Vol. 7, No. 3, March 2026
E-ISSN:2723 – 6692
P-ISSN:2723– 6595
http://jiss.publikasiindonesia.id/

Factors Influencing Purchase Intention of the BYD Atto 1 Electric Car in Surabaya, Malang, and Sidoarjo

Decky Purhadi Suhendro Putro
Universitas Pelita Harapan, Indonesia
Email: decky.purhadi81@gmail.com

KEYWORDS
Electric Vehicle; Mass-Media Influence; Environmental Concerns; Government Support; Vehicle Performance

ABSTRACT
The development of electric vehicles (EVs) in Indonesia is accelerating rapidly, in line with the government's efforts to reduce carbon emissions and increase the use of clean energy. However, EV adoption still faces various challenges that affect consumers' purchase intention. This study aims to analyze the influence of mass media influence, environmental concern, government support, vehicle performance, price perception, and infrastructure on attitudes and subjective norms, and their impact on the purchase intention of the BYD Atto 1 electric vehicle, using the Theory of Planned Behavior (TPB) as the theoretical framework. This study employed a quantitative approach through a survey of prospective EV users, involving 120 respondents, with data analyzed using PLS-SEM. The results indicate that all proposed hypotheses yielded significant results, supporting the developed theoretical model. Therefore, this study provides an empirical understanding of how social, psychological, and structural factors shape attitudes and subjective norms, which ultimately influence purchase intention toward electric vehicles.

INTRODUCTION

The global transportation sector stands as a major contributor to climate change and urban air pollution. According to Our World in Data (Ritchie, 2020), transportation accounts for approximately 24% of global CO_2 emissions from energy, with road vehicles passenger cars and trucks contributing nearly three-quarters of this share. These emissions, including fine particulate matter (PM2.5), nitrogen dioxide (NO_2), and carbon monoxide (CO), pose severe risks to public health, ranging from respiratory illnesses to cardiovascular diseases (World Health Organization, 2021). In response, nations worldwide are accelerating the transition to electric vehicles (EVs) as a cornerstone strategy to decarbonize transport and improve urban air quality. This global push creates a dynamic market environment where consumer acceptance becomes the ultimate determinant of success for EV manufacturers and government policies alike. This number will continue to increase along with the development of the automotive industry and the emergence of many new automotive manufacturers. Based on data from Gaikindo (2024), motor vehicle sales in Indonesia reached 560,619 units from January to August 2024, with the largest sales dominated by major brands such as Toyota,

Daihatsu, Honda, Mitsubishi, and Suzuki (Figure 1). Meanwhile, the figures for the motorcycle industry are even more remarkable; according to CNN Indonesia (2024), motorcycle sales reached 2.1 million units from January to April 2024.

This development makes a significant contribution to the national economy. According to Indonesia.go.id (2024), the transportation industry in Indonesia contributes 4.5% to the national GDP and employs approximately 1.5 million people. However, the growth of the automotive sector also has a considerable impact on the environment and public health. According to Yudha (2024), 71% of vehicles passing through 49 road sections in Jakarta in 2023 were motorcycles, with more than 200,000 vehicles per day on each road section. Persistent traffic congestion and continuously operating vehicles are the primary sources of dangerous pollutant emissions, such as carbon monoxide (CO), nitrogen dioxide (NO_2), and PM2.5 particles, which endanger human health and environmental quality. Based on Ritchie (2020), transportation modes contribute approximately 24% to global air pollution roughly one-fifth of the world's total with cars and buses contributing 45.1% and trucks and other freight transportation modes contributing 29.4%.

Transportation is a major contributor to global carbon dioxide (CO_2) emissions, which have a significant impact on climate change and air quality. According to Our World in Data (2018), total global transportation emissions reached 8 billion tons of CO_2, equivalent to 24% of total global energy emissions. Of the total transportation emissions, 74.5% came from road vehicles, divided into passenger vehicles (45.1%) and freight or logistics vehicles (29.4%). The aviation sector contributed 11.6% of emissions, maritime shipping 10.6%, rail 1%, and other sources such as pipeline transportation 2.2%. This data shows that fossil fuel-powered vehicles on the road are the largest contributor to CO_2 emissions from transportation, underscoring the urgency of transitioning to cleaner technologies such as electric vehicles (EVs) (Pata et al. 2025; Reddy et al. 2024).

Fossil-fueled vehicles emit a variety of hazardous pollutants in addition to CO_2, including fine particulate matter (PM2.5 and PM10), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), and volatile organic compounds (VOCs). Exposure to these pollutants has a wide range of health impacts, ranging from respiratory tract irritation to cardiovascular disease and lung cancer. Fine particulate matter PM2.5 and PM10, primarily produced by diesel combustion, can penetrate the lungs and enter the bloodstream, causing inflammation, worsening asthma and bronchitis, and increasing the risk of heart attacks. Long-term exposure can potentially trigger lung cancer and death from cardiovascular disease. Given that 45.1% of transportation emissions come from passenger vehicles, reducing the use of fossil-fueled vehicles for daily travel could significantly reduce fine particulate matter concentrations in urban areas.

In addition to fine particulate matter, vehicle emissions also produce irritant gases such as NO_2 and O_3. NO_2, produced primarily by diesel and gasoline-powered vehicles, increases bronchial responsiveness in asthmatics, triggers more frequent asthma attacks, and contributes to short- and long-term mortality from respiratory diseases. O_3, although a secondary pollutant, is formed from photochemical reactions between NOx and VOCs in sunlight. High O_3 concentrations increase the risk of hospitalization for respiratory diseases, especially in vulnerable groups such as children and the elderly. With electric vehicles producing no direct

emissions, the potential reduction of NO_2 and O_3 precursors is one of the key benefits of the transportation transition.

Freight or logistics vehicles also contribute 29.4% of total transportation emissions. Trucks and lorries powered by fossil fuels emit not only CO_2 but also large amounts of fine particulate matter, NO_2, and SO_2, particularly in urban and industrial transportation corridors. Exposure to these pollutants negatively impacts logistics workers and residents along transportation routes, increasing morbidity and mortality from respiratory and cardiovascular diseases. Switching trucks and freight fleets to electric or hybrid electric vehicles can directly reduce CO_2 emissions and hazardous pollutants, thus positively impacting public health.

The aviation and maritime shipping sectors also contribute to transportation emissions, accounting for 11.6% and 10.6%, respectively. While the transition to electric vehicles is more directly relevant for road transport, this data demonstrates that emissions reduction solutions must be holistic and encompass multiple modes of transport. For aviation, the development of hybrid or biofuel aircraft is a long-term alternative, while the maritime shipping sector can reduce emissions through the use of low-sulfur fuels, route optimization, and electric or hybrid vessels.

The health impacts of transportation emissions are very real. Exposure to CO, which typically comes from gasoline-powered vehicles, can cause hypoxia because it binds to hemoglobin more strongly than oxygen, leading to headaches, fatigue, and in extreme cases, death. SO_2 released from the combustion of certain fuels is an irritant to the respiratory tract, triggering emergency admissions for asthma attacks, and increasing the risk of chronic diseases. With data showing the dominance of road emissions in the transportation sector, the use of electric vehicles is one of the most effective strategies for reducing exposure to this pollutant in urban areas.

Beyond health, transportation emissions also have an economic impact. High pollution exposure increases healthcare costs due to chronic illnesses, emergency care, and work absences. Reducing emissions through electric vehicles has the potential to alleviate this economic burden. For example, cities implementing EV programs based on subsidies and emissions regulations have shown significant reductions in air pollution levels and public health costs.

In this regard, Indonesia is among the countries with the highest concentrations of air pollution in the world. With an average PM2.5 concentration of 30 µg/m3, Indonesia ranked 26th in terms of air pollution and had the highest concentration in Southeast Asia in 2022 (IQ Air, 2022). These figures are six times higher than the safe limit set by both the World Health Organization (WHO) (World Health Organization, 2021) and the national threshold set by the Ministry of Health, which is 15 µg/m3.

Air pollution is one of the most pressing environmental problems and has a significant impact on human health. According to World Health Organization (2021) Air pollution contains various types of pollutants, including fine particulate matter (PM2.5 and PM10), ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), and sulfur dioxide (SO_2). Each pollutant has different mechanisms of effects and health impacts, both short-term and long-term, ranging from respiratory diseases to cardiovascular and lung cancer. As the main source of air pollution in urban areas, the transportation sector contributes significantly to NO_2, CO,

and fine particulate matter emissions, often originating from fossil-fuel vehicles. Therefore, the transition to electric vehicles (EVs) offers significant potential for mitigating the impact of air pollution.

Fine particles PM2.5 and PM10 are the most prominent pollutants from a health perspective, because their size is so small that they can penetrate the respiratory system to the lungs and enter the bloodstream. Short-term exposure can cause inflammation of the respiratory tract, worsen asthma and bronchitis, and increase the risk of heart attacks, while long-term exposure can potentially cause lung cancer and death from cardiovascular disease. Fossil fuel vehicles, especially diesel engines, are significant contributors to PM2.5 and PM10 in urban areas. This is where electric vehicles play a strategic role: with electric motors that produce no direct emissions, EVs can lower the concentration of fine particles in the air, thereby reducing the risk of respiratory and cardiovascular diseases in urban populations.

In addition to fine particulate matter, gaseous pollutants such as ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), and sulfur dioxide (SO_2) also cause serious health impacts, particularly respiratory disorders and increased mortality. O_3 is formed through photochemical reactions of NOx and VOCs, while NO_2, CO, and SO_2 primarily originate from the combustion of fossil fuels. The transition to electric vehicles (EVs) can reduce these pollutant emissions both directly and indirectly, particularly in urban areas. Reducing air pollution also lowers healthcare costs and improves productivity. However, the benefits of EVs depend on the source of electricity generation, and therefore must be supported by clean energy policies, supportive regulatory frameworks, and sustainable air quality monitoring for optimal public health protection.

In England, a patent was granted in 1840 for the use of rails as conductors of electric current, and a similar patent in America was granted to Lilley and Colten in 1847. The first mass-produced electric vehicles appeared in America in the early 1900s. In 1902, the Studebaker Automobile Company entered the automotive business with an electric vehicle, although it also entered the gasoline-powered vehicle market in 1904. However, with the emergence of cheap assembly-line cars by the Ford Motor Company, the popularity of electric cars declined significantly.

Today, many global automotive manufacturers are competing to introduce EV products as environmentally friendly alternatives. Some of the major EV manufacturers currently include brands from China (BYD and Wuling), the United States (Tesla), South Korea (Hyundai), and several European brands such as Volkswagen (VW) and Mercedes-Benz, as shown in Figure 1.6 (Voronoi, 2024). The technology used for electric cars currently encompasses several technologies.

Along with increasing public awareness of the importance of reducing carbon emissions and air pollution, electric cars or Electric Vehicles (EVs) are becoming an increasingly popular solution in various countries, including Indonesia.

According to Gaikindo data (2024), electric car sales in Indonesia reached 23,045 units between January and August 2024, representing an increase of 177.32% *year-on-year* (*yoy*) compared to total national electric car sales in the same period in 2023 (8,310 units). Electric cars now account for 4.11% of total national car sales, which reached 560,619 units by August 2024.

The electric vehicle market in Indonesia is becoming increasingly vibrant and attractive. The presence of Chinese brands like BYD, Wuling, and Chery is intensifying competition, especially since these products offer modern technology at relatively affordable prices. One electric car currently being widely discussed is the BYD Atto 1. With its modern design, comprehensive features, and promising performance, this car has successfully attracted the attention of many potential buyers.

BYD Company Limited (short for Build Your Dreams) is a Chinese multinational manufacturing conglomerate headquartered in Shenzhen, Guangdong. The company started as a battery manufacturer: Founded in February 1995, BYD initially focused on the production of rechargeable batteries (such as NiCd, NiMH, and Lithium-ion batteries) for electronic devices such as mobile phones. Then over time they expanded their business into the automotive sector: in 2003, BYD acquired an automotive company and established its main subsidiary, BYD Auto Co., Ltd., which later became a leading manufacturer of new energy vehicles (NEVs), especially in the pure electric vehicle (BEV) and plug-in hybrid electric vehicles (PHEV) segments.

In addition to vehicles and batteries, BYD also has businesses in various other sectors, namely: BYD Electronics, rail transit systems, automotive components, solar panels and energy storage systems.

The BYD Atto 1 is a compact, responsive, and feature-rich electric car, primarily focused on offering competitive prices. Consumer intention to purchase is influenced by factors such as price, technology, environmental awareness, brand image, government support, and social influence. The affordable price, combined with the relatively low cost of ownership, appeals to Indonesian consumers. The car features the long-lasting and safe Blade Battery technology, modern safety features, and enhanced interior comfort, building trust with buyers. Environmental awareness also drives interest in electric cars as a symbol of modern lifestyle. Additionally, the increasingly popular BYD brand image, government incentives, and recommendations from social networks further strengthen purchase decisions.

In addition to these factors, the availability of after-sales service also plays an important role in the intention to buy the BYD Atto 1. The dealer network, convenient service, and availability of spare parts provide consumers with a sense of security in the long term. The development of charging infrastructure increases public trust in using electric cars daily. The convenience of home charging or charging facilities makes electric vehicles even more practical. The combination of affordable prices, reliable technology, a positive brand image, supportive policies, and social environmental benefits makes the BYD Atto 1 an attractive choice in the urban electric car segment in Indonesia.

According to Tangkudung (2024), Indonesian consumers' response to electric vehicles is influenced by several factors, including price, environmental benefits, and the availability of charging infrastructure. However, there are also concerns regarding the relatively high price of vehicles and the perceived high cost of battery maintenance if damage occurs, especially to the battery. A study by Nissan and Frost & Sullivan, titled "The Future of Electrified Vehicles in Southeast Asia," shows that Indonesian consumers and other ASEAN countries are more enthusiastic about owning electric cars compared to five years ago (Sullivan, 2022).

Using the Theory of Planned Behavior (TPB) research model, this study will analyze the influence of government support, performance, environmental concerns, infrastructure, and price perception on purchase intention. Based on a study by Pham Van Tuan (2022), government support, performance, environmental concerns, infrastructure, and price perception influence purchase intention. However, according to Samarasinghe et al. (2024), environmental concerns do not affect purchase intention.

The primary objectives of this research are: (1) to analyze the influence of mass-media influence, environmental concerns, and government support on subjective norms towards the BYD Atto 1; (2) to analyze the influence of vehicle performance, price perception, and infrastructure on consumer attitudes towards the BYD Atto 1; and (3) to analyze the influence of subjective norms and attitudes on the purchase intention for the BYD Atto 1. Theoretically, this research contributes to the extension and application of the TPB within the sustainable consumption domain, particularly for high-involvement technological products. Practically, the findings offer valuable insights for BYD's marketing strategists to refine their campaigns, for policymakers to design more effective support mechanisms, and for infrastructure developers to prioritize investments, ultimately accelerating the adoption of electric vehicles in Indonesia and contributing to a cleaner, healthier environment.

METHOD

This study used the *theory of planned behavior* as a basis to analyze factors related to marketing management, including the influence of mass media, environmental concerns, government support, vehicle performance, price perception, infrastructure, subjective norms, attitudes, and purchase intention. The main focus of this study is on customers who do not yet own, or already own, an electric vehicle like the BYD ATTO 1. The primary purpose of this study is to understand the influence of factors such as mass media, environmental concerns, government support, vehicle performance, price perception, and infrastructure, with subjective norms and attitudes serving as mediating variables for purchase intention.

Unit of Analysis

In this study, the unit of analysis is the individual. The author seeks to understand individual considerations in purchasing the BYD ATTO 1 electric car. The selected respondents come from various backgrounds with no restrictions on domicile, gender, education level, occupation, or economic status.

Method of Collecting Data

Data can be obtained through primary, secondary, or a combination of both sources. According to Paramita R. W. (2021), primary data is collected through field surveys using original data collection methods. Secondary data, on the other hand, is collected by data institutions and published for use by other parties. In this study, both primary and secondary data sources were used.

The research data consists of primary and secondary data. Primary data was obtained from respondents' answers via a structured online questionnaire distributed using Google Forms. The questionnaire was designed to gather relevant data related to the research variables and included instructions for filling out the form, as well as brief information about the study's objectives. Prior to filling out the main questionnaire, respondents had to pass a

screening question to ensure they met the criteria set for the study. Only respondents who met the criteria were allowed to proceed to the next stage. The collected data was then downloaded and processed in spreadsheet format for further analysis using the PLS-SEM method.

Secondary data was obtained from various written sources, such as books, journal articles, official reports, and other publications relevant to the research topic. This secondary data was used as a foundation for compiling the conceptual framework, developing hypotheses, and supporting the analysis and discussion of the study's results.

The primary data collection technique in this study is the questionnaire. The study instrument uses a five-point Likert scale to measure respondents' perceptions of each research variable indicator, with scores ranging from 1 (strongly dissatisfied) to 5 (strongly agree). This scale was chosen because it can capture respondents' levels of agreement more accurately and can be easily analyzed statistically.

Data Analysis Methods

This study used a quantitative approach with Partial Least Squares Structural Equation Modeling (PLS-SEM) analysis. This approach was chosen because it effectively tests causal relationships between latent variables simultaneously and is well-suited for complex and prediction-oriented research models (Hair et al., 2022). The research data was obtained through a structured questionnaire distributed to respondents in accordance with the established criteria. All data were analyzed using the SmartPLS software.

RESULTS AND DISCUSSIONS

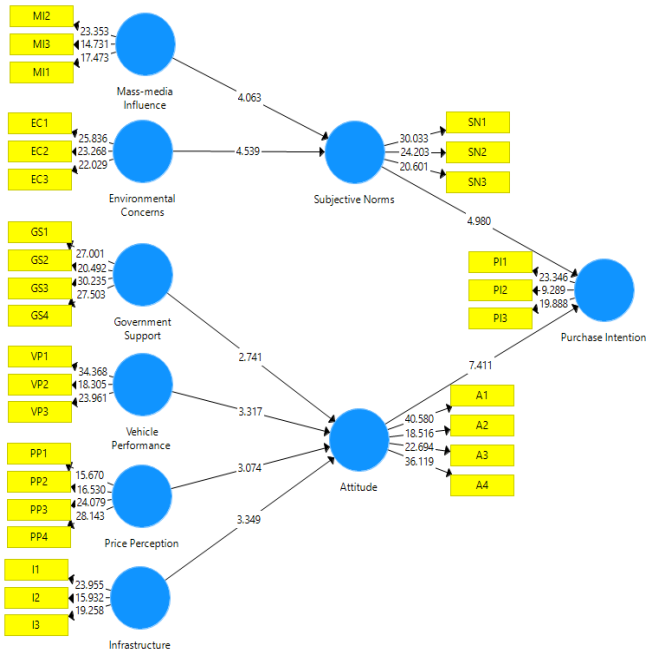

Figure 1. Inner Model Path Coefficients

The inner model is evaluated through the R-square value on the dependent variable and the effect size (F-square) to assess the quality of the model. The coefficient of determination is used to see how much variable X is able to explain variable Y, with the R2 value range between 0 and 1. Meanwhile, the F2 *effect size measurement* aims to determine how much the independent variable contributes in influencing the dependent variable. An F2 value of 0.02 indicates a small effect, 0.15 indicates a medium effect, and 0.35 indicates a large effect (Sekaran & Bougie, 2016).

R-Square (R^2), or the coefficient of determination, is used to determine how much of the variance in endogenous variables can be explained by exogenous variables in a model. The R^2 value ranges from 0 to 1, and the higher the value, the better the model's predictive ability. Based on Hair et al. (2021), an R^2 value of 0.75 is considered strong, 0.50 is considered moderate, and 0.25 is considered weak.

Influence *Mass-media Influence* to *Subjective Norms*

Test results show that *mass media influence* influential positive and significant to *subjective norms*, as indicated by the t-statistic value of 4.063 and p-value of 0.000 which is far below the significance limit of 0.05. The positive path coefficient (0.424) also confirms that the greater the influence of mass media, the higher the subjective norms formed in consumers. This finding indicates that exposure to information about electric vehicles that appears intensely and positively in the media, whether through news, advertisements, or public campaigns, can strengthen consumers' perceptions that the use of electric vehicles is a behavior that is supported or expected by their social environment.

These empirical results are consistent with the theory that mass media plays a significant role in shaping opinions and social norms. Information repeatedly conveyed by the media can influence how individuals evaluate behavior, including environmentally friendly consumption. When the media emphasizes the environmental benefits of electric vehicles, the public perceives their adoption as a common and socially supported action (Marlina, 2018). As explained by Melvin DeFleur in Marlina (2018), the media, through its selective presentation of information, can shape audience perceptions and mindsets, thereby reinforcing cultural and social norms that influence behavior, including the urge to purchase electric vehicles such as the BYD Atto 1.

This is also in line with Lee et al. (2022), which shows that social media significantly increases subjective norms. Social media is a major source of public opinion, and positive content about technology encourages individuals to feel that their behavior is supported by their social environment. The study proves that social media influence has a positive effect on subjective norms ($\beta = 0.275$; $p < 0.001$), because exposure to information on social media shapes the perception that technology adoption is a normal behavior and is encouraged by important social groups. This indicates that the media functions not only as an information provider, but also as a norm shaper that directs consumers towards pro-environmental behavior such as interest in purchasing the BYD Atto 1.

Influence *Environmental Concerns* to *Subjective Norms*

Test results show that hypothesis H2 is accepted, where environmental concerns are proven influential positive and significant against subjective norms. The p-value = 0.000 and t-statistic is 4.539 which exceeds number critical 1.96 indicates strength connection said,

reinforced by the coefficient track positive of 0.456. Findings This show that the taller concern individual to issue environment like pollution, change climate, and degradation natural the bigger perception they that environment social expect or support choice friendly behaviour in other words, environmental awareness makes individuals more sensitive to social views regarding sustainable behavior, including the decision to choose an electric vehicle.

This research aligns with Dutta & Hwang (2021)the assertion that environmental concern plays a significant role in shaping individual beliefs, normative judgments, and social awareness. *Environmental concern* influences a person's attitudes, beliefs, and normative judgments toward ecological issues, which ultimately shape perceptions of social support for environmentally friendly behavior. Environmental concern can influence public awareness and judgment, thereby increasing perceived social pressure to adopt sustainable vehicles.

Conceptually, these results align with theoretical arguments and previous research findings. Individuals with strong ecological awareness tend to perceive their social groups as important and worthy of emulation. Setiawan et al. (2022) In the context of purchasing green products in Indonesia, environmental concern also significantly influences *subjective norms,* reinforcing that environmental awareness encourages individuals to align their choices with social expectations that support sustainability. Therefore, this study confirms that environmental concern not only influences personal beliefs but also shapes perceptions of social norms that encourage electric vehicle adoption.

Influence *Government Support* to *Subjective Norms*

Analysis results show that hypothesis H3 is accepted, where government support is proven influential significant against subjective norms. The p-value of 0.006, which is below 0.05, and the t-statistic of 2.741, which exceeds the critical limit of 1.96, confirm this. strength connection the coefficient track positive (0.292) indicates that the stronger support government through incentives, regulations, and acceleration programs vehicle electricity, increasingly the pressure is also great or encouragement perceived social consumer for adapt self with pro- environmental behaviour. In other words, government policies not only influence individuals' personal perceptions, but also shape their views regarding what is considered acceptable and expected behavior by society.

Government support has been shown to be a crucial driver in strengthening *subjective norms* related to electric vehicle adoption. Zhang et al. (2022)[The text appears to be incomplete and should be omitted.] [The text appears incomplete and should not.

Conceptually, these findings align with literature emphasizing the role of government in building social legitimacy for sustainable behavior. Government support, such as subsidies, tax breaks, or the provision of public infrastructure, sends a strong signal that the use of environmentally friendly vehicles is an authorized and socially desirable action. This creates increased normative pressure, or subjective norms, for individuals to follow this behavior. These findings are reinforced by research Azizah et al. (2025) This suggests that government support can increase perceived benefits and social acceptance of an action, which are fundamental to the formation of subjective norms. Thus, government support plays a strategic role in shaping consumer social perceptions and encouraging electric vehicle adoption.

The Influence *of Vehicle Performance* on *Attitude*

The test results indicate that hypothesis H4 is accepted, where vehicle performance is proven to have a significant influence on attitude. The p-value of 0.001, which is below the significance limit of 0.05, and the t-statistic of 3.317, which exceeds the critical value of 1.96, strengthen that the relationship is statistically convincing. The positive path coefficient (0.323) indicates that the better the performance of an electric vehicle whether in terms of power, energy efficiency, safety, or comfort the more positive the consumer attitude towards the vehicle. This finding confirms that consumers view electric vehicles not only as an environmentally friendly alternative, but also as a product with high functional value, thereby increasing consumer evaluation and acceptance.

This finding is in line with research results Gunawan et al. (2022)which show that *performance expectancy* influential positive and significant to *Attitude toward use.* Performance expectancy in the journal describes the extent to which consumers believe EVs can provide better performance, or at least equal performance, to conventional vehicles. When consumers perceive EVs to have responsive acceleration, adequate range, and a comfortable driving experience, this directly increases their positive attitude toward EV use.

Theoretically, these results are consistent with the view that vehicle performance is a key determinant in shaping consumer attitudes toward new technologies. In the context of electric vehicles, perceptions of reliability, efficiency, and comfort play a significant role in building the belief that using an electric vehicle is the right decision. This aligns with the *Theory of Planned Behavior framework.* (Ajzen, 1991) where behavioral beliefs *influence* attitudes. Previous research, such as Naufal et al. (2024) Research also shows that positive attitudes toward electric cars are often driven by the belief that their performance can meet consumer expectations. Therefore, the higher consumers' perceptions of electric vehicle performance, the more likely they are to develop positive attitudes toward the technology.

The Influence *of Price Perception* on *Attitude*

The test results indicate that hypothesis H5 is accepted, where price perception has a significant influence on attitude. The p-value of 0.002, which is below the significance limit of 0.05, and the t-statistic of 3.074, which exceeds the critical value of 1.96, indicate that the relationship is statistically valid. The positive path coefficient (0.301) confirms that a better price perception, for example, the price is considered reasonable, competitive, or comparable to the benefits and technology offered, encourages the formation of a positive attitude towards electric vehicles. Thus, when consumers perceive the price of an electric car as not too expensive for the features and efficiency provided, they tend to develop a better evaluation of the product.

Vafaei-Zadeh et al. (2022)explains that *price value* (or perceived value) has a positive influence on attitude. This finding confirms that when consumers perceive EV prices as reasonable, affordable, or provide better value than other vehicles, they will have a more accepting and supportive attitude towards electric vehicle use. This shows that price perception is not only related to the nominal price itself, but also about *the value for money* perceived by consumers. If consumers believe that EVs have functional benefits, energy savings, fuel efficiency, and lower maintenance costs in the long term, these factors strengthen positive perceptions of price and increase positive attitudes towards the product.

Theoretically, these findings are consistent with the concept that price perception is a key determinant of attitude formation in consumer decision-making. In the context of products with new technologies such as electric vehicles, consumers strongly consider whether the cost is commensurate with benefits such as energy savings, low operating costs, and environmentally friendly features. The studySihombing et al. (2021) also showed that price perception and quality perception significantly influenced purchase intention through attitude, which supports that positive price perception will strengthen consumers' evaluation before they decide to purchase. Thus, the results of this study confirm that favorable price perception can be an important factor in forming positive attitudes towards electric vehicles.

The Influence *of Infrastructure* on *Attitude*

The results of the study indicate that the H6 hypothesis is accepted, where infrastructure has a significant effect on attitude. The p-value of 0.001, which is below the significance limit of 0.05, and the t-statistic of 3.349, which exceeds the critical value of 1.96, confirm that the relationship is statistically proven. The positive path coefficient (0.318) emphasizes that the better the supporting infrastructure for electric vehicles, such as the availability of charging stations, ease of maintenance, and access to spare parts, the more positive the consumer attitude towards electric vehicles. In other words, the completer and more accessible the supporting facilities are, the greater the consumer's confidence that electric vehicles are a comfortable and feasible choice.

Research Mohammed et al. (2024) shows that public perception of charging infrastructure plays a significant role in determining their acceptance of electric vehicles. People who perceive good EV infrastructure tend to have more positive views of electric vehicle technology. Adequate infrastructure helps alleviate concerns such as *range anxiety,* technical inconvenience, and operational uncertainty, thereby strengthening positive evaluations of EVs. In consumer behavior theory, this positive acceptance and evaluation are key components of attitude, illustrating that adequate infrastructure shapes positive public attitudes toward electric vehicles.

Theoretically, these findings align with the concept that infrastructure availability is a key factor in shaping consumer beliefs and evaluations of new products. Adequate infrastructure provides a sense of security, comfort, and convenience, thereby reducing perceived risk and increasing perceived benefits. Naufal et al. (2024) emphasizes that supporting facilities not only reduce barriers to use but also increase product competitiveness, ultimately influencing positive consumer beliefs and shaping positive attitudes. Therefore, the results of this study indicate that good infrastructure not only facilitates the use of electric vehicles but also plays a significant role in enhancing positive consumer attitudes toward this environmentally friendly technology.

Influence *Subjective Norms* towards *Purchase Intention*

Test results show that hypothesis H7 is accepted, where subjective norms have an influence significant on purchase intention. The p-value = 0.000 is far below the significance limit of 0.05 and the t-statistic is 4.980 which exceeds number critical 1.96 confirms that connection the proven in a way statistics. Coefficient track positive (0.487) indicates that the stronger support social, pressure social, or influence from the closest people, the more big

push too consumer For intend buy vehicle Thus, the social environment is one of the factors that significantly shapes consumers' intention to adopt environmentally friendly vehicles.

This is in line Kumar et al. (2025)with the explanation that social influences, including the opinions of family, friends, and reference groups, are the most dominant factors influencing consumers' intention to adopt EVs. Individuals tend to exhibit higher purchase intentions when they perceive social support or positive social pressure from their immediate environment. Consistent with the theory of *planned behavior,* social norms are a key psychological driver shaping purchasing decisions.

Theoretically, this finding is in line with the concept of subjective norms in *the Theory of Planned Behavior.* (Ajzen, 1991) This refers to an individual's perception of the expectations or approval of significant others around them. When consumers perceive that family, friends, or social groups support the use of electric vehicles, they are more likely to follow those norms and develop purchase intentions. Research results Adriana & Imronudin (2023) The study also showed that subjective norms have a positive and significant influence on purchase intention for environmentally friendly products, encouraging consumers to emulate the behavior of their social groups. Thus, social support has been shown to be a key driver of consumer intention to purchase electric vehicles.

The Influence *of Attitude* on *Purchase Intention*

The analysis results show that hypothesis H8 is accepted, where attitude is proven to have a significant effect on *purchase intention.* The p-value = 0.000, which is far below the significance threshold of 0.05, and the t-statistic of 7.411, which exceeds the critical limit of 1.96, confirm the strength of the relationship. The positive path coefficient of 0.561 indicates that the more positive consumers' attitudes toward electric vehicles, the greater their intention to purchase them. This finding confirms that attitude is a psychological factor that has a strong contribution in driving consumer purchasing interest.

Research Vafaei-Zadeh et al. (2022)shows that attitude is one of the most powerful factors influencing purchase intention. Statistical analysis found that the more positive respondents' attitudes toward electric vehicles, the greater their intention to purchase them. This finding indicates that consumers tend to consider perceived value and benefits when evaluating EVs, and when those perceptions are positive, purchase intention increases significantly.

Theoretically, these results are consistent with *the Theory of Planned Behavior* (Ajzen, 1991), which emphasizes that a positive attitude toward a behavior will increase the intention to perform it. Attitudes reflect an individual's evaluation of the benefits, efficiency, attractiveness, and environmental impact of electric vehicles. When consumers perceive that electric vehicles provide valuable benefits, they tend to have stronger purchase intentions. Research Saraswati & Adianti (2021) also showed that *Attitude Toward Green Brand* had a positive and significant effect on *Green Purchase Intention,* especially among millennials. Thus, a positive attitude is proven to be a key driver in strengthening consumers' intention to purchase electric vehicles.

The Mediating Influence of Attitude and Subjective Norm

Based on Table 4.13, the analysis results show that *Government Support* has a significant effect on *Purchase Intention* through *Attitude,* which means that government support not only has a direct impact on purchase intention but also forms a positive consumer attitude first. In line with Mukesh & Narwal (2023)the explanation, *government incentives* and *policy support* increase consumer confidence in the benefits and reliability of EVs, thereby strengthening their attitudes before ultimately driving purchase intention. Government support builds the perception that adopting electric vehicles is a safe, profitable choice, and in line with national policy. This positive attitude then acts as a psychological mechanism that bridges the influence of government support on purchase intention, as shown by the finding that government policies not only have a direct impact on purchase intention but also increase that intention by forming a positive attitude prior to *purchase intention.*

Based on the media test *output,* it shows that Infrastructure has a significant effect on Purchase Intention through Attitude, with a T-Statistics value of 2.993 and a p-value of 0.003. Findings Tafiprios (2025) This supports this finding, where infrastructure has been shown to significantly influence attitude, and attitude, in turn, significantly influences purchase intention. When infrastructure is well-established, consumers feel more confident and perceive EV use as practical and reliable, leading to more positive attitudes. This positive attitude then increases purchase intention, as demonstrated by the significant mediation results. Thus, attitude has been shown to be an important mechanism bridging the influence of infrastructure on purchase intention.

The estimation results obtained from the test indicate that price perception has a significant indirect effect on purchase intention through attitude (T-Statistics = 2.668; p = 0.008). This finding is in line with the explanation. Asyraf et al. (2023) which confirms that price perception plays an important role in shaping attitudes and ultimately influences consumer purchase intentions; the study states that prices perceived as appropriate or providing benefits encourage positive attitudes which then increase the intention to purchase a product, and confirms that *attitude* significantly mediates the relationship between *price perception* and *purchase intention.* It also explains that consumers tend to show higher purchase intentions when they perceive the price to provide beneficial value, thus forming positive beliefs about the product, where the influence *of price perception* becomes stronger when the perception first forms a positive attitude before driving *purchase intention.*

The results of the mediation pathway calculations show that *Vehicle Performance* significantly influences *Purchase Intention* through *Attitude,* with a T-Statistics value of 2.925 and a p-value of 0.004. This finding confirms that vehicle performance such as acceleration, reliability, comfort, features, and efficiency play a significant role in shaping consumer attitudes toward electric vehicles. When consumers assess that EVs are capable of delivering good performance and meeting their daily usage expectations, this positive perception will shape a more supportive Tuan et al. (2022)*attitude.* emphasize importance performance and features vehicle in reception consumer towards EV, as mentioned that various attribute product like *Battery efficiency, charging time, driving range, and overall performance influence consumers' evaluations of EVs.* This positive attitude then drives

increased purchase interest. Consequently, *attitude* serves as a significant mediator linking perceived vehicle performance with EV purchase intention.

If referring to the results *Environmental Concerns* data processing influential significant to *Purchase Intention* through *Subjective Norms,* with T-Statistics value 3.181 and p-value 0.002. Findings This indicates that the more tall concern somebody to environment, increasingly strong perception that the people around him support pro- environmental behaviour, including decision For buy vehicle l Harjadi & Gunardi (2022) with Harjadi & Gunardi (2022)which shows that *subjective norms* own influence significant in push intention buy product friendly environment, where social norms proven play a role important in strengthen connection between orientation ecological and intention buy Consumers. When individuals perceive that their social environment expects or supports sustainable choices, these social norms reinforce their attitudes and beliefs, thereby driving increased *purchase intentions.* Based on matter said, *subjective norms* become a mediator who bridges the influence of environmental concerns on interest buy EV.

Analysis results show that *Mass-media Influence* influential significant to *Purchase Intention* through *Subjective Norms,* with T-Statistics value 3.198 and p-value 0.001. Mass media through advertising, digital campaigns, etc news capable form perception individual about behaviour what is considered important or general done by the community.Kumar & Pandey (2023) support connection this, with state that *mass media influences people's behaviour* and that media *shapes public preferences, norms, and values,* so that media exposure can strengthen belief somebody that environment social support action certain, including pro- environmental behaviour like use vehicle electricity. When the media form's view that EV usage is modern, responsible choice answer, and supported society, perception This increase *subjective norms,* which is then push improvement *purchase intention.* Therefore, *subjective norms* act as a significant mediator explaining how mass media influence can translate into intention to purchase electric vehicles.

The overall results of the mediation analysis indicate that several key factors have a significant indirect influence on purchase intention through the mediating role *of attitude* and *subjective norms. Government support* and infrastructure availability shape consumer confidence and positive perceptions, thereby strengthening *attitudes* that ultimately increase interest in purchasing electric vehicles. *Price perception* and *vehicle performance* also contribute to shaping *attitudes* when consumers assess the price as providing good *value* and vehicle performance meeting expectations, which then drives purchase intention. Meanwhile, *environmental concerns* and *mass-media influence* work through *subjective norms,* where environmental concern and media exposure shape the perception that the social environment supports pro-environmental behavior, thereby increasing *purchase intention.* Overall, these results confirm that psychological processes in the form of *attitude* and *subjective norms* play a central role in bridging various external factors towards electric vehicle purchase intention.

CONCLUSION

Based on the description, it can be concluded that subjective attitudes and norms have a positive and significant influence on purchase intention, with attitude being the most dominant factor. This confirms the important role of positive consumer evaluation of electric

vehicles in the form of purchase intention. Subjective norms are significantly influenced by the impact of mass media and public environmental concerns, which indicates that social discourse and environmental awareness play a significant role in creating positive social pressure for the adoption of electric vehicles. Consumer attitudes are significantly influenced by vehicle performance, price perception, infrastructure availability, and government support. Vehicle performance and price perception are the main factors, showing that functional and economic aspects are still the primary considerations for consumers. Government support and infrastructure play supporting roles that enhance perceived behavioral control and consumer beliefs. In general, the overall research model demonstrates strong predictive ability, confirming that the integration of psychological, social, and structural factors provides a comprehensive understanding of consumer behavior in adopting electric vehicles. These findings are an important reference for policymakers and industry players to accelerate the market penetration of electric vehicles.

REFERENCES

Adriana, R., & Imronudin, I. (2023). Perception of subjective norms and attitudes in increasing interest in purchasing organic food. *Journal Information Polgan, 12*(2), 2249–2259. https://doi.org/10.33395/jmp.v12i2.13217

Asyraf, A., Zakaria, Z., & Jamil, R. (2023). Behavioral intention to purchase remanufactured automotive components: The mediating effect of attitude. *International Journal of Professional Business Review, 8*(8), e01673. https://doi.org/10.26668/businessreview/2023.v8i8.1673

Azizah, R., Sahrir, S., & Sultan, S. (2025). The influence of accounting knowledge, subjective norms, and government support on business decision making. *Indonesian Journal of Accounting Education, 23*, 1–11.

Dutta, B., & Hwang, H. G. (2021). Consumers purchase intentions of green electric vehicles: The influence of consumers technological and environmental considerations. *Sustainability, 13*(21). https://doi.org/10.3390/su132112025

Gunawan, I., Redi, A. A. N. P., Santosa, A. A., Maghfiroh, M. F. N., Pandyaswargo, A. H., & Kurniawan, A. C. (2022). Determinants of customer intentions to use electric vehicles in Indonesia: An integrated model analysis. *Sustainability, 14*(4). https://doi.org/10.3390/su14041972

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). Sage Publications.

Harjadi, D., & Gunardi, A. (2022). Factors influencing eco-friendly purchase intention: Subjective norms and ecological consciousness as moderators. *Cogent Business & Management, 9*(1). https://doi.org/10.1080/23311975.2022.2148334

Kumar, A., & Pandey, M. (2023). Social media and the impact of altruistic motivation, egoistic motivation, subjective norms, and eWOM toward green consumption behavior: An empirical investigation. *Sustainability, 15*(5). https://doi.org/10.3390/su15054222

Kumar, V., Kaushik, A. K., Noravesh, F., Sindhwani, R., & Mathiyazhagan, K. (2025). Green drives: Understanding how environmental propensity, range and technological anxiety shape electric vehicle adoption intentions. *Technological Forecasting and Social Change, 210*. https://doi.org/10.1016/j.techfore.2024.123859

Lee, J., Baig, F., & Li, X. (2022). Media influence, trust, and the public adoption of automated vehicles. *IEEE Intelligent Transportation Systems Magazine, 14*(6), 174–

187. https://doi.org/10.1109/MITS.2021.3082404
Marlina, M. (2018). The influence of mass communication and media on society and culture. *III*(2).
Mohammed, A., Saif, O., Abo-Adma, M., Fahmy, A., & Elazab, R. (2024). Strategies and sustainability in fast charging station deployment for electric vehicles. *Scientific Reports, 14*(1). https://doi.org/10.1038/s41598-023-50825-7
Mukesh, & Narwal, M. (2023). Predicting consumer purchase intention on electric cars in India: Mediating role of attitude. *Business Strategy and Development, 6*(4), 942–956. https://doi.org/10.1002/bsd2.289
Naufal, M., Widyastuti, H., Sembiring, I. R., & Andrianto, M. S. (2024). Buying intention on electric cars in Jabodetabek using combined TAM and TPB (C-TAM-TPB). *Journal of Business and Management Applications*. https://doi.org/10.17358/jabm.10.1.173
Pata, S. K., Erdoğan, S., Pata, U. K., & Meo, M. S. (2025). Greening road transport: Comparison of technologies in conventional, hybrid, and electric vehicles. *Journal of Environmental Management*.
Reddy, V. J., et al. (2024). Sustainable vehicles for decarbonizing the transport sector: A comparison of biofuel, electric, fuel cell and solar-powered vehicles. *World Electric Vehicle Journal*.
Ritchie, H. (2020). Which form of transport has the smallest carbon footprint? *Our World in Data*. https://ourworldindata.org/travel-carbon-footprint
Samarasinghe, D., Kuruppu, G. N., & Dissanayake, T. (2024). Factors influencing the purchase intention toward electric vehicles: A nonuser perspective. *South Asian Journal of Marketing, 5*(2), 149–165. https://doi.org/10.1108/sajm-04-2023-0026
Saraswati, D. S., & Adianti, R. P. (2021). The influence of attitude toward green brand and green brand knowledge on green purchase intention in the young generation millennials. *Psychology and Mental Health Research Bulletin, 1*.
Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill-building approach* (7th ed.). Wiley.
Setiawan, T., Kartika, Y., & Hapsari, C. G. (2022). Effect of environmental concern, attitude, subjective norms, perceived behavioral control and availability on purchase of green skincare products with intention to purchase as a mediation variable. *Scientific Journal of Management and Business, 8*(1), 120–137.
Sihombing, M. A. T., Johannes, J., & Ekasari, N. (2021). The influence of price perception, quality perception, and brand perception on purchasing interest in Wuling brand cars in Jambi City. *Journal of Management Dynamics, 9*(3).
Tafiprios, A. (2025). Analyzing factors affecting purchase intention of electric motorcycles in Jakarta City. *The EUrASEANs: Journal on Global Socio-Economic Dynamics, 2*(51). https://www.euraseans.com/2
Tirto. (2019). PHEV, the toughness of hybrid electric cars. *Tirto*. https://tirto.id/phev-ketangguhan-mobil-listrik-hibrida-ej47
Tuan, P. V., Thao, N. T. P., Linh, L. T. T., Le, T. T., & Linh, N. T. (2022). Factors influencing purchasing intention toward electric vehicles in Vietnam. *Journal of Social Commerce, 2*(2), 82–99. https://doi.org/10.56209/jommerce.v2i2.30
Vafaei-Zadeh, A., Wong, T. K., Hanifah, H., Teoh, A. P., & Nawaser, K. (2022). Modeling electric vehicle purchase intention among generation Y consumers in Malaysia. *Research in Transportation Business & Management, 43*. https://doi.org/10.1016/j.rtbm.2022.100784
Voronoi. (2024). Most federal revenue comes from individual income and payroll taxes. *Voronoi*. https://www.voronoiapp.com/automotive/2024
World Health Organization. (2021). *WHO global air quality guidelines: Particulate matter*

($PM_{2.5}$ and PM_{10}), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide. World Health Organization. https://www.who.int/publications/i/item/9789240034228

Yudha, S. K. (2024). Air pollution caused by motor vehicles: A serious threat to health. *Republika (ESG Now)*. https://esgnow.republika.co.id/berita/sktyew416

Zhang, J., Xu, S., He, Z., Li, C., & Meng, X. (2022). Factors influencing adoption intention for electric vehicles under a subsidy deduction: From different city-level perspectives. *Sustainability, 14*(10). https://doi.org/10.3390/su14105777