



CONSUMER BEHAVIOR AND ITS ROLE IN THE GROWTH OF INDONESIA'S ELECTRIC VEHICLE INDUSTRY

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ABSTRACT

The rapid development of Indonesia's electric vehicle (EV) industry has increased the importance of understanding consumer behavior in the adoption process. This study examines behavioral factors associated with EV adoption in Indonesia through a qualitative thematic analysis of secondary data, including academic literature, policy documents, industry reports, and institutional publications, complemented by expert validation. The analysis identifies five recurring themes: perceived benefits, perceived risks, social influence, brand trust, and incentives. The findings suggest that Indonesian consumers primarily evaluate EVs based on operational efficiency, ownership costs, convenience, and perceived value, while concerns regarding affordability, charging infrastructure, technological reliability, and resale value continue to constrain adoption. By synthesizing evidence from diverse sources, this study provides a context-specific understanding of behavioral considerations relevant to Indonesia's transition toward sustainable mobility.

Keywords: *electric vehicle adoption, consumer behavior, social influence, brand trust, Indonesia*

INTRODUCTION

The global shift toward sustainable production and consumption has intensified pressure on industries with high dependence on non-renewable resources, placing the automotive sector at the center of sustainability discourse. In emerging economies such as Indonesia, this transition reshapes not only technological trajectories but also consumer preferences and industrial structures. Indonesia is the largest automotive producer in Southeast Asia; in 2023, the country exported approximately 571,000 vehicles, underscoring the sector's substantial contribution to national output and economic activity (Mulya, 2024). Given its role as a major contributor to gross domestic product, employment, and technological capability, aligning the automotive industry with sustainability objectives is strategically significant for Indonesia's long-term development.

Road transportation remains a leading source of greenhouse gas emissions and urban air pollution. In 2021, conventional internal-combustion vehicles generated an estimated 161.6 million tonnes of carbon dioxide emissions, exacerbating environmental degradation and public-health risks (British Petroleum, 2021). Electric vehicles (EVs) offer a viable mitigation pathway by substituting fossil-fuel propulsion with battery-electric systems, reducing tailpipe emissions, simplifying vehicle drivetrains, and lowering lifecycle environmental impacts when paired with cleaner electricity generation (US Department of Energy, 2021; Wellbrock et al., 2020). Consequently, EVs have become a central component of policy agendas and corporate strategies worldwide (AT Kearney, 2020).

Indonesia has articulated ambitious national objectives to support this transition. Government targets envision the deployment of two million electric cars and twelve million electric two-wheelers by

2030, reflecting both environmental commitments and industrial ambitions to capture value within the electric mobility ecosystem (Huda et al., 2025). These goals are reinforced through regulatory and fiscal instruments, including Presidential Regulation No. 55/2019, tax incentives, import-duty exemptions, and targeted measures aimed at strengthening domestic production, battery value-chain development, and charging infrastructure (McCulloch & Surya, 2024; Medina, 2024). Collectively, these policies have established an institutional foundation for accelerating EV adoption and supporting the development of Indonesia's emerging EV industry.

Despite these comprehensive policy efforts, EV adoption remains uneven, suggesting that supportive regulations and infrastructure expansion alone may not be sufficient to ensure widespread market acceptance. Existing studies on EV adoption frequently identify factors such as charging infrastructure availability, purchase costs, government incentives, and technological readiness as important determinants of adoption decisions. While these structural factors are undoubtedly important, they do not fully explain why consumers respond differently to similar policy and market conditions. Consumer decisions regarding EV adoption are also influenced by perceptions of value, trust, risk, social expectations, and individual interpretations of emerging technologies (Gohoungodji et al., 2020).

Previous research has examined a wide range of behavioral determinants associated with EV adoption, including environmental concern, perceived economic benefits, social influence, and consumer attitudes (Bryła et al., 2022; Chaturvedi et al., 2022). However, the evidence relating to Indonesia remains dispersed across academic studies, industry reports, policy documents, and institutional publications.

As a result, existing knowledge provides valuable insights into individual determinants but offers limited synthesis regarding the behavioral factors that most consistently emerge within the Indonesian context. Moreover, discussions surrounding Indonesia's EV transition often emphasize policy measures and industrial development while giving comparatively less attention to how consumer-related factors are collectively reported across different sources of evidence.

This study addresses this gap by synthesizing evidence from academic literature, policy documents, industry reports, and institutional publications to examine the consumer behavior factors associated with EV adoption in Indonesia. Rather than testing causal relationships, the study seeks to identify recurring behavioral themes that are consistently reported across existing sources. Particular attention is given to perceived benefits, perceived risks, social influence, brand trust, and adoption intentions, as these dimensions frequently appear in discussions of EV acceptance and market development.

The study contributes to the literature in two ways. First, it provides an integrated synthesis of existing evidence concerning consumer behavior and EV adoption within the Indonesian context. Second, it offers a behaviorally oriented perspective that complements prevailing discussions focused primarily on infrastructure readiness, pricing mechanisms, and policy incentives. By consolidating insights from diverse sources of evidence, the study aims to support policymakers, industry practitioners, and researchers in developing a more comprehensive understanding of the behavioral considerations relevant to Indonesia's transition toward sustainable mobility.

LITERATURE REVIEW

Consumer Behavior and EV Adoption

Consumer behavior plays a crucial role in the adoption of emerging technologies, including electric vehicles (EVs). Unlike conventional vehicles, EVs require consumers to evaluate a relatively new technology associated with uncertainties regarding charging infrastructure, battery performance, maintenance requirements, and long-term economic benefits. Consequently, adoption decisions are shaped not only by economic considerations but also by perceptions, attitudes, social influences, and trust.

Several theoretical perspectives have been used to explain EV adoption behavior. The Theory of Planned Behavior (TPB) argues that behavioral intentions are influenced by attitudes, subjective norms, and perceived behavioral control (Ajzen, 1991). Similarly, the Technology Acceptance Model (TAM) highlights perceived usefulness and perceived ease of use as determinants of technology acceptance (Davis, 1989). The Unified Theory of Acceptance and Use of Technology (UTAUT) further emphasizes social influence and facilitating conditions in shaping adoption behavior (Venkatesh et al., 2003). In addition, Diffusion of Innovation Theory explains how perceptions of relative advantage, compatibility, complexity, trialability, and observability affect the diffusion of technological innovations (Rogers, 2003). Collectively, these theories suggest that EV adoption is influenced by both external conditions and behavioral considerations.

Structural Determinants of EV Adoption

A substantial body of literature argues that EV adoption is primarily influenced by structural and institutional factors. These studies suggest that even when consumers demonstrate positive attitudes toward sustainability, adoption remains

constrained by practical barriers such as infrastructure availability, vehicle affordability, and policy support.

(Bhattacharyya & Thakre, 2020) found that charging infrastructure limitations, high purchase costs, and insufficient government incentives remain major barriers to EV adoption. Similarly, (Saputra et al., 2024) reported that government incentives and consumer knowledge significantly influence adoption intentions by reducing uncertainty and perceived risks associated with EV ownership.

Supporting these findings, (Hardman et al., 2017) identified charging accessibility as one of the most important factors influencing EV adoption decisions. (Kumar & Alok, 2020) similarly concluded that infrastructure readiness and financial incentives significantly affect consumer willingness to transition toward electric mobility. (Noel et al., 2019) further emphasized the importance of policy interventions in reducing market uncertainty and encouraging consumer experimentation with EV technologies. Likewise, (Sovacool et al., 2018) argued that supportive institutional environments remain critical for accelerating low-carbon transportation transitions.

These studies collectively suggest that infrastructure, affordability, and policy support create the enabling conditions necessary for EV adoption. However, structural conditions alone cannot fully explain variations in adoption behavior across consumers and markets.

Behavioral Determinants of EV Adoption

In contrast, another stream of literature argues that consumer-related factors are equally important in shaping EV adoption decisions. This perspective suggests that consumers interpret and respond differently to similar market conditions based on their

attitudes, values, motivations, and perceptions.

(Bryła et al., 2022) identified environmental concern, social norms, and perceived economic benefits as important determinants of EV adoption. Similarly, (Chaturvedi et al., 2022) found that normative motivations, financial benefits, and prestige-related considerations significantly influence consumers' intentions to purchase EVs.

Other studies further highlight the role of social and psychological factors. (Gohoungodji et al., 2020) found that social influence significantly affects consumers' willingness to adopt EVs, particularly when direct experience with the technology is limited. (Higueras-Castillo et al., 2021) similarly reported that environmental awareness and positive attitudes toward sustainable mobility contribute positively to adoption intentions. (Nguyen et al., 2021) demonstrated that perceived usefulness and environmental concern remain important predictors of EV acceptance.

Trust has also emerged as a recurring factor within recent EV adoption studies. (Wang et al., 2021) found that trust in EV manufacturers reduces perceived technological risks and increases adoption intentions. Similarly, (Li et al., 2023) reported that brand credibility and consumer trust positively influence EV purchase decisions. (Jabeen et al., 2021) further argued that trust serves as an important mechanism through which consumers manage uncertainty associated with emerging technologies.

Taken together, these findings indicate that EV adoption is influenced not only by market conditions but also by how consumers perceive, evaluate, and interpret the benefits and risks associated with EV ownership.

Research Gap and Study Contribution

Although previous studies have identified numerous determinants of EV adoption, several important gaps remain.

First, the literature remains fragmented between studies emphasizing structural determinants and those focusing on behavioral determinants. While infrastructure readiness, affordability, and government incentives are frequently identified as important drivers of adoption (Bhattacharyya & Thakre, 2020; Saputra et al., 2024; Hardman et al., 2017), other studies emphasize environmental concern, social influence, trust, and consumer motivations (Bryła et al., 2022; Chaturvedi et al., 2022; Gohoungodji et al., 2020). As a result, limited attention has been given to understanding how these factors collectively shape EV adoption within a broader behavioral context.

Second, most previous studies employ established frameworks such as TPB, TAM, UTAUT, and Diffusion of Innovation Theory to test specific causal relationships between predefined variables. While these approaches provide valuable empirical evidence, they offer limited synthesis regarding recurring behavioral themes across different sources of evidence.

Third, much of the existing literature relies on surveys and quantitative methods conducted within specific national settings. Consequently, there remains limited evidence synthesizing consumer-related factors across academic literature, policy documents, industry reports, and expert perspectives within Indonesia's rapidly evolving EV ecosystem.

Therefore, this study contributes to the literature by synthesizing multiple sources of evidence to identify recurring behavioral themes associated with EV adoption in Indonesia. Rather than testing a single theoretical model, the study aims to provide

a broader understanding of how consumer behavior is discussed and interpreted within Indonesia's ongoing electric mobility transition.

Unlike previous studies that primarily examine isolated determinants of EV adoption using cross-sectional survey data and structural equation modeling (Gunawan et al., 2022; Astuti & Susanto, 2024; Lazuardy et al., 2025), this study provides an integrated behavioral synthesis by combining evidence from academic literature, government policies, industry practices, and institutional perspectives to explain consumer behavior within Indonesia's electric vehicle transition. Such an approach offers a broader understanding of the complex interactions among behavioral, regulatory, and market factors that shape EV adoption.

METHODS

1. Research Design and Rationale

This study employed a qualitative document-based research design using thematic analysis to examine consumer behavior factors associated with electric vehicle (EV) adoption in Indonesia. The study was designed as an evidence-synthesis inquiry rather than an empirical investigation intended to test causal relationships among variables. This approach aligns with the research objective of identifying recurring behavioral themes reported across multiple sources of evidence within Indonesia's evolving EV ecosystem.

The methodological orientation follows Creswell's qualitative inquiry framework, which emphasizes the systematic interpretation of existing evidence to explain complex social phenomena within their contextual settings (Creswell & Creswell, 2017). In the context of Indonesia's emerging EV market, consumer decision-making is influenced by

symbolic meanings, perceived risks, social influence, and trust dynamics that cannot be fully understood through quantitative indicators alone. Accordingly, qualitative analysis enables a more nuanced understanding of how behavioral considerations are represented across existing studies, policy documents, industry reports, and institutional publications.

Consistent with the research gap identified in the literature review, this study does not seek to establish causal determinants of EV adoption. Instead, it synthesizes documented evidence to identify recurring patterns related to perceived benefits, perceived risks, social influence, brand trust, and adoption intentions within the Indonesian context.

2. Data Sources and Selection Criteria

This research employs a desk-research strategy, drawing on secondary data from peer-reviewed academic journals, industry reports, corporate publications, government regulations, policy documents, and relevant institutional publications (Vespestad & Clancy, 2021). The use of multiple source types was intended to capture diverse perspectives regarding consumer behavior, market development, and institutional support mechanisms associated with EV adoption in Indonesia.

In addition to documentary evidence, one semi-structured interview was conducted with an expert directly involved in Indonesia's EV ecosystem. The interview was incorporated as a supplementary source of contextual validation and was not treated as primary empirical evidence. Data sources were selected according to explicit inclusion and exclusion criteria.

Inclusion Criteria

Documents were excluded when they:

1. Were published between 2017 and 2025;

2. Discussed EV adoption, consumer behavior, sustainable mobility, technology acceptance, or related topics;
3. Focused on Indonesia or provided findings applicable to emerging-market EV adoption contexts;
4. Originated from peer-reviewed journals, official government agencies, recognized research institutions, or established industry organizations; and
5. Contained information relevant to consumer perceptions, adoption barriers, motivations, social influence, trust formation, or adoption intentions.

Exclusion Criteria

Documents were excluded when they:

1. Focused exclusively on engineering performance, battery chemistry, or technical vehicle specifications without behavioral relevance;
2. Consisted primarily of promotional content or marketing materials;
3. Duplicated information already represented in other sources; or
4. Lacked sufficient relevance to the study objective.

This purposive selection strategy is consistent with qualitative sampling principles emphasizing informational richness rather than statistical representativeness (Creswell & Creswell, 2017).

Table 1. Types of Data Sources Included in the Analysis

Source Type	Purpose
Peer-reviewed journal articles	Behavioral and theoretical evidence related to EV adoption
Government regulations and	Institutional and regulatory context

policy documents	
Industry and market reports	Market development and adoption trends
Institutional publications	Sustainability and mobility perspectives
Expert interview (n = 1)	Contextual validation of recurring themes

3. Data Collection and Screening Procedure

The data collection process consisted of three stages.

In the first stage, potentially relevant documents were identified through academic databases, institutional repositories, government portals, policy publications, and industry reports. Search terms included “electric vehicle adoption,” “consumer behavior,” “technology acceptance,” “social influence,” “brand trust,” “adoption intention,” and “Indonesia.”

In the second stage, documents were screened according to the predefined inclusion and exclusion criteria. Titles, abstracts, executive summaries, and key findings were reviewed to determine relevance to the study objective.

In the third stage, eligible documents underwent full-text review. Information related to consumer perceptions, motivations, adoption barriers, trust formation, social influence, and adoption intentions was extracted and compiled into a document database to facilitate coding and thematic interpretation.

4. Thematic Analysis Procedure

Data were analyzed using thematic analysis, allowing recurring patterns and behavioral themes related to EV adoption to be identified and synthesized across

multiple sources. The analytical procedure follows the thematic analysis framework proposed by (Braun & Clarke, 2006; adapted for qualitative document analysis by Heriyanto, 2018). The analysis was conducted through four stages.

Stage 1: Familiarization

All selected documents were reviewed repeatedly to develop familiarity with recurring concepts related to EV adoption behavior.

Stage 2: Initial Coding

Relevant text segments were assigned descriptive codes reflecting consumer perceptions, motivations, barriers, trust-related considerations, and social influences. Examples of initial codes included:

- a. environmental concern
- b. operating cost savings
- c. charging anxiety
- d. peer recommendation
- e. social prestige
- f. manufacturer credibility
- g. product reliability
- h. financial incentives.

Stage 3: Category Development

Related codes were grouped into broader conceptual categories through iterative comparison across academic findings, policy narratives, industry reports, and institutional publications.

Stage 4: Theme Generation

Categories were subsequently consolidated into higher-order themes that appeared consistently across multiple sources. Only themes supported by recurring evidence from different source types were retained for interpretation.

Table 2. Example of Coding Structure

Evidence Extract	Initial Code	Category	Theme
Concerns regarding charging accessibility	Charging anxiety	Adoption barriers	Perceived Risks
Positive influence from family and peers	Peer recommendation	Social validation	Social Influence
Confidence in manufacturer reputation	Brand credibility	Trust formation	Brand Trust
Expectations of lower operating costs	Cost savings	Perceived value	Perceived Benefits

This coding process established a transparent analytical pathway linking documentary evidence to the themes discussed in the Results and Discussion sections.

5. Analytical Framework

The analytical framework is anchored in behavioral concepts derived from established consumer-decision and technology-acceptance literature. Previous studies have frequently used the Theory of Planned Behavior (TPB), the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), and Diffusion of Innovation Theory to explain EV adoption behavior (Ajzen, 1991; Davis, 1989; Venkatesh et al., 2003; Rogers, 2003). However, these frameworks are employed

in this study as interpretive lenses rather than as testable models. Based on the coding process, five recurring behavioral themes were examined:

- Perceived Benefits, referring to environmental, technological, and economic advantages associated with EV ownership;
- Perceived Risks, encompassing concerns related to charging infrastructure, purchase costs, range limitations, and technological uncertainty;
- Social Influence, including peer influence, family encouragement, social norms, and media narratives;
- Brand Trust, referring to confidence in manufacturers, product quality, technological capability, and after-sales support; and
- Adoption Intentions, representing expressions of willingness or interest in adopting EV technology.

These themes emerged as recurring patterns across the analyzed sources and provide the analytical structure for interpreting findings throughout the study.

6. Expert Validation Procedure

In addition to documentary evidence, a semi-structured interview was conducted with one expert directly involved in Indonesia's EV ecosystem. The interview was used as a supplementary source for contextual validation rather than as a primary source of evidence.

The purpose of the interview was to assess whether the recurring themes identified through document analysis were consistent with current developments within Indonesia's EV market. Insights obtained from the expert were used to refine interpretations, clarify contextual issues, and strengthen analytical triangulation. The interview was not treated

as a standalone source of findings but served as a supporting mechanism for validating themes emerging from documentary analysis.

7. Trustworthiness and Rigor

Several procedures were employed to enhance the credibility and dependability of the analysis.

- a. Source triangulation was conducted through the use of multiple evidence types, including peer-reviewed journal articles, government publications, policy documents, industry reports, institutional sources, and expert input. This approach reduced dependence on a single source perspective and enabled comparison across different forms of evidence.
- b. Coding was conducted iteratively through multiple rounds of review. Initial codes, categories, and themes were repeatedly revisited and refined as additional documents were analyzed.
- c. Coding decisions, category development, and theme refinement were documented throughout the analytical process, creating an audit trail that enhanced transparency and traceability from source evidence to final interpretations.
- d. Thematic consistency was assessed through constant comparison across documents and source types. Themes were retained only when they appeared recurrently across multiple sources rather than being supported by isolated pieces of evidence.

Because the study was conducted by a single researcher, formal intercoder agreement procedures were not applicable. Instead, analytical rigor was strengthened through iterative coding, audit trail documentation, source triangulation, constant comparison, and expert validation, which are widely recognized approaches

for establishing trustworthiness in qualitative research (Braun & Clarke, 2006; Creswell & Creswell, 2017).

8. Methodological Limitations

Several limitations should be acknowledged. First, the study relies primarily on secondary sources, meaning that the findings reflect themes reported within existing literature and documents rather than directly observed consumer behavior. Second, the inclusion of a single expert interview serves only as a supplementary validation mechanism and cannot be considered representative of broader stakeholder perspectives. Third, the study does not employ surveys, experiments, or statistical analyses capable of testing causal relationships among behavioral factors.

Accordingly, the findings should be interpreted as an exploratory synthesis of recurring themes associated with EV adoption in Indonesia rather than as definitive evidence of consumer behavior determinants. Despite these limitations, the use of systematic document selection, thematic analysis, source triangulation, and expert validation provides a structured and context-sensitive basis for understanding behavioral considerations within Indonesia's transition toward electric mobility.

RESULTS

Perceived Benefits as a Driver of EV Interest

The thematic analysis identified perceived benefits as one of the most consistently reported themes influencing consumer interest in electric vehicles (EVs) in Indonesia. Across the reviewed sources, EVs are frequently associated with economic efficiency, technological innovation, environmental sustainability, and improved mobility experiences.

Growing environmental challenges have contributed to increasing awareness of alternative transportation solutions. Jakarta's PM2.5 concentration has repeatedly exceeded recommended international standards, with road transportation accounting for a substantial share of urban emissions (Bhattacharji, 2025). Such environmental pressures have increased public attention toward cleaner mobility alternatives, while advancements in sustainable technology have gradually shifted consumer expectations toward products that better align with environmental and lifestyle concerns (Kulkarni & Kolli, 2023).

Product innovation also emerged as an important element supporting consumer interest. New EV technologies facilitate consumer learning and increase familiarity with electric mobility, thereby reducing uncertainty associated with adopting unfamiliar technologies (Iqbal & Suzianti, 2021). Features such as extended driving range, fast charging capability, smartphone integration, and over-the-air software updates are increasingly perceived as providing additional value compared to conventional vehicles (AC Ventures, 2023).

Survey findings further support this pattern. Approximately seventy three percent of Indonesian consumers have expressed interest in transitioning to EVs, with environmental friendliness, future investment value, and lower operating costs identified as key motivations (PWC, 2023). Similar observations are reported by (Hasudungan et al., 2024), who found that consumer interest in EVs remains relatively high despite existing market barriers.

The expert interview largely confirmed these findings. According to Mr. Irawan Gozali, consumers are primarily attracted to EVs because of lower operational expenses, driving comfort, and practical ownership benefits. Environmental considerations

remain relevant but generally function as complementary motivations rather than primary purchasing drivers.

Overall, the findings suggest that perceived benefits contribute significantly to consumer interest by increasing the perceived value of EV ownership through economic, technological, and environmental advantages.

Perceived Risks and Adoption Barriers

While perceived benefits encourage consumer interest, the analysis also identified perceived risks as one of the most frequently reported barriers affecting EV adoption. These risks primarily relate to affordability, technological uncertainty, charging accessibility, and long-term ownership concerns.

The reviewed evidence suggests that affordability remains a major challenge within the Indonesian market. Although the Hyundai IONIQ 5 represents an important milestone in Indonesia's EV ecosystem through local production and technological innovation (Hyundai, 2025; Nurhuda, 2023), its price range of IDR 808.2 million to IDR 1.02 billion positions the vehicle beyond the purchasing capacity of many consumers (OTO, 2025). Consequently, the financial barrier associated with EV ownership remains substantial despite growing consumer awareness.

The significance of affordability becomes more evident when viewed within Indonesia's broader socioeconomic context. According to (BPS Statistics Indonesia, 2024), lower- and working-income households constitute approximately sixty six point three percent of the population and account for more than eighty one percent of household expenditure. Under such conditions, the relatively high upfront cost of EV ownership may delay purchase decisions even among consumers who express favorable attitudes toward EV technology.

Beyond financial concerns, technological uncertainty also emerged as a recurring theme. The expert interview revealed that many consumers continue to question battery durability, charging procedures, long-term reliability, and future resale values. These concerns are particularly relevant because vehicle purchases in Indonesia are often evaluated not only in terms of transportation utility but also as long-term financial assets.

The findings therefore indicate that perceived risks continue to shape consumer evaluations of EV ownership, creating a gap between positive attitudes and actual adoption behavior.

Social Influence and Symbolic Value

Another recurring theme identified through the analysis is the influence of social perceptions and symbolic value on consumer attitudes toward EVs. Across the reviewed sources, EV ownership is frequently associated with modern lifestyles, technological sophistication, and environmental responsibility.

In Indonesia, EVs are often perceived as products primarily accessible to higher-income consumers. This perception is reinforced by relatively high vehicle prices and marketing activities concentrated within major urban areas. Consequently, EV ownership may function not only as a transportation choice but also as a symbol of socioeconomic status and technological progress.

The emergence of more affordable EV models has gradually altered this perception. The Wuling Air EV, introduced in 2022, illustrates how manufacturers have attempted to expand market accessibility by offering lower-priced alternatives while maintaining key technological attributes expected by consumers (Massie et al., 2022). With prices ranging between IDR 184 million and IDR 252 million, the model occupies a position closer to the

conventional vehicle market and broadens the potential consumer base (Rasyid et al., 2023; Wuling, 2025).

Social influence is further reinforced through marketing communication strategies. Campaigns such as “Drive for a Green Life” and the #ThisIsMyEVWay initiative promote sustainability-oriented lifestyles while encouraging consumers to identify with broader social communities associated with EV ownership (Wuling, 2023).

Although social status was not explicitly discussed during the interview, Mr. Irawan noted that consumer awareness and market perception increasingly influence purchasing decisions. This observation supports the notion that social influence extends beyond direct interpersonal interactions and operates through broader societal narratives surrounding EV ownership.

Brand Trust and Market Confidence

Brand trust emerged as another important theme influencing consumer evaluations of EVs. Because EV technology remains relatively new within Indonesia, consumers frequently rely on manufacturer credibility and institutional support when assessing the reliability of electric mobility solutions.

The analysis suggests that market confidence is strengthened through visible investments in dealership networks, after-sales services, and consumer education. Hyundai currently operates approximately 111 authorized EV dealerships across Indonesia, while Wuling maintains more than 150 outlets nationwide (Andini, 2024). These facilities provide opportunities for consumers to gain direct exposure to EV technology through product demonstrations, test drives, technical consultations, and maintenance services.

Previous studies indicate that such support mechanisms contribute to trust

formation by reducing uncertainty associated with unfamiliar technologies (Fathoni et al., 2025). Consumers are generally more willing to consider EV adoption when they perceive manufacturers as capable of providing reliable products and long-term support.

The expert interview further supports this interpretation. According to Mr. Irawan, consumer concerns regarding technological reliability remain widespread, particularly among first-time EV buyers. As a result, manufacturers increasingly focus on strengthening customer support, improving communication regarding EV technology, and expanding product portfolios that address different consumer needs.

Taken together, these findings suggest that brand trust functions as an important mechanism through which consumers reduce perceived uncertainty and develop confidence toward EV ownership.

Incentives as Behavioral Triggers

The final theme identified through the analysis concerns the role of incentives in shaping consumer evaluations of EV adoption. Government policies and industry initiatives consistently appear as important contextual factors influencing consumer willingness to consider EV ownership.

Indonesia has introduced various incentives designed to improve EV affordability and attractiveness, including reductions in value-added tax, exemptions from luxury goods sales tax (PPnBM), reduced registration fees, and specialized financing programs (INVI, 2024). These measures reduce some of the financial barriers associated with EV purchases and increase market accessibility.

The interview findings provide additional support for this theme. According to Mr. Irawan, incentives become particularly influential when they

generate practical benefits that directly affect everyday mobility. He highlighted Jakarta's exemption from the odd-even traffic restriction policy as an example of a regulatory privilege that significantly increases consumer interest in EVs.

These observations suggest that incentives operate not only as financial support mechanisms but also as behavioral triggers that increase the perceived practicality and convenience of EV ownership. Consequently, incentives contribute to creating more favorable conditions for consumers to evaluate EVs as realistic alternatives to conventional vehicles.

Synthesis of Findings

The thematic analysis identified five recurring themes associated with EV adoption in Indonesia: perceived benefits, perceived risks, social influence, brand trust, and incentives. Evidence obtained from academic studies, industry reports, policy documents, and institutional publications was largely consistent with insights obtained through the expert interview.

Table 3. Summary of Thematic Findings

Theme	Key Findings from Secondary Sources	Expert Validation
Perceived Benefits	Economic efficiency, environmental benefits, technological value, improved mobility experiences	Confirmed
Perceived Risks	Affordability concerns, technological uncertainty,	Confirmed

	charging concerns, resale value uncertainty	
Social Influence and Symbolic Value	Social identity, status perception, sustainability-oriented lifestyles	Partially confirmed
Brand Trust and Market Confidence	Manufacturer credibility, dealership networks, after-sales support	Confirmed
Incentives as Behavioral Triggers	Tax incentives, financing support, regulatory privileges	Strongly confirmed

Overall, the findings indicate that EV adoption in Indonesia is influenced by a combination of perceived benefits and perceived risks, while social influence, brand trust, and incentives shape how consumers evaluate the attractiveness and practicality of EV ownership. The consistency between secondary evidence and expert insights strengthens the credibility of these themes and provides a foundation for further discussion of consumer behavior within Indonesia's evolving EV market.

DISCUSSIONS AND CONCLUSIONS

Interpreting Perceived Benefits in Indonesia's EV Market

The findings indicate that perceived benefits constitute one of the most prominent themes influencing consumer evaluations of electric vehicles in

Indonesia. Across both secondary evidence and expert validation, consumers frequently associate EV ownership with operational cost savings, technological advancement, driving comfort, and environmental sustainability. This finding is consistent with the Technology Acceptance Model (TAM), which argues that individuals are more likely to accept a technology when they perceive it as useful and capable of improving performance or generating tangible benefits.

Within the Indonesian context, environmental concerns may provide an initial motivation for considering EV adoption, particularly as urban air quality continues to deteriorate. Previous evidence suggests that approximately forty percent of Indonesian consumers actively seek environmentally friendly products, indicating growing awareness of sustainability issues (McKinsey & Company, 2022). However, the findings of this study suggest that environmental concern alone may not be sufficient to explain adoption interest. Instead, consumers appear to place greater emphasis on practical benefits such as fuel savings, lower operating costs, and improved driving experiences. This interpretation is supported by the interview findings, which indicate that consumers often evaluate EV purchases through a cost-benefit perspective rather than purely environmental considerations.

This finding extends previous research by suggesting that perceived usefulness in the Indonesian EV market is primarily grounded in economic and functional considerations rather than ideological commitment to sustainability. Consequently, communication strategies emphasizing long-term ownership benefits may be more effective than campaigns focused exclusively on environmental messaging.

Interpreting Perceived Risks and Adoption Barriers

Although consumers increasingly recognize the advantages of EV ownership, the findings also indicate that perceived risks continue to influence adoption evaluations. Concerns regarding affordability, charging accessibility, technological reliability, battery durability, and resale value emerged consistently across both secondary evidence and expert insights.

From a theoretical perspective, these concerns are consistent with TAM and innovation adoption literature, which suggest that technology adoption often depends not only on expected benefits but also on perceptions regarding complexity and uncertainty. Consumers may delay adoption when the potential risks associated with a new technology are perceived to outweigh its anticipated advantages.

Several studies have similarly reported that unfamiliarity with EV technology contributes to adoption hesitation, particularly among consumers with limited prior exposure to electric mobility solutions (Messias et al., 2025). Concerns regarding charging accessibility remain particularly relevant because charging infrastructure is still developing across Indonesia, despite ongoing expansion efforts (PT PLN, 2024). Previous research has also identified range anxiety and infrastructure limitations as important barriers affecting EV adoption decisions (Maghfiroh et al., 2021).

The findings therefore suggest that adoption barriers should not be understood solely as technological constraints. Rather, they represent subjective consumer interpretations of uncertainty. Even when infrastructure improvements occur, adoption may remain limited if consumers continue to perceive ownership risks as high. This observation helps explain why

policy support alone does not automatically translate into widespread market adoption.

Social Influence and Symbolic Value in EV Adoption

The findings further demonstrate that EV adoption in Indonesia is influenced by social considerations extending beyond individual utility calculations. Social influence emerged as a recurring theme, suggesting that consumer evaluations are partly shaped through interactions with peers, family members, online communities, and broader societal narratives regarding sustainability and technological progress.

This observation aligns with the Theory of Planned Behavior (TPB), particularly the concept of subjective norms. According to TPB, individuals are more likely to engage in a behavior when they perceive that significant others approve of or support that behavior. The findings indicate that EV ownership increasingly functions as a socially visible behavior associated with environmental responsibility, innovation, and modern lifestyles.

Previous studies have similarly found that EV ownership may serve as social proof, reinforcing perceptions of progressiveness and environmental commitment (Salsabila & Salehudin, 2023). This dynamic contributes to a bandwagon effect whereby adoption becomes influenced by collective behavior and social visibility rather than solely by individual evaluations (Wang et al., 2022; Bohnsack et al., 2020).

Social influence is further amplified through digital platforms. Indonesian consumers frequently rely on peer-generated content and social media discussions when evaluating products and technologies (Hartati et al., 2025). Compared with traditional advertising, user-generated content is often perceived as more authentic and trustworthy because it

reflects actual ownership experiences rather than promotional claims (Qiu & Zhang, 2024). This tendency may be reinforced by Indonesia's relatively high societal trust levels, reflected in the country's score of 75 on the Edelman Trust Index (Edelman, 2023).

These findings suggest that social influence operates not only through direct interpersonal interactions but also through broader digital and societal environments that shape consumer perceptions regarding EV ownership.

Brand Trust as a Mechanism for Reducing Uncertainty

Another important finding concerns the role of brand trust in reducing consumer uncertainty toward EV technology. Because electric vehicles remain relatively new within Indonesia's automotive market, many consumers possess limited direct experience regarding battery performance, maintenance requirements, and long-term ownership outcomes.

Under conditions of uncertainty, consumers often rely on trust-based evaluations when making purchasing decisions. The findings suggest that dealership networks, after-sales services, product reliability, and manufacturer reputation contribute significantly to consumer confidence. This interpretation is consistent with previous research indicating that trust becomes increasingly important when consumers face information asymmetry and technological complexity (Fathoni et al., 2025).

Consumer-generated reviews appear to play an important role within this process. Previous studies suggest that authentic ownership experiences help reduce uncertainty by providing practical information unavailable through conventional marketing channels (Zhang et al., 2023). Positive ownership experiences may subsequently strengthen brand image,

improve consumer confidence, and increase loyalty toward manufacturers (Naini et al., 2022).

The findings therefore suggest that trust functions as an interpretive mechanism through which consumers evaluate the credibility of EV technology. Rather than relying solely on technical specifications, consumers frequently assess whether manufacturers can provide reliable support throughout the ownership experience.

Incentives as Facilitating Conditions Rather than Direct Determinants

The final theme concerns the role of incentives in shaping consumer evaluations of EV adoption. Government support measures such as tax reductions, financing assistance, and regulatory privileges have been introduced to improve the attractiveness of EV ownership.

The findings suggest that incentives should not be interpreted as direct determinants of adoption. Instead, they appear to function as facilitating conditions that reduce barriers and increase perceived practicality. This interpretation is consistent with the Unified Theory of Acceptance and Use of Technology (UTAUT), which emphasizes the importance of facilitating conditions in supporting technology adoption.

Interview evidence indicates that incentives become particularly influential when they provide immediate and observable benefits. For example, exemptions from Jakarta's odd-even traffic restriction policy increase the convenience associated with EV ownership and therefore contribute to more favorable consumer evaluations.

At the same time, infrastructure development remains an important supporting factor. Government initiatives to expand charging infrastructure are expected to reduce perceived usage risks and improve confidence toward EV

ownership (Petromindo, 2025). PLN also continues to expand public charging facilities throughout Indonesia (PT PLN, 2024). These developments suggest that incentives operate most effectively when accompanied by visible improvements in the broader EV ecosystem.

Implications for Indonesia's EV Industry and Contribution to Literature

The findings provide several implications for policymakers and industry practitioners. First, efforts to accelerate EV adoption should not focus exclusively on financial incentives or infrastructure provision. While such interventions remain important, consumer evaluations of benefits, risks, trust, and social acceptance also influence how these initiatives are received.

Second, the findings suggest that practical ownership benefits may be more influential than environmental messaging alone. This observation is particularly relevant for manufacturers seeking to increase market penetration within price-sensitive consumer segments.

Third, the findings highlight the importance of trust-building initiatives, including consumer education programs, after-sales support, and transparent communication regarding battery performance and ownership costs.

From an industry perspective, these behavioral dynamics may help explain recent market growth. Indonesia's EV penetration increased from approximately nine percent in 2023 to fifteen percent in 2024, with projections suggesting continued expansion in the coming years (PWC, 2025). EV sales also increased substantially between 2023 and 2024, reflecting growing market acceptance (Business Indonesia, 2025). As positive ownership experiences become more visible through consumer networks and digital platforms, EV adoption may become

increasingly normalized within Indonesian society.

Finally, this study contributes to the EV adoption literature by synthesizing behavioral themes reported across academic literature, policy documents, institutional publications, and industry evidence within the Indonesian context. Unlike studies that focus on testing individual determinants, this research provides an integrated interpretation of how perceived benefits, perceived risks, social influence, brand trust, and incentives collectively shape consumer evaluations of EV adoption. Furthermore, the inclusion of expert validation strengthens the contextual relevance of the findings and provides additional insight into how these behavioral mechanisms are reflected within Indonesia's evolving EV market (Nagle et al., 2023).

CONCLUSION

This study examined the role of consumer behavior in Indonesia's emerging electric vehicle (EV) market through a qualitative analysis of academic literature, policy documents, industry reports, institutional publications, and expert validation. The objective was not to establish causal relationships between behavioral factors and EV adoption, but rather to identify and synthesize recurring themes that consistently appear across existing evidence regarding consumer responses toward electric mobility in Indonesia.

The findings indicate that consumer evaluations of EVs are influenced by a combination of perceived benefits, perceived risks, social influence, brand trust, and supportive incentives. Among these themes, practical considerations appear particularly prominent. Consumers frequently associate EV ownership with lower operating costs, technological

innovation, and driving convenience. At the same time, concerns regarding affordability, charging accessibility, battery durability, and resale value continue to shape perceptions of risk and contribute to adoption hesitation. These findings suggest that EV adoption cannot be understood solely through the availability of technology or policy support but must also consider how consumers interpret the advantages and uncertainties associated with EV ownership.

The study also highlights the importance of social and institutional contexts in shaping consumer evaluations. Social influence, including peer experiences, family networks, and digital communities, appears to contribute to the normalization of EV ownership and the diffusion of information regarding electric mobility. Similarly, brand trust emerges as an important consideration in a market where many consumers still possess limited direct experience with EV technology. Confidence in manufacturers, dealership networks, and after-sales services appears to help reduce uncertainty and strengthen consumer willingness to consider EV adoption.

In addition, the findings suggest that government incentives function primarily as facilitating conditions that improve the perceived practicality of EV ownership rather than acting as independent determinants of adoption. Financial incentives, regulatory privileges, and infrastructure development may encourage consumer interest by reducing barriers and increasing confidence in the broader EV ecosystem. However, their effectiveness appears to depend on how these interventions are interpreted by consumers within their everyday decision-making processes.

The expert interview conducted as part of this study broadly supports the patterns identified through secondary-source

analysis. The interview confirms that Indonesian consumers often evaluate EVs through practical considerations such as operational efficiency, ownership costs, convenience, and perceived value. It also reinforces the importance of addressing consumer uncertainty regarding technology performance and long-term ownership outcomes. While the interview provides useful contextual validation, the findings should be interpreted as complementary insights rather than definitive evidence of consumer behavior across the entire Indonesian market.

This study contributes to the EV adoption literature by providing an integrated synthesis of behavioral themes reported across diverse sources of evidence within the Indonesian context. Rather than focusing on a single determinant or testing a specific adoption model, the study offers a broader understanding of how multiple behavioral considerations are collectively represented in discussions of Indonesia's EV transition. These insights may assist policymakers, industry practitioners, and researchers in developing more consumer-oriented approaches to supporting sustainable mobility.

Overall, the findings suggest that the future growth of Indonesia's EV industry will depend not only on technological advancement and policy intervention but also on how consumers perceive, evaluate, and respond to the opportunities and uncertainties associated with electric mobility.

LIMITATIONS

Several limitations should be considered when interpreting the findings of this study. First, the analysis is primarily based on secondary sources, including academic literature, policy documents, industry reports, and institutional publications. While this approach enables the integration

of diverse perspectives and provides a comprehensive overview of EV adoption within the Indonesian context, it also limits the ability to directly capture consumer perceptions, attitudes, and decision-making processes. Accordingly, the findings should be understood as an interpretive synthesis of existing evidence rather than as direct empirical observations of consumer behavior.

Second, although expert validation was incorporated to enhance the credibility of the thematic interpretation, the study draws upon insights from a single industry expert. The interview was intended to provide contextual verification of the themes identified through secondary-source analysis rather than to generate representative primary evidence. As such, the perspectives obtained may not fully reflect the diversity of views held by other stakeholders within Indonesia's EV ecosystem, including consumers, policymakers, manufacturers, and infrastructure providers.

Third, the exploratory qualitative design adopted in this research does not permit the examination of causal relationships among the identified behavioral themes. While perceived benefits, perceived risks, social influence, brand trust, and incentives consistently emerged across the analyzed sources, the study does not assess the relative magnitude, direction, or statistical significance of these factors in shaping EV adoption decisions. Consequently, the findings should be interpreted as indicative patterns rather than definitive explanations of consumer behavior.

Finally, the Indonesian EV market is undergoing rapid transformation driven by technological advancements, regulatory developments, and infrastructure expansion. Given the dynamic nature of this environment, consumer perceptions and market conditions may evolve over time. Future research may build upon the

present study by employing surveys, in-depth interviews, focus groups, or mixed-method approaches to generate more nuanced empirical insights into the behavioral mechanisms influencing EV adoption across different demographic and regional contexts in Indonesia.

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