

Analysis of Perceptions and Preferences of Electric Car Users: A Qualitative Study using Nvivo 14

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Abstract:

The transition to electric vehicles (EVs) represents a critical pathway toward sustainable transportation and carbon emission reduction globally. However, in developing countries like Indonesia, EV adoption rates remain significantly low despite increasing environmental awareness and government incentive programs. This study aims to analyze the perceptions and preferences of electric car users in Indonesia through a qualitative approach based on NVivo 14. Involving 15 informants from the Banten region, this study explored motivations, obstacles, and psychological and structural factors that influence consumers' decisions to adopt electric vehicles. The results show that although awareness of environmental benefits is relatively high, purchasing decisions are more influenced by cost efficiency and long-term savings. The findings also reveal the existence of an awareness–action gap, where awareness is not always followed by action. Two other important issues that emerged were charging anxiety due to limited charging infrastructure and low government policy trust due to uncertainty regarding government incentives. These three constructs are not covered by the five classical dimensions of the Diffusion of Innovation (DOI) theory, so this study offers an expansion of the DOI framework to make it more contextual to Indonesia's social, economic, and policy conditions. As a result, the proposed new conceptual model not only explains the purchase intent factor more comprehensively but can also serve as a reference in the formulation of policy strategies and intervention designs that encourage the sustainable adoption of electric vehicles.

Keywords: charging anxiety, government policy trust, awareness–action gap, Diffusion of Innovation (DOI), Intention to Purchase

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INTRODUCTION

The transformation of the global transportation sector is currently experiencing significant acceleration through the adoption of electric vehicles (EVs), which are seen as strategic solutions for reducing carbon emissions, lessening dependence on fossil fuels, and accelerating the sustainable energy transition (Ali et al., 2025; Huang et al., 2023; Muhamad Lucky Souma et al., 2025). The development of electric cars globally shows that this technology has entered a phase of mass adoption, especially in countries with strong policy and infrastructure support. The annual Global EV Outlook report published by the International Energy Agency (IEA) notes that global EV sales increased from 2.1 million units in 2019 to more than 13.6 million units in 2023, representing more than 15% of total light vehicles sold worldwide (IEA, 2023).

Meanwhile, in Indonesia, although still in its early stages, the EV growth trend shows a promising acceleration pattern (Busch et al., 2024; Pamidimukkala et al., 2024; Prushkivska et al., 2024). Based on data from the Indonesian Motor Vehicle Industry Association (GAIKINDO), national electric vehicle sales jumped from only 685 units in 2019 to around 17,400 units in 2023, or an increase of 164% in the past year. This growth was triggered by various incentive policies, such as the reduction of the luxury goods tax (PPnBM), the ease of

importing components, and the development of public charging infrastructure (SPKLU). However, even so, EV penetration in Indonesia remains relatively low compared to East Asian countries such as China and South Korea, which already have more established and integrated adoption ecosystems.

In the context of marketing management, consumer behavior, and public policy literature, purchase intention (or purchase decision) serves as a critical dependent variable that determines the success or failure of new product adoption, particularly for sustainable innovations like electric vehicles. Purchase intention is theoretically conceptualized as the subjective probability that an individual will perform a specific behavior—in this case, buying an electric vehicle—and serves as the most proximal predictor of actual behavior (Ao et al., 2023; Wang et al., 2022; Yang et al., 2025). Understanding the determinants of EV purchase intention is not merely an academic exercise but has profound practical implications for three key stakeholder groups. First, for policymakers, identifying the factors that drive or inhibit purchase intention enables the design of more effective incentive structures, regulatory frameworks, and infrastructure development strategies that can accelerate the national energy transition agenda. Without understanding what motivates consumers to intend to purchase EVs—whether environmental concerns, cost savings, technological features, or social image—policies may be misdirected, resulting in inefficient resource allocation and suboptimal adoption rates. Second, for automotive manufacturers and marketers, purchase intention research provides actionable insights into consumer segmentation, product positioning, communication strategies, and service design that can enhance market penetration in emerging markets where EV adoption is still nascent (Dau & Vu, 2025; Xiong et al., 2024). Third, from a sustainability perspective, understanding purchase intention is crucial because the transportation sector accounts for approximately 24% of global CO₂ emissions from fuel combustion, and personal vehicles constitute a significant portion of this figure (IEA, 2023). Therefore, accelerating EV adoption through better understanding of purchase intention directly contributes to climate change mitigation efforts and the achievement of Sustainable Development Goals (SDGs), particularly SDG 7 (affordable and clean energy), SDG 11 (sustainable cities), and SDG 13 (climate action). In the Indonesian context specifically, where fossil fuel subsidies remain substantial and air quality in major cities continues to deteriorate, understanding what drives consumers' purchase intention becomes even more urgent and critical for designing interventions that can bridge the gap between sustainability goals and actual consumer behavior (Hakam & Jumayla, 2024; Fathoni et al., 2025).

A qualitative study of electric car users in Banten shows the complexity in understanding the dynamics of EV adoption in Indonesia. Although awareness of environmental issues and emission reduction is quite high among respondents, economic factors—such as fuel efficiency, maintenance costs, and the availability of charging infrastructure—and supporting government policies are more dominant in shaping purchase intention. These findings reinforce the concept of the awareness-action gap, which is the disconnect between public awareness and real action in supporting sustainable innovation.

Recent research supports this phenomenon, yet critical gaps remain in the literature regarding the integration of psychological, structural, and institutional factors within a unified theoretical framework. First, Hakam and Jumayla (2024) conducted a comprehensive review

of EV adoption lessons from both developed and developing countries, concluding that low adoption in Indonesia stems not only from technological limitations but also from high initial costs and insufficient supporting infrastructure. Their study emphasizes that adoption strategies in developing countries must be carefully calibrated to public perception and government policy sustainability. However, their research gap lies in the predominantly conceptual nature of their analysis, lacking deep empirical exploration of how these factors interact at the individual decision-making level, and they do not explicitly examine psychological constructs such as charging anxiety or policy trust as distinct theoretical variables. Second, Fathoni et al. (2025) investigated drivers and barriers of eco-innovation in EV diffusion in Indonesia, identifying lack of charging facilities, high costs, and low policy trust as primary obstacles bridging the awareness-action gap. While their study provides valuable empirical insights, the research gap emerges in their limited theoretical elaboration on how these barriers specifically modify or extend existing innovation adoption frameworks; they identify barriers but do not systematically integrate them into a revised theoretical model that accounts for the unique contextual conditions of developing countries. Third, Raja et al. (2024) explored how policy, psychological factors, and green marketing influence consumer behavior and EV adoption in Indonesia, proposing that psychological factors such as policy trust and risk perception are critical elements shaping adoption decisions. They advocate for integrating green marketing and emotional aspects into adoption strategies. However, their research gap is the lack of explicit connection between these psychological factors and established innovation diffusion theories, resulting in findings that remain somewhat fragmented rather than contributing to a coherent theoretical advancement. Fourth, Sitinjak et al. (2025) examined perceptions and influential factors in EV adoption in Jakarta, emphasizing the importance of considering local cultural values in energy transition policy formulation. While culturally sensitive, their study gap lies in insufficient attention to the psychological mechanisms of how cultural values translate into specific adoption barriers like charging anxiety, and they do not propose a modified theoretical framework that integrates cultural dimensions with innovation diffusion constructs. Fifth, Lazuardy et al. (2025) formulated an EV adoption model incorporating product quality, consumer characteristics, adoption context, and perception, finding that perceptions of product reliability and policy quality are more significant than psychological factors like eco-anxiety. However, their research gap is the limited depth in exploring the specific nature and dimensions of policy-related perceptions—they acknowledge its importance but do not conceptualize it as a distinct construct (government policy trust) that requires theoretical integration into innovation adoption models.

Collectively, these studies reveal three critical and interconnected gaps in the literature. First, no previous study has simultaneously integrated the three constructs of awareness-action gap, charging anxiety, and government policy trust into a single coherent theoretical framework, despite mounting evidence that all three are empirically significant in the Indonesian context. Existing research tends to examine these factors in isolation or as general barriers without theorizing their specific roles and interrelationships within the innovation adoption process. Second, there is a notable absence of critical synthesis that explicitly identifies how and why the classical five dimensions of Diffusion of Innovation (DOI) theory—relative advantage, compatibility, complexity, trialability, and observability—are insufficient

for explaining EV adoption in developing country contexts characterized by infrastructure constraints, policy uncertainty, and specific psychological barriers unique to emerging markets. While researchers acknowledge DOI's limitations, they have not systematically articulated what is missing and why, nor have they proposed theoretically grounded extensions. Third, existing studies lack deep qualitative exploration that captures the lived experiences, subjective meanings, and contextual nuances of how Indonesian consumers experience and navigate these barriers in their decision-making processes. Quantitative surveys dominate the literature, but the psychological and social mechanisms through which infrastructure limitations create anxiety, or policy inconsistency erodes trust, remain underexplored at the experiential level.

Based on these identified gaps, this research presents several dimensions of novelty that constitute original contributions to the field. First, this study explicitly and systematically integrates awareness-action gap, charging anxiety, and government policy trust as three distinct theoretical constructs that extend the classical DOI framework, grounded in rich qualitative empirical data from Indonesian EV users. Unlike previous research that mentions these factors as barriers, this study conceptualizes them as theoretically meaningful constructs with specific definitions, dimensions, and mechanisms of influence on purchase intention. Second, this research employs an interpretivist qualitative approach with rigorous thematic analysis using NVivo 14, enabling deep exploration of the subjective experiences and contextual meanings that quantitative approaches cannot capture—thereby revealing not just what factors matter, but how and why they matter from consumers' lived perspectives. Third, this study proposes a context-specific expansion of DOI theory tailored to the realities of developing countries with nascent EV ecosystems, creating a new conceptual model that bridges the theoretical gap between classical innovation diffusion theories developed in mature markets and the empirical realities of technology adoption in resource-constrained, policy-uncertain environments. Fourth, methodologically, this research demonstrates the value of in-depth qualitative inquiry as a theory-building approach in consumer behavior research, showing how inductive analysis of user experiences can lead to theoretical innovation and framework expansion. Fifth, from a practical standpoint, this study provides empirically grounded, context-sensitive insights that can directly inform policy design, marketing strategy, and infrastructure development by identifying the specific psychological and structural barriers that need to be addressed in the Indonesian context—insights that generic, Western-developed models cannot provide.

In a theoretical framework, the Diffusion of Innovation (DOI) developed by Rogers has long been the main approach in analyzing the technology adoption process. However, in the Indonesian context, this model faces challenges, mainly because the DOI's five dimensions—relative advantage, compatibility, complexity, trialability, and observability—are not fully able to explain the reality of EV adoption. This qualitative study suggests expanding the DOI by including additional constructs such as charging anxiety, government policy trust, and perceptions of technology risks that are more appropriate to the social and structural context in developing countries such as Indonesia.

Research by Raja et al. (2024) even adds that psychological factors such as trust in policies and risk perception are important elements in shaping EV adoption decisions. They propose the integration of green marketing and emotional aspects into adoption strategies, while Sitinjak et al. (2025) emphasize the importance of considering local cultural values in

the formulation of energy transition policies. Similar findings from Lazuardy et al. (2025) show that perceptions of product reliability and policy quality are more significant than psychological factors such as eco-anxiety in forming a sustainable adoption ecosystem.

Thus, the expansion of contextual DOI frameworks, based on empirical evidence from the field and actual user experience, is critical. The integration of psychological, structural, and institutional dimensions into the EV adoption model not only provides a conceptual contribution to the academic literature but can also serve as a reference in the formulation of public policies that are more adaptive and oriented to the needs of Indonesian consumers. This study is expected to be a foothold in designing a more effective, inclusive, and social-reality-based national energy transition strategy.

The novelty of this research lies fundamentally in its theoretical contribution to innovation diffusion literature through the development of a context-specific expanded DOI framework. While classical DOI theory has been extensively validated in contexts of stable infrastructure, predictable policy environments, and mature markets, its five dimensions inadequately capture the unique adoption dynamics in developing countries where infrastructure is underdeveloped, policies are inconsistent, and consumers face distinct psychological barriers. This study's original contribution is the systematic identification and theoretical integration of three constructs—awareness-action gap (the disconnect between environmental consciousness and actual purchasing behavior driven by competing economic priorities), charging anxiety (psychological distress stemming from infrastructure inadequacy and range limitations), and government policy trust (confidence in the consistency and longevity of governmental support mechanisms)—that emerge organically from Indonesian users' lived experiences but are absent from classical DOI formulations. By grounding these constructs in rich qualitative data and demonstrating their empirical salience through rigorous NVivo 14 analysis, this research does not merely add variables to an existing model but fundamentally reconceptualizes how innovation adoption should be theorized in contexts where technological, infrastructural, and institutional conditions differ markedly from those in which DOI was originally developed. This theoretical expansion has implications beyond the EV domain, potentially informing understanding of sustainable technology adoption more broadly in emerging markets.

The urgency of this research is underscored by converging pressures from environmental, economic, policy, and academic domains that demand immediate and evidence-based action. First, from an environmental urgency perspective, Indonesia faces a climate crisis of mounting severity: as the world's fourth most populous nation and a rapidly growing economy, Indonesia's transportation sector emissions are projected to triple by 2050 under business-as-usual scenarios (Ministry of Energy and Mineral Resources, 2020), threatening both national development goals and global climate commitments under the Paris Agreement. The transportation sector currently accounts for approximately 27% of national energy consumption and is the fastest-growing source of CO₂ emissions in Indonesia (IEA, 2023). Without rapid acceleration of EV adoption, Indonesia will fail to meet its Nationally Determined Contribution (NDC) targets and will continue to suffer from deteriorating urban air quality that already causes an estimated 11,000 premature deaths annually in Jakarta alone. Second, from an economic urgency standpoint, Indonesia spends approximately USD 10-15

billion annually on fuel subsidies, creating a massive fiscal burden while perpetuating fossil fuel dependence (Ministry of Finance, 2023). This represents a critical misallocation of public resources that could be redirected toward sustainable infrastructure if EV adoption accelerates. Moreover, Indonesia has the potential to become a regional hub for EV manufacturing and battery production given its nickel reserves (the largest in the world), but this industrial opportunity will be lost if domestic market demand remains stagnant due to low consumer adoption. This research is urgent because it addresses this theory-practice gap by generating context-specific knowledge that can inform both academic understanding and practical intervention design. Finally, there is a temporal urgency: the window for cost-effective climate action is narrowing rapidly, and delays in EV adoption translate directly into cumulative emissions that lock in long-term climate impacts. This research is needed now to provide the evidence base for immediate policy recalibration and strategic intervention that can accelerate Indonesia's transportation transition before the climate and economic costs become prohibitive.

This research aims to analyze the perceptions and preferences of electric vehicle (EV) users in Indonesia, with the specific purpose of identifying the key psychological and structural factors that influence purchase intention. Utilizing a qualitative approach supported by NVivo 14 software, the study engages directly with users to explore the underlying motivations and barriers beyond conventional frameworks. The investigation seeks to critically examine the applicability of the classical Diffusion of Innovation (DOI) theory in the Indonesian context and propose a contextual expansion by integrating emergent constructs such as charging anxiety, government policy trust, and the awareness-action gap. Ultimately, the purpose is to develop a more nuanced conceptual model that accurately reflects the unique socio-economic and infrastructural realities facing EV adoption in a developing country.

The benefits of this research are multifaceted, addressing both theoretical advancement and practical application. Theoretically, it contributes to the innovation diffusion literature by extending the DOI framework, thereby providing a more robust tool for analyzing sustainable technology adoption in emerging markets characterized by infrastructure constraints and policy uncertainty. Practically, the findings offer actionable insights for key stakeholders: policymakers can utilize the evidence to design more effective and stable incentive programs and infrastructure plans, while automotive manufacturers and marketers can refine their strategies to better address consumer concerns regarding cost efficiency and charging accessibility. By bridging the gap between academic theory and on-the-ground realities, this study supports the acceleration of Indonesia's energy transition and contributes to broader global efforts in sustainable transportation.

RESEARCH METHOD

This study employed a descriptive qualitative approach to uncover the subjective, psychological, and structural dimensions of consumer decisions regarding electric vehicle (EV) adoption in Indonesia. This method allowed exploration of phenomena under natural conditions without variable manipulation, with the researcher serving as the primary instrument.

The approach explored in-depth consumer experiences and perceptions of EVs, which remained new innovations in the Indonesian automotive market. It aligned with the

dissertation's goal of developing a contextualized Diffusion of Innovation (DOI) conceptual model grounded in local social realities and policies.

Data collection involved semi-structured interviews with individuals who had used or considered EVs. This flexible technique enabled deeper probing of informants' views and motivations, allowing discovery of unanticipated factors such as charging anxiety, long-term cost perceptions, and confidence in government incentives. Interviews confirmed consumers' perceptions of EV advantages and barriers in daily life.

Field data were supplemented by literature reviews of national and international studies to enhance conceptual validity and analytical depth. Source triangulation ensured consistency and credibility across primary and secondary data.

Interview results and field findings were analyzed inductively using NVivo 14 software for coding, categorization, and thematic pattern identification, which informed the conceptual model. This qualitative approach produced empirical findings with theoretical and practical contributions to Indonesia's energy transition and sustainable EV ecosystem.

Qualitative research on EV adoption in Indonesia addressed complex challenges through descriptive methods exploring urban productive generation perceptions, obstacles, and motivations for EV purchase and use. EV adoption faced barriers including limited charging infrastructure, high initial prices, and doubts about policy sustainability. Semi-structured interviews and field observations with purposively selected users and potential users captured diverse perspectives.

NVivo 14 supported efficient management of interview transcripts, observation notes, and policy documents. It facilitated thematic coding to identify patterns such as range anxiety, long-term cost perceptions, technology trust, and policy stability as key determinants of adoption intention and behavior.

The study produced empirical insights into EV constraints and potential in Indonesia, alongside a conceptual contribution modifying DOI theory for local social, economic, and policy conditions. NVivo 14 strengthened finding validity and informed user-oriented public policy.

This study delved into factors affecting low EV adoption rates among Indonesian millennials, who, despite environmental awareness as digital natives, contributed little to the energy transition. Problems and objectives were first formulated to identify millennial constraints, perceptions, and preferences toward EVs as a sustainable lifestyle choice, amid rising climate awareness and government incentives.

Data collection followed through semi-structured interviews and observations targeting millennial EV users and potential users. This captured psychological and structural aspects such as range anxiety, tax incentive perceptions, charging infrastructure limitations, and EV social image. Secondary data from literature, industry reports, and policies supported triangulation.

Descriptive analysis of interview and observation results then applied DOI theory, modified for the local context. It examined how millennial perceptions and values influenced EV acceptance or rejection, shaped by price, technology, and social factors.

Qualitative data analysis utilized NVivo 14 to manage transcripts, survey results, and policy documents through thematic coding, narrative mapping, and concept visualization. This

enhanced credibility via triangulation, categorizing data by demographics, psychological factors (e.g., environmental efficacy, technological risk perception), and external factors (e.g., policy, infrastructure).

Evaluative analysis of solutions concluded the stages, assessing strategies like digital education campaigns, reliable SPKLU expansion, green lifestyle incentives, and improved after-sales service. These were validated against literature and successful international practices.

The study yielded an empirically based conceptual model depicting interactions among individual perceptions, policy environment, and technological readiness in EV adoption decisions. It contributed to effective, contextual market strategies in Indonesia and enriched innovation and consumer behavior literature on sustainable technology (Sugiyono, 2017).

RESULTS AND DISCUSSION

This section presents the findings and discussion of the research process that has been carried out by researchers in the field. The description covers all stages of research implementation, from the initial stage to the end. To facilitate the analysis process, the researcher begins by presenting an overview of the research as a starting point before entering into more specific discussions. Furthermore, each problem formulation is systematically analyzed with reference to the results of data processing from the NVivo 14 software, including visualizations such as thematic maps, coding matrices, and framework matrices. These results became the basis for the preparation of discussions and the development of solution designs resulting from this research, which ultimately led the researcher to formulate the conclusion.

Research Respondents

This study uses a semi-structured interview method to obtain qualitative data that is reliable and can be compared systematically. This approach allows for in-depth two-way communication between researchers and informants, so that the data collected is exploratory and contextual. A total of 15 respondents were interviewed, including electric vehicle users, EV users, EV users provided direct insight into their experiences in using electric vehicles, including motivations, obstacles, and perceptions of the efficiency and sustainability of this technology. Users of these electric cars provide feedback on their perceptions, concerns (such as range anxiety), and their preferences for electric vehicles, which are critical to designing a more targeted adoption strategy.

Question Questionnaire

This research began with a qualitative study through in-depth interviews with 15 electric car users in the Banten area, such as Anyer, Cilegon Center Mall, Mall of Serang, and through a network of peers. The purpose of this activity is to explore perceptions, experiences, motivations, and obstacles in the use of electric cars as an actual phenomenon in society. In this study, the researcher used a list of questions as arranged in the interview instrument table in table 1.1, This table contains questions asked to respondents, ranging from identity data, awareness of emissions and climate change, views on the importance of energy reduction,

Table 1. Description of Interview Questions with Electric Car Owners

NO	REFERENCES	QUESTIONS SUBMITTED
1	(Krupa et al., 2014)	What Is Your Job
2		Age
3		Residence
4		Did you realize that electric cars can significantly reduce emissions?
5		How big do you think global climate change is the threat to humanity?
6		How much global climate change do you think is caused by humans?
7		How important do you think it is for Indonesia to reduce energy consumption?
8		Did you realize that electric cars can save you significant monthly fuel costs?
9		Do you get a tax deduction when buying a car?
10		Do you have a recharging facility at home, so you can recharge easily

Based on the results of interviews with electric car owners which were then analyzed using NVivo 14, it shows that there are a number of major themes that reflect the reality, perceptions, and problems faced in the use of electric cars in Indonesia.



Figure 1. Tree map result NVivo 14

Based on the results of in-depth interviews with 15 electric car owners, as well as analysis using NVivo 14 software, it was found that there are several main themes that are most dominant discussed by users, namely cost, awareness, facilities and charging, threats, environment, and government support. The subject of discussion was that cost emerged as the most dominant word, showing that economic considerations, especially related to fuel cost savings and operational costs, are the main motivation for people to buy electric cars, not solely environmental reasons.

The Diffusion of Innovation (DOI) theory, Rogers et al., (2014) has been the main reference in explaining how a new technology, such as electric vehicles, is accepted by society. However, DOI is developed in the context of a market that has a mature infrastructure and stable innovation policies, so when applied to the context of developing countries such as Indonesia, it is found that empirical phenomena are not fully represented by the five dimensions of DOI. The findings of interviews with electric car owners and the results of NVivo 14 analysis in this study show that there are psychological, structural, and policy factors such as the Awareness-Action Gap, Charging Anxiety, and Government Policy Trust that affect Intention

to Purchase but are not covered by the DOI. Therefore, the novelty of this research lies in the expansion of the DOI to be more relevant to the social reality and readiness for the adoption of electric vehicles in Indonesia.

Within the framework of the Diffusion of Innovation Theory (DOI), the intention to buy electric vehicles is influenced by how consumers perceive the advantages of innovation, suitability with their needs, complexity of use, ability to be tested, and ease of observing the benefits, however, the results of qualitative research through interviews and analysis of NVivo 14 show that the DOI theory has not been able to fully explain consumer behavior in Indonesia, especially related to the gap between awareness and purchase action, anxiety about the availability of charging infrastructure, and the level of confidence in the consistency of government policies, therefore, this study offers novelty by expanding the DOI theory through the integration of the empirical construct into the model of the intention to purchase electric vehicle (Intention to Purchase), so that the DOI is not only explained based on the perspective of technological innovation, but also based on psychological, social, and structural effects directly experienced by electric vehicle users in Indonesia.

The findings of this study reveal that the intention to buy electric vehicles in Indonesia is still strongly influenced by economic considerations, such as fuel efficiency and low operating costs, compared to environmental reasons. This can be seen from the dominance of the theme of "cost" in the NVivo 14 analysis. Respondents indicated that the decision to buy an electric car was largely driven by long-term financial savings efforts, rather than mere awareness of climate change issues. This phenomenon is in line with the so-called awareness-action gap, which is the gap between sustainability awareness and actual actions taken by consumers. A similar study by Fathoni et al., (2025) also noted that despite high awareness of environmental benefits, EV purchase decisions remain dependent on pragmatic aspects such as tax incentives and available infrastructure.

One of the main contributions of this study is the identification of charging anxiety constructs, which have not been explicitly discussed within the framework of the Diffusion of Innovation (DOI) theory. Respondents expressed anxiety about the limitations of charging infrastructure, especially for those who do not have charging facilities at home. These findings are reinforced by Tamakloe et al., (2024) who mention that concerns about the availability of public charging stations are a significant psychological barrier to EV adoption, particularly in developing countries.

Another prominent aspect is uncertainty about the sustainability of government policies, or what is referred to in this study as government policy trust. Some respondents stated that EV incentives and regulations often change, reducing long-term trust in state support. This novelty has not been widely studied in classic DOI literature. Rosa & Mazzotti (2022) found that perceptions of public policy stability strongly determine the adoption of new technologies in emerging markets. Therefore, this study expands the DOI theory by integrating the aspect of trust in policy as an important contextual variable.

Compared to previous research that still focused on the original five dimensions of DOIs: relative advantage, compatibility, complexity, testability, and observable benefits, this study offers a more holistic and contextual framework. For example, (Hakam & Jumayla, 2024)

propose that DOIs be modified according to local contexts, but do not explicitly include charging anxiety or policy trust aspects in their model.

Thus, the novelty of this study lies in the integration of three additional constructs into the DOI: awareness–action gap, charging anxiety, and government policy trust. This new conceptual model not only reflects the social reality of electric vehicle users in Indonesia, but also answers the theoretical limitations of DOIs in explaining the adoption of innovation in countries with unestablished infrastructure. The implications of this study are particularly relevant for policymakers, automotive manufacturers, and infrastructure providers, who need to understand that the success of EV adoption is determined not only by technology, but also by social trust and the sustainability of its support systems.

CONCLUSION

This qualitative study, based on NVivo 14 analysis of in-depth interviews with 15 Indonesian electric car users, revealed key factors influencing EV purchase intention amid developing-country challenges like immature infrastructure and policies. Despite high environmental awareness, economic factors—such as lower operating costs—dominated motivations over ecological benefits, highlighting an Awareness–Action Gap; charging anxiety from limited public infrastructure hindered long-distance use, especially without home charging; and low trust in policy consistency persisted despite fiscal incentives like tax reductions. These findings expanded Rogers' Diffusion of Innovation (DOI) theory by integrating three contextual constructs—Awareness–Action Gap, Charging Anxiety, and Government Policy Trust—yielding a comprehensive empirical model to guide public policy, automotive strategies, and Indonesia's sustainable transportation transition. For future research, quantitative validation of this expanded DOI model via structural equation modeling on a larger national sample could test its generalizability and causal pathways across diverse demographics.

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