Journal of Business and Information Systems
Vol. 7, No. 2, December (2025)
www.thejbis.upy.ac.id
DOI: https://doi.org/10.31316/jbis.v7i2.332
ISSN:2685-2543

Accepted, November 2025
Revised, November 2025
Published, December 2025

EV Purchase Intention: Environmental, Infrastructure, and Perceived Value Mediating Attitude

Arya Rezky Permana
Wisnalmawati*

Universitas Pembangunan Nasional "Veteran" Yogyakarta
Corresponding author: wisnalmawati@upnyk.ac.id

Abstract: *The acceleration of electric vehicle (EV) adoption is critical for Indonesia's green transition, yet consumer acceptance varies across regions. This study aimed to analyse the factors shaping EV purchase intention in D.I. Yogyakarta, with a focus on testing the mediating role of Attitude. Specifically, this research investigated the "attitude-behaviour gap" in Environmental Concern and the "range anxiety" anomaly related to Charging Infrastructure. This study employed a quantitative approach with an explanatory research design, involving 125 respondents in DIY collected via purposive sampling. Primary data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The results indicated that the measurement and structural models were valid and reliable. Hypothesis testing revealed three main findings: (1) Environmental Concern had no direct effect on Purchase Intention, but had a significant effect through Attitude (complete mediation), confirming an attitude-behavior gap; (2) Charging Infrastructure surprisingly had a significant adverse effect on Purchase Intention, indicating that awareness of uneven SPKLU distribution in the DIY triggered range anxiety; and (3) Perceived Value was the strongest direct driver of Purchase Intention. The practical implication is that the government and PLN must prioritise the equitable distribution of SPKLU, while marketers should emphasise perceived value to accelerate EV adoption.*

Keywords: *Attitude; Charging infrastructure; Environment; Perceived value; Purchase Intention*

1. Introduction

Climate change and increasing carbon emissions have become global issues, compelling many countries to transition toward a green economy. Indonesia has also committed to achieving Net-Zero Emissions (NZE) by 2060, in line with the Paris Agreement. One strategic step toward achieving this target is to decarbonize the transportation sector, the second-largest contributor to Indonesia's emissions. This effort is being pursued by accelerating the adoption of Electric Vehicles (EVs) as replacements for fossil-fueled vehicles. This commitment is reflected in the Indonesia Long-Term Strategy for Low Carbon and Climate Resilience 2050 (Kementerian Lingkungan Hidup dan Kehutanan, 2021). The EV market in Indonesia shows a positive trend. According to GAIKINDO (2025) data, sales of Battery Electric Vehicles (BEVs) increased from 125 units in 2020 to 43,188 units in 2024**.** Despite this increase, Indonesia's EV market share remains below that of other countries, such as China (Irfan & Tang, 2025). The main obstacles include limited public charging infrastructure (electric vehicle charging stations) and low public awareness of the benefits of electric vehicles, which have been identified as critical factors influencing consumer purchase intention (Attahariq et al., 2024; Clarita & Chalid, 2024; Purwanto et al., 2025).

To address these obstacles, it is crucial to examine specific determinants where theoretical gaps persist**.** Environmental concern serves as the primary psychological trigger within the Norm Activation Model, reflecting the moral obligation. However, empirical evidence suggests this internal drive often requires mediation to translate into action (Permana et al., 2023; Purwanto & Prima, 2022). However, this moral drive is strictly constrained by charging infrastructure, which acts as the perceived behavioral control in the Theory of Planned Behavior; its absence creates range anxiety that actively suppresses purchase intention regardless of attitude (He et al., 2022). Consequently, perceived value is essential as a rational counterweight, providing the necessary economic and functional justification to overcome high switching costs in developing markets (Chanda et al., 2024; Hussain & Qureshi, 2024). Therefore, examining these three variables simultaneously provides a comprehensive view of the interplay among moral, situational, and rational factors required for successful adoption (Alshurideh et al., 2025).

In this framework, attitude plays a pivotal mediating role because external stimuli and values do not directly dictate behavior; they must first be processed into a favorable evaluation. According to the Theory of Planned Behavior (TPB) and recent empirical evidence, consumer attitude serves as a psychological filter that synthesizes information about environmental benefits, infrastructure availability, and economic value into a coherent disposition toward the product (Wijaya et al., 2025)**.** Empirical studies consistently show that, while factors such as incentives or social pressure exist, they only influence purchase intention if they successfully shift the consumer's attitude from neutral to positive. (Alshurideh et al., 2025; Purwanto et al., 2025)**.** Without the mediating effect of attitude, the link between abstract concerns (e.g., climate change) and concrete actions (e.g., buying a car) remains weak. Thus, treating attitude as a mediator clarifies the internal decision-making process in consumer decision-making, explaining how external factors translate into internal intent (Pamidimukkala, 2023; Permana et al., 2023).

Although studies on Electric Vehicle (EV) adoption have proliferated over the last decade, our understanding of this phenomenon, especially in developing countries, remains fragmented. The motivation for this research is the urgent need to reconcile inconsistencies in prior findings (Attahariq et al., 2024; Chanda et al., 2024; He et al., 2022; Laura & Handayani, 2025; Permana et al., 2023). First, there is a population gap because studies are concentrated in established regions (such as Jakarta), thereby failing to capture the nuances of "range anxiety" caused by infrastructure inequality in specific areas, such as Yogyakarta Province. Second, a variable gap arises from conflicting results: some studies find that infrastructure and price have a significant positive effect, while others identify an "attitude-behavior gap". To reconcile these diverse results, this research proposes that attitude is a crucial mediating variable. Attitude acts as a psychological filter, determining whether external stimuli (infrastructure) and internal values (environment) are accepted or rejected, thereby clarifying the internal decision-making process that previous studies have ignored.

The third significant gap is the methodological gap: previous studies on EV adoption in developing countries still rely on partial analyses or simple linear regression, which limit their ability to model complex, simultaneous causal relationships (Attahariq et al., 2024;

Laura & Handayani, 2025). This approach often fails to capture the full complexity of inter-variable relationships. Adopting the argument pattern outlined in this research makes a methodological contribution by applying Partial Least Squares Structural Equation Modeling (Seta et al., 2025). This method is chosen for its ability to test complex, multi-level causal relationships (through mediation) simultaneously, and to accommodate consumer behavior data that may not be normally distributed. By precisely measuring the mediating role of attitude in the adoption mechanism, this research can achieve an analytical depth beyond that of conventional regression methods. Based on this framework, the study aims to analyze the mediating role of attitude in the relationship among environmental concern, charging infrastructure, and perceived value toward electric vehicle purchase intention, to provide an empirical basis for accelerating the Net Zero Emission 2060 strategy.

2. Literature Review & Hypotheses development

2.1. Integration Theory of Planned Behavior (TPB) and Norm Activation Model (NAM)

This study integrates the Theory of Planned Behavior (TPB) and the Norm Activation Model (NAM) to provide a comprehensive framework for understanding the complex decision-making process of EV adoption. TPB, an extension of the Theory of Reasoned Action (TRA), posits that behavioral intention is the most proximal determinant of behavior, primarily driven by individual attitude (Alshurideh et al., 2025). In this context, attitude is a psychological evaluation of the benefits and barriers of EV use, encompassing cognitive and affective dimensions. However, relying solely on TPB is insufficient for pro-environmental behaviors such as EV adoption, which involve altruistic motives beyond mere rational cost-benefit calculations (Ji et al., 2024). Therefore, this study incorporates NAM, which emphasizes that awareness of environmental consequences (Environmental Concern) activates a sense of moral responsibility. By integrating these theories, this research argues that EV adoption is driven by a dual mechanism: a rational mechanism (captured by TPB via perceived value, infrastructure, and attitude) and a moral mechanism (captured by NAM via Environmental Concern). This integration explains how external factors (charging infrastructure) and internal values (environmental concern) simultaneously shape consumer attitude and purchase intention (Permana et al., 2023).

2.2. Environmental Concern (X_1) and Purchase Intention (Y)

Previous research has extensively explored these relationships, documenting varied findings across different contexts (Alshurideh et al., 2025; Chanda et al., 2024; Laura & Handayani, 2025; Permana et al., 2023; Purwanto & Prima, 2022)**.** Theoretically, based on the Norm Activation Model (NAM), environmental concern acts as a trigger for 'Awareness of Consequences,' which subsequently activates a personal moral obligation to reduce carbon emissions. When individuals perceive that their transportation choices directly affect the environment, they are more likely to view Electric Vehicles (EVs) as a necessary and valuable solution. This cognitive alignment fosters a positive attitude toward the technology and a stronger intention to adopt it. Empirical studies support this mechanism, confirming that consumers with high environmental awareness tend to hold favorable views of EVs

(Chanda et al., 2024; Purwanto et al., 2025)**.** Furthermore, ecological concern influences intention not only directly but also indirectly by shaping self-identity as a responsible citizen (Alshurideh et al., 2025). Therefore, individuals with greater environmental concern are expected to have a more positive attitude and a higher likelihood of purchasing an EV to align their behavior with their environmental values.

H_1: Environmental concern has a positive and significant effect on purchase intention
H_2: Environmental concern has a positive and significant impact on attitude

2.3. Charging Infrastructure (X_2) and Purchase Intention (Y)

Charging infrastructure is a critical determinant in the EV ecosystem. This variable includes facilities such as public SPKLUs and flexible private home charging, where perceived availability should, in turn, logically boost adoption (Adzhani et al., 2025; Metais et al., 2022). Moreover, it fosters a positive attitude. While some studies unexpectedly found that infrastructure availability had no significant effect on adoption intention or attitude, possibly due to the dominance of home charging (Chanda et al., 2024), the majority of the literature and theoretical logic indicate that better infrastructure reduces the psychological barrier of range anxiety (He et al., 2022**)**. In Yogyakarta Province, where distribution is uneven, perceptions of infrastructure are crucial. Theoretically, within the TPB framework, infrastructure acts as a facilitator that improves Perceived Behavioral Control (PBC). When consumers perceive that charging stations are accessible, their anxiety about running out of power diminishes, thereby directly facilitating purchase intention. Moreover, visible infrastructure provides psychological reassurance, signalling that EV technology is mature and supported, thereby significantly enhancing consumers' favorable attitude towards the vehicle. Without this assurance, even environmentally conscious consumers may hesitate to make the switch, viewing it as too risky. Thus, infrastructure availability functions as both a direct enabler of intention and a builder of positive attitudes.

H_3: Charging infrastructure has a positive and significant effect on purchase intention
H_4: Charging infrastructure has a positive and significant impact on attitude

2.4. Perceived Value (X_3) and Purchase Intention (Y)

In the EV context, this involves a multidimensional evaluation encompassing environmental benefits, financial incentives such as tax cuts, and lower operational costs (Chanda et al., 2024). Studies consistently identify perceived value as a primary driver of adoption (Hussain & Qureshi, 2024; Permana et al., 2023)**.** Drawing from the rational choice perspective embedded in consumer behavior theories, consumers are utility maximizers who weigh the high upfront cost of EVs against long-term benefits. When the perceived value—derived from fuel savings, government incentives (such as VAT reductions), and the emotional satisfaction of "green" consumption—outweighs the costs, purchase intention is significantly increased (Wijaya et al., 2025)**.** Emphasize that, for price-sensitive segments like the Y generation, this economic rationale is often the decisive factor. Unlike abstract environmental concerns, perceived value offers tangible justifications for the switch. Therefore, a higher perceived value not only logically validates the purchase decision but

also reduces cognitive dissonance associated with adopting a new, expensive technology, thereby directly increasing the intention to buy.

H_5: Perceived value has a positive and significant effect on purchase intention.

2.5. The Mediating Role of Attitude (Z)

Attitude is consistently identified as the strongest predictor of intention within the Theory of Planned Behavior (TPB) framework, acting as a critical psychological filter in the decision-making model (Alshurideh et al., 2025; Purwanto et al., 2025). This mediation is essential because external stimuli, such as charging infrastructure, and internal values, like environmental concern, do not automatically trigger a purchase decision; they must first be internalized and evaluated. Research indicates that environmental awareness often fails to drive action directly, a phenomenon known as the attitude-behavior gap, unless it leads to a favorable evaluation of EVs as the solution (Permana et al., 2023). Similarly, a positive perception of infrastructure must be cognitively processed to reduce anxiety and improve users' evaluations of convenience (Alshurideh et al., 2025). Attitude synthesizes these functional and emotional inputs into a coherent intent (Wijaya et al., 2025). Consequently, attitude is positioned not merely as a variable, but as the necessary bridge that converts latent concerns and external facilities into active buying behavior (Pamidimukkala, 2023; Permana et al., 2023).

H_6: Attitude has a positive and significant effect on purchase intention.
H_7: Attitude mediates the influence of environmental concern on purchase intention.
H_8: Attitude mediates the influence of charging infrastructure on purchase intention.

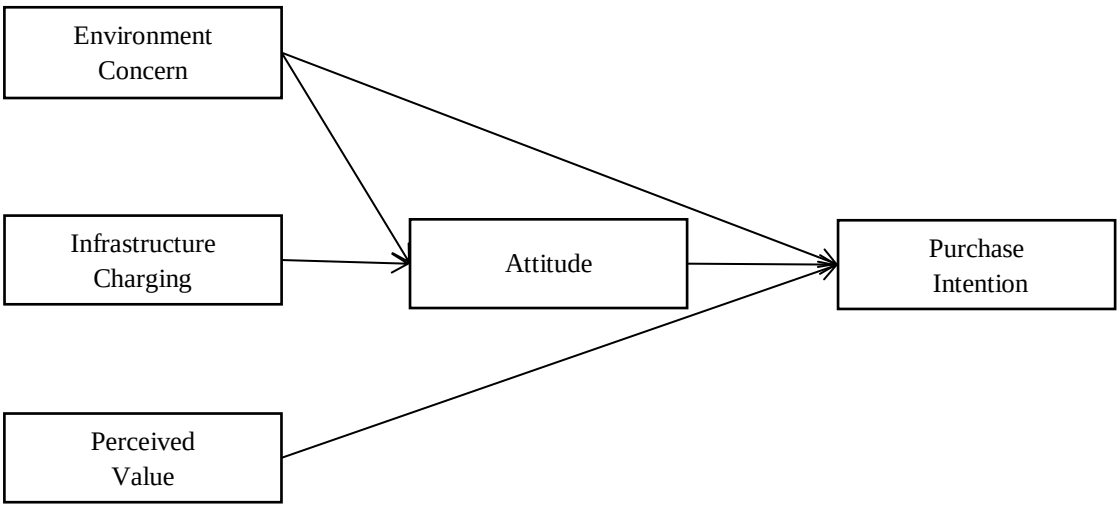

Figure 1. Conceptual Framework

3. Method

3.1. Population and Sampling

This study employed a quantitative, explanatory research design to test the causal relationships among environmental concern, charging infrastructure, perceived value, attitude, and purchase intention. The research was conducted in the Special Region of Yogyakarta (DIY). This location was chosen based on empirical observations that SPKLU

distribution in DIY remains uneven, with the majority of units concentrated in Yogyakarta City and Sleman. This infrastructure disparity creates a relevant context to analyze "range anxiety" among consumers. The research population consisted of consumers domiciled in DIY who possessed a preliminary understanding of electric vehicles. The sampling technique employed was non-probability purposive sampling (Sekaran & Bougie, 2016). This method was selected because the exact population size of potential EV buyers is difficult to determine, and specific criteria were required to ensure respondents had relevant knowledge to provide valid answers. To meet the specific objectives of this study, the following inclusion criteria were established: a) domicile in the Special Region of Yogyakarta (DIY). b) Minimum age of 17 years (eligible to drive). c) Possess basic knowledge about Electric Vehicles and SPKLU existence. d) Non-EV_owners (potential buyers). A final valid sample of 125 respondents was collected from September to October 2025 via an online questionnaire.

Table 1. Variable Measurement

Variables	Instrument
Environment Concern (Chanda et al., 2024; Nur & Prasetio, 2025; Wijaya et al., 2025)	1. Obligation to participate in environmental protection. 2. Concern for environmental sustainability. 3. Awareness of increasingly severe environmental issues. 4. Considering environmental impact when purchasing a vehicle. 5. Living in harmony with nature to support sustainable development.
Infrastructure Charging (Chanda et al., 2024; He et al., 2022)	1. Adequacy of Public EV Charging Station (SPKLU) infrastructure. 2. Ease of accessibility to SPKLU. 3. Speed of charging time. 4. Practicality of charging at home. 5. Ease of charging at home.
Perceived Value (Chanda et al., 2024; Nur & Prasetio, 2025)	1. Suitability of costs incurred versus benefits received. 2. Fuel cost efficiency. 3. Maintenance cost savings. 4. Attraction to the technology. 5. Image of environmental concern. 6. Enhancement of social status. 7. Sense of pride.
Attitude (Chanda et al., 2024; Wijaya et al., 2025)	1. Perception of EV as a positive idea. 2. Positive assessment of adoption. 3. Owning an EV is a wise choice. 4. Personal interest in EVs. 5. The act of reducing pollution.
Purchase Intention (Chanda et al., 2024; Nur & Prasetio, 2025; Wijaya et al., 2025)	1. Consideration to purchase. 2. Willingness/Intention to buy. 3. Concrete plan to buy in the near future. 4. Preference in future vehicle purchases. 5. Intention to recommend the product. 6. Purchase commitment.

3.2. Data Collection

Data collection was conducted using an online, structured questionnaire. The measurement of variables used a 5-point Likert scale (Strongly Disagree to Strongly Agree), adapted from previous research. The instrument was designed to capture the respondents' perceptions regarding environmental concern, infrastructure availability, perceived value, attitude, and purchase intention.

3.3. Data Analysis

Data analysis was conducted using Structural Equation Modeling (SEM) based on Partial Least Squares (PLS) with SmartPLS software (Agung et al., 2025). This method was chosen for its capability to test complex models and predict relationships without strict normality assumptions. The evaluation followed two stages based on (Hair et al., 2021): Outer Model Evaluation (Convergent Validity: Outer Loadings > 0.70, AVE > 0.50; Reliability: Cronbach's Alpha > 0.70, Composite Reliability > 0.70; Discriminant Validity: HTMT < 0.90) and Inner Model Evaluation (R-squared, F-square, SRMR < 0.10, and Bootstrapping for hypothesis testing at $p < 0.05$).

4. Result and Discussion

This research was conducted from September to October 2025 and collected 125 valid questionnaires via an online platform. The characteristics of the respondents presented in Table 2 show that the majority are in the 18-25 age group (83.2%) and hold a Bachelor's degree (68.0%). This demographic profile aligns with the study's target: young consumers (Gen Z) in Yogyakarta Province who are generally technology-savvy and early adopters.

Table 2. Responden Demographic

Characteristics		Frequency	Percentage(%)
Age	18-25	104	83.2%
	26-35	11	8.8%
	36-45	5	4.0%
	>45	5	4.0%
Gender	Male	61	48.7%
	Female	64	51.3%
Education	Senior High School	31	24.8%
	Diploma	9	7.2%
	Bachelor's Degree	85	68.0%
Income	< Rp. 3.000.000 IDR	60	48.0%
	3.000.000 - Rp. 5.000.000 IDR	29	23.2%
	5.000.001 -10.000.000 IDR	19	15.2%
	10.000.001 - Rp.20.000.000 IDR	10	8.0%
	> Rp 20.000.000 IDR	7	5.6%
Vehicle	No Vehicle	10	8.0%
	1 Vehicle	47	37.6%
	2 Vehicle	20	16.0%
	3 or More Vehicles	48	38.4%
Domicile	Yogyakarta	51	40.8%
	Sleman	49	39.2%
	Bantul	13	10.4%
	Gunung Kidul	6	4.8%
	Kulon Progo	6	4.8%

4.1. Model Assessment

The outer model evaluation was conducted to assess the instrument's convergent validity and reliability. As presented in Table 2, convergent validity was evaluated based on outer loadings and Average Variance Extracted (AVE). The analysis results demonstrate that all

outer loading values for each indicator exceeded the 0.70 threshold. Furthermore, the AVE values for all five constructs ranged from 0.703 to 0.927, surpassing the 0.50 minimum criterion, thereby confirming adequate convergent validity. Simultaneously, internal consistency reliability was assessed using Composite Reliability (CR) and Cronbach's Alpha. The results in Table 3 indicate that all constructs possess CR and Cronbach's Alpha values well above the required 0.70 threshold, confirming that the measurement instrument is highly reliable. This demonstrates that the measurement items consistently capture their intended constructs with minimal measurement error. Furthermore, the high reliability values confirm the instrument's robustness and ensure the validity of subsequent analyses, strengthening confidence in the consistency of the findings (Ghozali, 2021; Sekaran & Bougie, 2016; Budiarto et al., 2021).

Table 3. Measurement Model Instrument

Variables	Item	Loading (>0,7)	AVE (>0.5)	CR (>0.8)	Cronbach alpha
Environment Concern	EC1	0.867	0.720	0.928	0.902
	EC2	0.836			
	EC3	0.783			
	EC4	0.860			
	EC5	0.892			
Infrastructure Charging	IC1	0.989	0.927	0.985	0.980
	IC2	0.982			
	IC3	0.970			
	IC4	0.985			
	IC5	0.885			
Perceived Value	PV1	0.754	0.703	0.943	0.928
	PV2	0.785			
	PV3	0.904			
	PV4	0.907			
	PV5	0.879			
	PV6	0.799			
	PV7	0.827			
Attitude	AT1	0.803	0.723	0.940	0.922
	AT2	0.892			
	AT3	0.892			
	AT4	0.886			
	AT5	0.741			
	AT6	0.897			
Purchase Intention	PI1	0.945	0.833	0.961	0.949
	PI2	0.933			
	PI3	0.929			
	PI4	0.906			
	PI5	0.846			

Table 4 presents the results of the discriminant validity test using the HTMT ratio, a stricter criterion. This ratio measures the average correlation of items between constructs (heterotrait-heteromethod) divided by the average correlation of items within the same construct (monotrait-heteromethod). All presented HTMT ratio values are at or below the conservative threshold of 0.90. This provides further confirmation of the discriminant validity between constructs in the research model.

Table 4. The Method of HTMT

Construct	X1	X2	X3	Y	Z
X_1					
X_2	0.484				
X_3	0.604	0.745			
Y	0.517	0.520	0.854		
Z	0.623	0.704	0.799	0.819	

Table 5. The Results of Hypothesis Testing

Relationship	Beta	t Value	Results
X_1 => Y	0.028	0.460	H_1: Rejected
X_1 => Z	0.340	3.364**	H_2: Supported
X_2 => Y	-0.179	2.697**	H_3: Rejected
X_2 => Z	0.523	5.630**	H_4: Supported
X_3 => Y	0.583	5.548**	H_5: Supported
Z => Y	0.372	3.469**	H_6: Supported
X_1 => Z => Y	0.127	2.181**	H_7: Supported
X_2 => Z=>Y	0.195	3.077**	H_8: Supported

** Sig < 1%

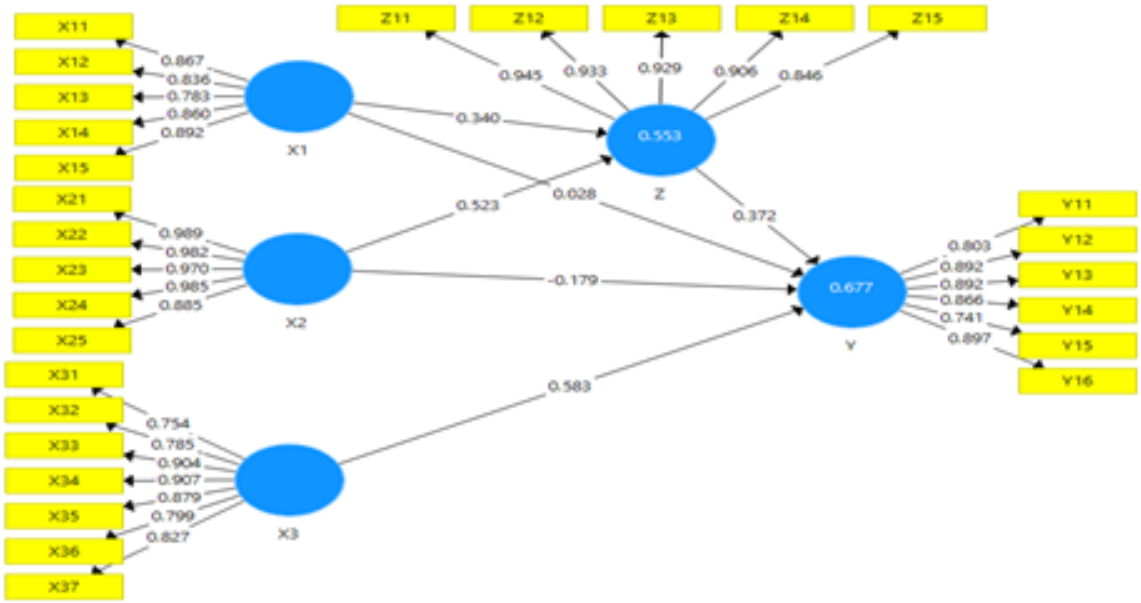

Figure 2. Hypothesis Result

The findings of this study offer significant empirical insights into the determinants of EV purchase intention in Yogyakarta Province, revealing a complex interplay between moral, situational, and rational factors. Regarding environmental concern, the results validate H_2 (Significant) and H_7 (Significant Mediation), while H_1 is rejected. The acceptance of H_2 confirms that environmental concern significantly shapes attitude, consistent with the Norm Activation Model (NAM), which posits that awareness activates a moral valuation. However, the rejection of H_1 highlights the "Attitude-Behavior Gap" in environmental psychology: the relationship is not direct. This confirms that environmental awareness among Indonesian consumers acts as a general altruistic value that does not automatically translate into high-involvement purchasing decisions without the mediation of a positive attitude. As noted, without a specific psychological affection or 'liking' for the vehicle itself, abstract environmental anxiety remains dormant (Permana et al., 2023).

Furthermore, the "moral burden" of environmental preservation is often too abstract to bypass the financial risks; it must first be internalized as a specific, favorable evaluation to drive action (Purwanto & Prima, 2022). This finding affirms that a full mediation model is the appropriate mechanism, consistent with the framework (Purwanto et al., 2025).

In contrast to the internal moral conflict, the second finding reveals a significant negative anomaly regarding charging infrastructure (H_3). The hypothesis posited a positive effect, but the result shows a significant negative coefficient, leading to the decision that H_3 is rejected. This finding finds that in the DIY context, awareness of the uneven SPKLU distribution concentrated in Yogyakarta City and Sleman triggers range anxiety, actively suppressing purchase intention. This aligns with He et al. (2022), suggesting that in early adoption stages, heightened awareness of infrastructure gaps can paradoxically increase anxiety rather than reassurance. However, the positive influence of infrastructure on Attitude (H_4) and its mediating role (H_8) suggests a dual process: while the *current reality* of uneven distribution deters immediate purchase, the *concept* of infrastructure availability still helps build a generally positive attitude. This finding clarifies the contradictory gap in previous studies by highlighting that local context (inequality) plays a decisive role (Chanda et al., 2024).

Amidst these psychological and physical barriers, perceived value (H_5) emerges as the strongest direct driver of purchase intention. This finding confirms that consumers in developing markets primarily operate on economic rationality (Hussain & Qureshi, 2024). Tangible benefits such as fuel savings, tax incentives, and operational efficiency are far more persuasive than abstract environmental appeals. This suggests that current government incentives are effective because they directly enhance the 'Behavioral Beliefs' in the Theory of Planned Behavior (TPB), proving that tangible economic benefits are far more persuasive than abstract environmental appeals in driving immediate adoption. Ultimately, these results validate the central mediating role of attitude (H_6), which serves as the necessary "psychological filter" that synthesizes external stimuli (infrastructure) and internal values (environment) into a coherent behavioral intent, consistent with the TPB framework (Alshurideh et al., 2025; Wijaya et al., 2025). Without a positive attitude, neither infrastructure availability nor environmental concern is sufficient to drive adoption. The external factors do not dictate behavior directly; they must first be internalized as favorable or unfavorable evaluations (Alshurideh et al., 2025). This study shows that environmental concern influences intention indirectly through attitude, underscoring attitude as the stabilizer that bridges the gap between moral concerns and logistical realities.

5. Conclusion & Implications

This study aimed to analyze the determinants of EV purchase intention in Yogyakarta Province. Based on the analysis of 125 respondents using PLS-SEM, three major conclusions are drawn. First, perceived value is the most decisive antecedent, proving that economic rationality and tangible benefits are the primary movers for Indonesian consumers. Second, environmental concern exhibits a clear "attitude-behavior gap," where high environmental awareness does not directly lead to purchase intention but requires the full mediation of a positive attitude. Third, and most critically, charging infrastructure presents

a significant anomaly; its influence on purchase intention is negative. This validates the "Range Anxiety" phenomenon, where the current uneven distribution of SPKLUs in DIY acts as a psychological barrier that actively discourages adoption.

Theoretically, this research contributes to the marketing and sustainability literature in two ways. First, it reinforces the Theory of Planned Behavior (TPB) by demonstrating that attitude is a mandatory mediator for value-based and environmental antecedents. It refines the application of the Norm Activation Model (NAM) by showing that moral norms (environmental concern) are insufficient to bypass the attitude-formation process. Second, it provides rare empirical evidence of the "Negative Infrastructure Effect," challenging the conventional assumption that infrastructure is always positively or neutrally associated with intention. This adds a nuance to the literature: in developing infrastructure phases, awareness can trigger anxiety rather than reassurance.

Practically, the findings offer clear, actionable strategies for stakeholders. For the Government & PT PLN, the adverse H_3 finding is a "red flag." The focus must shift immediately from the mere *quantity* of SPKLUs to the *equity* of their distribution. Expanding the fast-charging network to non-urban areas (outside Sleman and Yogyakarta City) is mandatory to eliminate "range anxiety," which currently depresses purchase intention. For automotive marketers, since perceived value (H_5) is the strongest driver, marketing campaigns should prioritize "Economic Logic" over "Green Logic." Promotions should highlight the total cost of ownership savings, tax incentives, and low maintenance costs. Environmental messaging should be used only as a secondary layer to build a long-term positive attitude (H_7), not as a primary trigger for immediate sales.

The limitations of this study provide avenues for future research. First, its concentration on DIY and young consumers (Gen Z) limits the generalizability of the results. Further studies should explore across cities and demographics to validate the findings. Second, the cross-sectional design precludes causal inference and requires longitudinal research to investigate the temporal dynamics of these relations, especially regarding changes in infrastructure perception. Third, although attitude was established as a key mediator, future research should integrate subjective norms and perceived risk. This expansion is necessary because Alshurideh et al. (2025) emphasise that social influence and peer behaviour are critical in shaping individual decisions, particularly for high-visibility products like EVs, where social approval validates the purchase. Furthermore, incorporating perceived risk is vital to account for technological uncertainties. As noted by Chanda et al. (2024), consumers still perceive significant risks regarding battery longevity and infrastructure reliability, which serve as psychological barriers that must be explicitly measured to understand adoption reluctance fully. Exploring these variables would advance theoretical and practical insights.

References

Adzhani, I. A., Pramono, B., Setyawan Santoso, M., Wirayat, M. Y. F., Okdinawati, L., & Belgiawan, P. F. (2025). Battery electric vehicle adoption in Indonesia: Insights from consumer preferences and stakeholder perspectives. *Journal of the Civil Engineering Forum*, 11(3), 334–350. https://doi.org/10.22146/jcef.22067

Agung, A., Agung, I., Dwijayanthi, O., Manajemen, P. S., & Timur, D. (2025). Crafting customer loyalty in the Balinese artisanal silver industry: The interplay of quality, emotion, and marketing. *Maker: Jurnal Manajemen*, 11(May), 31–50. https://doi.org/10.37403/mjm.v11i1.788

Alshurideh, M. T., Alzoubi, H. M., Kurdi, B. Al, Hamadneh, S., Ahmed, G., Al-Sulaiti, K., Bataineh, A. Q., Alquqa, E. K., & Ozturk, I. (2025). Consumer and economic influences on electric vehicle adoption: The mediating role of attitudes and the moderating effect of demographics. *International Journal of Energy Economics and Policy*, 15(3), 214–229. https://doi.org/10.32479/ijeep.19313

Attahariq, A. J., Puspitasari, D., Panjaitan, R., & Anomsari, A. (2024). Pengaruh persepsi harga, peran insentif pemerintah, dan ketersedian stasiun pengisian kendaraan listrik umum (SPKLU) terhadap keputusan pembelian kendaraan listrik Kota Semarang. *Jurnal Manajemen Sosial Ekonomi (Dinamika)*, 4(2), 9–23. https://doi.org/10.51903/b826wz61

Budiarto, D.S., Ervana, V., & Diansari, R. (2021). Maintaining the performance and sustainability of MSMEs using e-commerce during the Covid-19 pandemic. *Journal of Economics, Business, and Accountancy Ventura*, 23(3), 414-425. https://doi.org/10.14414/jebav.v23i3.2463

Chanda, R. C., Vafaei-Zadeh, A., Hanifah, H., Ashrafi, D. M., & Ahmed, T. (2024). Achieving a sustainable future by analyzing electric vehicle adoption in developing nations through an extended technology acceptance model. *Sustainable Futures*, 8(November), 100386. https://doi.org/10.1016/j.sftr.2024.100386

Clarita, A., & Chalid, D. A. (2024). Analysis of factors influencing consumer purchase intention for electric cars: A case study in Greater Jakarta. *Ekombis Review: Jurnal Ilmiah Ekonomi Dan Bisnis*, 12(4), 4155–4170. https://doi.org/10.37676/ekombis.v12i4.6322

GAIKINDO. (2025). *Segini Total Penjualan Mobil Listrik 5 Tahun Terakhir di RI*. Bisnis.Com. https://otomotif.bisnis.com/read/20250114/275/1831369/segini-total-penjualan-mobil-listrik-5-tahun-terakhir-di-ri

Ghozali, I. (2021). *Structural equation modeling: Metode alternatif dengan partial least squares* (PLS: dilengkapi software SmartPLS 3.2.9 Xlstat 2014 dan WarpPLS 7.0 PLSGraph 3.0 VPLS dan PLS GUI (Badan Penerbit Universitas Diponegoro (ed.)). Badan Penerbit Universitas Diponegoro.

Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial Least Squares Structural Equation Modeling* (PLS-SEM) Using R. Springer. https://doi.org/10.1007/978-3-030-80519-7_7

He, S. Y., Sun, K. K., & Luo, S. (2022). Factors affecting electric vehicle adoption intention: The impact of objective, perceived, and prospective charger accessibility. *Journal of Transport and Land Use*, 15(1), 779–801. https://doi.org/10.5198/jtlu.2022.2113

Hussain, S., & Qureshi, I. M. (2024). Electric vehicle adoption: The nexus of knowledge, perceived usefulness, and ease of use. *Qlantic Journal of Social Sciences and Humanities*, 5(2), 154–161. https://doi.org/10.55737/qjssh.591349398

Irfan, D., & Tang, X. (2025). Evaluating China's electric vehicle adoption with PESTLE: Stakeholder perspectives on sustainability and adoption barriers. *Sustainability*, 17, 1–21. https://doi.org/https://doi.org/10.3390/su17146258

Ji, Z., Jiang, H., & Zhu, J. (2024). Factors impacting consumers' purchase intention of electric vehicles in China: Based on the integration of the theory of planned behaviour and norm activation model. *Sustainability* (Switzerland), 16(20). https://doi.org/10.3390/su16209092

Kementerian Lingkungan Hidup dan Kehutanan. (2021). Indonesia Long-Term Strategy for Low Carbon and Climate Resilience 2050. In Goverment of Indonesian Republic.

Laura, E. N., & Handayani, W. P. P. (2025). Purchase intention kendaraan listrik: Pendekatan Technology Acceptance Model. *Jurnal E-Bis*, 9(1), 77–88. https://doi.org/10.37339/e-bis.v9i1.2127

Metais, M. O., Jouini, O., Perez, Y., Berrada, J., & Suomalainen, E. (2022). Too much or not enough? Planning electric vehicle charging infrastructure: A review of modeling options. *Renewable and Sustainable Energy Reviews*, 153. https://doi.org/10.1016/j.rser.2021.111719

Nur, A. N., & Prasetio, A. (2025). The effect of perceived value towards purchase intention using information overload as moderating variable in electric vehicle. *International Journal of Science, Technology & Management*, 6(1), 111–119. https://doi.org/10.46729/ijstm.v6i1.1261

Pamidimukkala, A. (2023). Model development to evaluate consumers' intention to adopt electric vehicles. *Dissertation*, The University of Texas at Arlington.

Permana, R., Yuliati, E., & Wulandari, P. (2023). Analisis faktor-faktor yang mempengaruhi konsumen terhadap purchase intention kendaraan listrik di Indonesia. *INOBIS: Jurnal Inovasi Bisnis Dan Manajemen Indonesia*, 6(2), 217–232. https://doi.org/10.31842/jurnalinobis.v6i2.270

Purwanto, E., Irawan, A. P., & Taba, M. I. (2025). factors influencing attitudes and purchase intentions of electric vehicles among urban consumers. *International Journal of Transport Development and Integration*, 9(2), 287–305. https://doi.org/10.18280/ijtdi.090207

Purwanto, S., & Prima, R. H. (2022). Analysis of green self identity and environment concern on adopt electric vehicle intention with perception of ev and subjective norm as mediation variables. *International Journal of Social Service and Research*, 2(10), 964–976. https://doi.org/10.46799/ijssr.v2i10.168

Sekaran, U., & Bougie, R. (2016). *Research Methods for Business: A Skill-Building Approach*. In John Wiley & Sons (7th ed., Vol. 34, Issue 7). https://doi.org/10.1108/lodj-06-2013-0079

Seta, V. E., Sari, R. P., & Nusron, L. A. (2025). The importance of digital marketing and fintech based on payment gateway to improve MSMEs' performance and sustainability. *Journal of Business and Information Systems*, 7(1), 127–140. https://doi.org/10.31316/jbis.v7i1.299

Wijaya, M. J. H., Rachbini, D. J., & Sumarto, A. H. (2025). Analysis of the influence of environmental concern and perceived value on the purchase intention of electric cars with TBP mediation among Generation Y in Jakarta. *Indonesian Journal of Business Analytics*, 5(4), 3297–3316. https://doi.org/10.55927/ijba.v5i4.15299