#)). Unlike conventional vehicles, electric vehicles involve higher levels of uncertainty related to battery performance, charging infrastructure, maintenance costs, and technological reliability. Therefore, understanding the determinants of purchase intention is essential for manufacturers and marketers in developing strategies to encourage wider electric vehicle adoption.

2.2 Innovation and Purchase Intention

Innovation represents a company's ability to create, develop, and improve products to provide greater value and meet changing consumer needs. In the automotive industry, innovation is reflected through technological improvements, battery efficiency, driving performance, smart features, and environmentally friendly technologies. For electric vehicles, innovation plays an important role because consumers often evaluate these products based on their technological capabilities and ability to provide practical and sustainable solutions ([Pinkse & Bohnsack, 2021](#)).

According to innovation theory, consumers tend to perceive innovative products as having higher value because they provide new benefits compared with existing alternatives. Innovative features can reduce consumer uncertainty regarding product performance and increase perceived usefulness. Therefore, companies that continuously develop electric vehicle technology are more likely to attract consumer attention and increase purchase intention.

Previous studies have shown that product innovation positively influences purchase intention. [Maulana and Alisha \(2020\)](#) found that product innovation increases consumer purchase interest because innovative products are considered more capable of fulfilling consumer expectations. Similarly, [Tanuwijaya et al. \(2022\)](#) demonstrated that innovation contributes to higher purchase intention by increasing perceived product attractiveness. Based on these arguments, the following hypothesis is proposed:

H₁: Innovation has a positive effect on electric vehicle purchase intention.

2.3 Innovation and Trust

Innovation is also considered an important factor in building consumer trust. Consumers tend to develop greater confidence in products when companies demonstrate technological capability and continuous improvement. In the electric vehicle market, innovation can reduce perceived risks associated with new technologies, such as concerns regarding battery durability, vehicle reliability, and operational efficiency ([Abro, Zulkifli, Kumar, Asirvadam, & Mossa, 2023](#)).

Consumer trust is developed when companies are perceived as competent and capable of delivering products that meet consumer expectations. Therefore, technological innovation can become a signal of company credibility and commitment to providing high-quality products. Previous research by ([Huo, Hameed, Zhang, & Amri, 2022](#)) found that innovation positively influences brand trust because innovative products increase consumer confidence in brand capabilities. Based on this explanation, the following hypothesis is proposed:

H₂: Innovation has a positive effect on consumer trust toward electric vehicles.

2.4 Brand Image and Purchase Intention

Brand image refers to consumers' perceptions, associations, and evaluations toward a brand based on their experiences and available information. A strong brand image enables companies to differentiate their products from competitors and create positive consumer perceptions. In purchasing decisions, consumers often rely on brand image as an indicator of product quality, reliability, and credibility ([Amron, 2018](#)).

In the electric vehicle industry, brand image becomes particularly important because consumers face uncertainty regarding emerging technologies. A reputable brand can reduce perceived risks and increase consumer confidence in product performance. Brands that successfully communicate reliability, innovation, and sustainability values are more likely to influence consumer purchase decisions ([Sharma, 2021](#)).

Previous studies indicate that brand image has a positive relationship with purchase intention. [Benhardy et al. \(2020\)](#) found that brand image influences purchase intention through positive consumer perceptions and brand trust. [Haitao \(2022\)](#) also demonstrated that a favorable brand image strengthens consumer willingness to purchase products. Therefore, the following hypothesis is formulated:

H₃: Brand image has a positive effect on electric vehicle purchase intention.

2.5 Brand Image and Trust

Brand image is closely related to consumer trust because consumers often use brand reputation as a basis for evaluating product credibility. A positive brand image creates perceptions that a company is reliable, responsible, and capable of fulfilling consumer expectations. In contrast, a weak brand image may increase consumer uncertainty, particularly for products involving new technologies such as electric vehicles ([Jiang, Wei, Guan, & Yang, 2021](#)).

However, brand image does not always directly create trust because consumers may require additional evidence regarding product quality, performance, and reliability. Nevertheless, a strong brand reputation can serve as an initial foundation for developing consumer confidence. Previous studies have shown that brand image influences brand trust by creating positive consumer evaluations of products and companies ([Benhardy, KA, Hardiyansyah, Putranto, & Ronadi, 2020](#)). Therefore, the following hypothesis is proposed:

H₄: Brand image has a positive effect on consumer trust toward electric vehicles.

2.6 Green Product Awareness and Purchase Intention

Green product awareness refers to consumers' understanding and concern regarding environmentally friendly products and their benefits for sustainability. Increasing environmental problems have encouraged consumers to consider ecological factors in purchasing decisions. Electric vehicles represent one form of sustainable product that provides environmental benefits through reduced emissions and lower dependence on fossil fuels ([Hossain, Kumar, Islam, & Selvaraj, 2022](#)).

Consumers with higher environmental awareness tend to have stronger motivation to purchase green products because they perceive these products as contributing to environmental preservation. Therefore, green product awareness becomes an

important determinant of purchase intention toward electric vehicles ([Okada, Tamaki, & Managi, 2019](#)).

Previous studies support the positive relationship between green product awareness and purchase intention. [Mensah \(2021\)](#) found that green product awareness significantly influences consumers' intention to purchase environmentally friendly products. [Similarly, Lestari et al. \(2021\)](#) demonstrated that environmental awareness strengthens green purchase intention. Thus, the following hypothesis is proposed:

H₅: Green product awareness has a positive effect on electric vehicle purchase intention.

2.7 Green Product Awareness and Trust

Green product awareness can also influence consumer trust by strengthening consumers' belief that environmentally friendly products provide meaningful benefits ([Almansour, 2022](#)). When consumers understand the environmental advantages of electric vehicles, they are more likely to perceive these products as valuable, responsible, and aligned with sustainability goals. Trust toward green products develops when consumers believe that companies genuinely implement environmental commitments rather than merely promoting sustainability claims. Therefore, green product awareness can strengthen consumer confidence in electric vehicles ([Abbasi, Johl, Shaari, Moughal, Mazhar, Musarat, & Borovkov, 2021](#)).

Previous research by [Alamsyah and Febriani \(2020\)](#) found that green brand awareness positively influences green trust. [Junarsin et al. \(2022\)](#) also demonstrated that awareness contributes to consumer trust and purchase intention in green marketing contexts. Based on these findings, the following hypothesis is proposed:

H₆: Green product awareness has a positive effect on consumer trust toward electric vehicles.

2.8 Trust and Purchase Intention

Trust represents consumers' confidence in a company's ability, reliability, and integrity in delivering promised benefits. In consumer behavior theory, trust plays an important role in reducing perceived risk and uncertainty, particularly when purchasing innovative products. For electric vehicles, consumer trust is essential because adoption involves considerations related to technological reliability, maintenance, cost efficiency, and long-term benefits. When consumers trust electric vehicle manufacturers, they are more likely to develop positive attitudes and stronger purchase intentions. Trust reduces hesitation and encourages consumers to make purchasing decisions ([Hidayat, Wijaya, Ishak, & Endi, 2021](#)).

Previous studies have confirmed that trust positively influences purchase intention. [Mahliza \(2020\)](#), [Ihsan and Indayani \(2022\)](#), and [Lukiya and Anjani \(2022\)](#) found that consumer trust significantly increases purchase intention. Therefore, the following hypothesis is proposed:

H₇: Trust has a positive effect on electric vehicle purchase intention.

2.9 Trust as an Intervening Variable

Trust can act as a mediating variable that explains how consumer perceptions influence purchase intention. Innovation, brand image, and green product awareness may not only directly influence purchase intention but may also strengthen consumers' trust, which subsequently encourages purchasing decisions. Innovative products may increase trust by demonstrating technological capability, while strong brand image may reduce uncertainty through positive brand associations ([Islam & Hussain, 2023](#)). Similarly, green product awareness may enhance trust by increasing consumers' confidence in the environmental value of electric vehicles. Therefore, trust serves as an important mechanism connecting consumer perceptions with purchase intention.

Based on this explanation, the following hypotheses are proposed:

H₈: Trust mediates the relationship between innovation and electric vehicle purchase intention.

H₉: Trust mediates the relationship between brand image and electric vehicle purchase intention.

H₁₀: Trust mediates the relationship between green product awareness and electric vehicle purchase intention.

3. Research Methodology

3.1 Research Design

This study employs a quantitative approach with a causal research design. A quantitative approach is used because this study aims to examine the relationships among variables and test the proposed hypotheses using statistical analysis. The causal research design is applied to identify the direct and indirect effects of innovation, brand image, and green product awareness on electric vehicle purchase intention, with trust as an intervening variable.

3.2 Population and Sample

The population of this study consists of electric vehicle users in Surabaya, Indonesia. The sample was selected using the total sampling technique, where all members of the population who met the research criteria were included as respondents. A total of 135 respondents participated in this study. The selection of electric vehicle users as respondents was considered appropriate because they have direct experience and knowledge regarding electric vehicle products, enabling them to provide relevant evaluations of innovation, brand image, green product awareness, trust, and purchase intention.

3.3 Data Collection

This study uses primary data collected through online questionnaires distributed to electric vehicle users in Surabaya. The questionnaire was developed based on indicators representing each research construct. Respondents were asked to assess their perceptions using a Likert scale, which measures the level of agreement with each statement provided. The questionnaire consisted of statements related to innovation, brand image, green product awareness, trust, and purchase intention.

3.4 Research Variables and Measurement

This study examines five variables, namely innovation, brand image, green product awareness, trust, and purchase intention. Innovation refers to consumers' perceptions of technological improvements, product development, and the ability of electric vehicles to fulfill consumer needs. Brand image represents consumers' perceptions and associations toward electric vehicle brands. Green product awareness describes consumers' understanding of the environmental benefits and sustainability values offered by electric vehicles. Trust refers to consumers' confidence in the reliability, credibility, and capability of electric vehicle manufacturers. Meanwhile, purchase intention represents consumers' willingness and tendency to purchase electric vehicles in the future.

4. Results and Discussions

The data were analyzed using Structural Equation Modeling (SEM) with the Partial Least Squares (PLS) approach using SmartPLS software. SEM-PLS was selected because it is suitable for analyzing complex relationships among latent variables and examining mediation effects. The analysis consisted of two stages: evaluation of the measurement model (outer model) and evaluation of the structural model (inner model).

The outer model evaluation was conducted to assess the validity and reliability of the research constructs through convergent validity, discriminant validity, composite reliability, and Cronbach Alpha tests. Meanwhile, the inner model evaluation was conducted by examining the coefficient of determination (R^2), predictive relevance (Q^2), path coefficients, t-statistics, and p-values obtained

through the bootstrapping procedure. Hypothesis testing was performed to determine the direct effects of innovation, brand image, and green product awareness on trust and purchase intention, as well as the indirect effects through trust as an intervening variable.

4.1 Results

This study employs Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS to analyze the relationships among innovation, brand image, green product awareness, trust, and purchase intention. The evaluation of the structural model consists of two stages: the measurement model (outer model) and the structural model (inner model).

4.1.1 Validity Test

a. Convergent Validity

Convergent validity was evaluated by examining the outer loading values of each indicator. The results show that all indicators for each construct have loading values above 0.50, indicating that all measurement items meet the required criteria and are valid for measuring their respective constructs.

b. Discriminant Validity

Discriminant validity was assessed using cross-loading values and Average Variance Extracted (AVE). The results indicate that each indicator has a higher correlation with its corresponding construct compared with other constructs. Furthermore, all constructs have AVE values greater than 0.50, demonstrating that each construct has adequate discriminant validity and that the indicators are able to explain their respective latent variables.

4.1.2 Reliability Test

a. Composite Reliability

Composite reliability was used to evaluate the internal consistency of each construct. According to Nunnally (in [Ghozali and Latan \(2015\)](#)), a construct is considered reliable when the composite reliability value exceeds 0.60. The results indicate that all constructs meet this criterion, confirming that the measurement instruments have adequate reliability.

b. Cronbach's Alpha

Cronbach Alpha was used to measure the consistency of indicators within each construct. The results show that all variables have Cronbach Alpha values above 0.60, indicating that all constructs have good internal consistency and are reliable for further analysis.

4.1.3 Inner Model

The inner model evaluation describes the causal relationships among latent variables based on the proposed theoretical framework. The structural model was tested using the bootstrapping procedure in SmartPLS to determine the significance of the relationships between variables

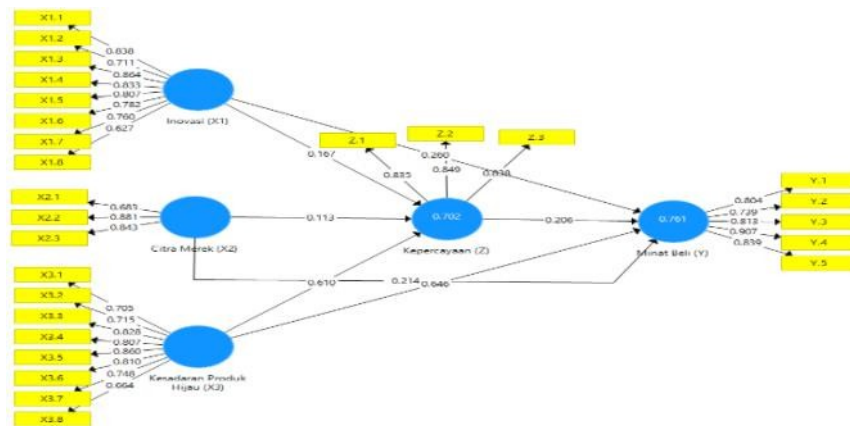


Figure 1. Partial Least Squares Structural Model

Based on Figure 1, it is known that trust (Z) is influenced by innovation (X_1), Brand Image (X_2), and Green Product Awareness (X_3). Apart from that, Purchase Interest (Y) is also influenced by Innovation (X_1), Brand Image (X_2), Green Product Awareness (X_3) and Trust (Z), as shown in the following equation:

$$Z = 0.167X_1 + 0.113X_2 + 0.610X_3 \quad (1)$$

$$Y = 0.260X_1 + 0.214X_2 + 0.646X_3 + 0.206Z \quad (2)$$

Based on Formula 1 and Formula 2, trust is influenced by innovation, brand image, and green product awareness. Meanwhile, purchase intention is influenced by innovation, brand image, green product awareness, and trust.

The PLS model assessment begins by evaluating the R-squared value for the dependent latent variable. Changes in the R-squared value show the influence of the independent latent variable on the dependent latent variable. An R-squared value of 0.67 indicates a strong model, 0.33 a moderate model, and 0.19 a weak model. The PLS output is presented in Table 1.

Table 1. R-Square

	R Square
Trust (Z)	0.702
Purchase Interest (Y)	0.761

Based on Table 1, innovation, brand image, and green product awareness explain 70.2% of the variance in trust, with an R^2 value of 0.702. This value indicates that the model has strong explanatory power. Furthermore, innovation, brand image, green product awareness, and trust explain 76.1% of the variance in purchase intention, with an R^2 value of 0.761, which also indicates a strong structural model. These results indicate that the proposed model has strong predictive capability in explaining consumer trust and purchase intention toward electric vehicles.

4.2 Discussion

4.2.1 Hypothesis Testing

4.2.1.1 The Effect of Innovation on Trust

The results indicate that innovation has a positive and significant effect on trust. This relationship is supported by a t-statistic value of 2.089, which is greater than the critical value of 1.96, and a p-value of 0.037, which is below the significance level of 0.05. The original sample value of 0.167 indicates that innovation has a positive relationship with consumer trust. Therefore, H_1 is supported. This finding indicates that consumers are more likely to develop trust in electric vehicles when they perceive that the products provide innovative features, technological improvements, and solutions that meet their needs. Innovation can reduce consumer uncertainty regarding electric vehicle performance and increase confidence in the reliability of the technology. This result supports previous studies showing that innovation contributes to strengthening consumer trust by improving perceived product value and credibility.

4.2.1.2 The Effect of Brand Image on Trust

The results show that brand image does not have a significant effect on trust. The t-statistic value of 1.195 is lower than 1.96, and the p-value of 0.233 exceeds the significance level of 0.05. Although the original sample value is positive at 0.113, indicating a positive direction of relationship, the effect is statistically insignificant. Therefore, the hypothesis regarding the effect of brand image on trust is not supported. This finding suggests that a positive brand image alone is insufficient to establish consumer trust in electric vehicles. Consumers may require more specific information regarding product quality, technological performance, battery reliability, after-sales services, and environmental benefits before developing trust. In the context of electric vehicles, consumer trust may depend more on actual product performance and sustainability value rather than merely on brand reputation.

4.2.1.3 The Effect of Green Product Awareness on Trust

The results demonstrate that green product awareness has a positive and significant effect on trust. The t-statistic value of 6.718 exceeds 1.96, with a p-value of 0.000, indicating a statistically significant relationship. The original sample value of 0.610 indicates a strong positive relationship between green product awareness and trust. Therefore, the hypothesis is supported. This result indicates that consumers with greater awareness of environmental issues and sustainable products tend to have stronger confidence in electric vehicles. Awareness of the environmental advantages of electric vehicles, such as reducing emissions and supporting sustainable transportation, strengthens consumers' belief that electric vehicles represent responsible and beneficial choices. This finding confirms that environmental considerations are an important factor in building consumer trust toward green products.

4.2.1.4 The Effect of Innovation on Purchase Intention

The results show that innovation has a positive and significant effect on purchase intention. The t-statistic value of 3.456 and p-value of 0.001 indicate that the relationship is statistically significant. The original sample value of 0.260 confirms that innovation positively influences consumers' intention to purchase electric vehicles. Therefore, the hypothesis is supported. This finding indicates that technological advancement, product improvements, and innovative features encourage consumers to consider purchasing electric vehicles. Consumers tend to perceive innovative products as more valuable because they offer solutions to practical needs, such as energy efficiency, convenience, and environmental benefits.

4.2.1.5 The Effect of Brand Image on Purchase Intention

The results indicate that brand image has a positive and significant effect on purchase intention. The t-statistic value of 2.476 is greater than 1.96, and the p-value of 0.014 is below 0.05. The original sample value of 0.214 shows a positive relationship between brand image and purchase intention. Therefore, the hypothesis is supported. This finding demonstrates that a strong brand image can influence consumer decisions by creating positive perceptions and reducing uncertainty regarding electric vehicle products. Consumers are more likely to purchase electric vehicles from brands that are perceived as reliable, reputable, and capable of providing quality products.

4.2.1.6 The Effect of Green Product Awareness on Purchase Intention

Green product awareness has a positive and significant effect on purchase intention, with a t-statistic value of 6.082 and a p-value of 0.000. The original sample value of 0.646 indicates the strongest influence among the independent variables on purchase intention. Therefore, the hypothesis is supported. This result suggests that environmental awareness is a major determinant of electric vehicle purchase intention. Consumers who understand the environmental benefits of electric vehicles are more motivated to adopt sustainable transportation alternatives. This finding highlights the importance of environmental communication and education in increasing consumer adoption of electric vehicles.

4.2.1.7 The Effect of Trust on Purchase Intention

The results indicate that trust has a positive and significant effect on purchase intention. The t-statistic value of 2.133 exceeds 1.96, with a p-value of 0.033. The original sample value of 0.206 indicates a positive relationship between trust and purchase intention. Therefore, the hypothesis is supported. This finding confirms that consumer trust plays an important role in encouraging electric vehicle adoption. Trust reduces perceived risks associated with new technologies, including concerns regarding product reliability, battery performance, maintenance, and long-term benefits. Therefore, increasing consumer trust is essential for strengthening purchase intention.

4.2.2 Mediation Testing

The mediation analysis was conducted to examine whether trust acts as an intervening variable in explaining the relationship between innovation, brand image, and green product awareness on purchase intention. The mediation effect was evaluated based on the indirect effect results obtained from the bootstrapping procedure.

4.2.2.1 The Mediating Role of Trust in the Relationship between Innovation and Purchase Intention

The mediation test results indicate that trust does not significantly mediate the relationship between innovation and purchase intention. The indirect effect produces a t-statistic value of 1.442 and a p-value of 0.150, which does not meet the significance criteria. Although the original sample value is positive at 0.034, the indirect effect is statistically insignificant. Therefore, the mediation hypothesis is not supported. This finding indicates that innovation directly influences purchase intention without requiring trust as an intermediary mechanism. Consumers may consider technological innovation, product features, and functional benefits of electric vehicles as direct reasons for purchase decisions. Thus, innovation appears to influence consumer decisions primarily through perceived product advantages rather than through increased trust.

4.2.2.2 The Mediating Role of Trust in the Relationship between Brand Image and Purchase Intention

The results show that trust does not significantly mediate the relationship between brand image and purchase intention. The t-statistic value of 0.955 and p-value of 0.340 indicate that the indirect effect is not significant. The original sample value of 0.023 shows a positive relationship, but the effect remains insufficient to establish a mediation effect. This finding suggests that although brand image can directly influence purchase intention, it does not necessarily increase purchase intention through trust. Consumers may rely on brand recognition and reputation directly when evaluating electric vehicles rather than forming trust as an intermediate process. This indicates that brand image functions more as a direct persuasive factor rather than a mechanism for developing trust.

4.2.2.3 The Mediating Role of Trust in the Relationship between Green Product Awareness and Purchase Intention

The mediation analysis shows that trust significantly mediates the relationship between green product awareness and purchase intention. The t-statistic value of 1.977 exceeds 1.96, with a p-value of 0.049, indicating a significant indirect effect. The original sample value of 0.126 demonstrates a positive relationship. Therefore, the mediation hypothesis is supported. This finding indicates that green product awareness increases consumer trust, which subsequently strengthens purchase intention toward electric vehicles. Consumers who understand the environmental benefits of electric vehicles are more likely to believe in the value and reliability of these products, leading to stronger purchasing decisions. Therefore, trust serves as an important mechanism that connects environmental awareness with consumer adoption of sustainable transportation.

5. Conclusions

Based on the results of the analysis, this study concludes that innovation and green product awareness are important factors in shaping consumer trust toward electric vehicles. Innovation has a significant positive effect on consumer trust, indicating that technological development and product improvements can strengthen consumers' confidence in electric vehicle products. Meanwhile, brand image does not significantly influence consumer trust, suggesting that brand reputation alone is insufficient to build trust without strong evidence of product performance and reliability. Green product awareness has a significant positive effect on trust, demonstrating that consumers who understand the environmental benefits of electric vehicles tend to develop greater confidence in adopting sustainable transportation.

Furthermore, innovation, brand image, and green product awareness have significant positive effects on electric vehicle purchase intention. These findings indicate that consumers' decisions to purchase electric vehicles are influenced by technological advantages, positive brand perceptions, and awareness of environmental benefits. Trust also has a significant positive effect on purchase intention, confirming its important role in encouraging consumer adoption of electric vehicles. The mediation analysis reveals that trust does not significantly mediate the relationship between innovation and brand image with purchase intention. This indicates that innovation and brand image directly influence purchase intention without requiring trust as an intermediate mechanism. However, trust significantly mediates the relationship between green product awareness and purchase intention, indicating that environmental awareness strengthens consumer trust, which subsequently increases their intention to purchase electric vehicles.

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Author Contributions

MS contributed to the conceptualization of the research, development of the research methodology, data collection, data analysis, and preparation of the initial manuscript draft. S contributed to the theoretical framework development, research supervision, critical review, and improvement of the manuscript. AMT contributed to data validation, interpretation of research findings, manuscript revision, and final approval of the submitted version. All authors have read and approved the final version of the manuscript.

Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this article. The research was conducted objectively and independently, and all authors are responsible for the content and findings presented in this manuscript.

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