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A Study on The Influence of Country of Origin and Perceived Quality on The Purchase Intention For Pre-Owned Electric Vehicles of Chinese Brands in Jabodetabek

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ABSTRACT

This study explores the factors influencing the purchase intention of used electric vehicles (EVs) from Chinese brands in the Greater Jakarta area. The research focuses on the roles of Country of Origin (COO) and perceived quality in shaping consumer behavior. As the global transition toward sustainable transportation accelerates, electric vehicles have gained prominence; however, the used EV market—particularly for Chinese brands—remains underdeveloped in Indonesia. A quantitative approach using Structural Equation Modeling (SEM) was employed to analyze data collected from 150 respondents in the Greater Jakarta area. The findings indicate that COO significantly influences consumers' perceptions of product quality and, consequently, their purchase intentions. Perceived quality serves as a critical mediating variable between COO and purchase intention. The study further reveals that perceived risk negatively affects purchase decisions, reflecting consumer concerns regarding product reliability and after-sales service. These findings enhance the understanding of consumer behavior in Indonesia's emerging used EV market and offer practical implications for automotive businesses and policymakers. Specifically, the results suggest the need for strategies that strengthen brand credibility, improve perceived quality, and build consumer trust to encourage the adoption of electric vehicles, particularly within the secondary market.

KEYWORDS country of origin, perceived quality, purchase intention, used electric vehicles, greater jakarta

INTRODUCTION

The global acceleration toward sustainable transportation has positioned electric vehicles (EVs) as a pivotal solution to environmental degradation and fossil fuel dependence (Havale et al., 2025; Ramanath, 2024). China, as the world's largest EV manufacturer and market, continues to expand its technological reach by developing and exporting EV innovations to various regions, including Southeast Asia (Zhao et al., 2024). As the production of new EVs surges, a secondary market for pre-owned electric vehicles is emerging, particularly in developing countries like Indonesia, where the high initial cost of new EVs remains a major barrier to adoption (Chinen & Matsumoto, 2021). This trend is further amplified by rising new car prices, inflationary pressures, and high credit interest rates, which have prompted consumers to consider used vehicles as more affordable alternatives (CNBC Indonesia, 2025).

In Indonesia—especially in the Greater Jakarta metropolitan area, which serves as the nation's economic and mobility hub—awareness of environmentally friendly transportation is increasing (Hasibuan & Mulyani, 2022; Pamungkas et al., 2025). The Government of Indonesia, through Presidential Regulation No. 55 of 2019 on the Acceleration of the Battery-Based Electric Motor Vehicle Program, has promoted the growth of the national EV ecosystem (Ariyani et al., 2023). Moreover, the Ministry of Transportation and the Ministry of Industry

aim to achieve at least two million electric vehicles on the road by 2030 to support carbon emission reduction efforts. However, most government incentives currently target new vehicles, leaving the potential of the used EV market largely untapped (Ferraro & Garofalo, 2025). This situation contrasts with trends in developed countries such as Canada, where the used EV market is expanding rapidly and projected to grow by 100% compared to 2022 (Mashrur & Mohamed, 2025). Consumers from productive age groups—typically well-educated, middle-to-upper income, and with access to private parking—tend to be more open to purchasing used EVs. These findings indicate that beyond price considerations, psychological factors such as willingness to adopt EVs, confidence in EV technology, and access to charging infrastructure play crucial roles in shaping purchase decisions (Kant et al., 2024).

In Indonesia, particularly within the Greater Jakarta area, the used EV market remains in its early stages. Although the market share is relatively small—approximately 0.5% of the total used car market (Katadata, 2025)—emerging trends reveal growing interest among consumers in secondhand EVs as cost-effective alternatives to new models. This interest is driven by several economic factors, including rising prices of new cars, inflationary pressures, and high loan interest rates, which encourage consumers to postpone new car purchases and instead consider used vehicles, including EVs (CNBC Indonesia, 2025).

To further promote EV adoption, the DKI Jakarta Provincial Government, in collaboration with BUMD PT Jakarta Propertindo (Jakpro) and private partner Pico Indonesia, has initiated the EV Indonesia Center project at Pluit Junction Mall, North Jakarta (Autoindo.id, 2025). The facility is envisioned as Asia's first integrated electric vehicle ecosystem hub—featuring new and used EV showrooms, charging stations, after-sales service centers, as well as education and user experience facilities (Industry.co.id, 2025).

Within this context, used electric vehicles from China present a promising and more affordable alternative. However, psychological and perceptual barriers toward Chinese products remain major obstacles to purchase intention. One of the external factors often shaping consumer evaluation of foreign products is Country of Origin (COO)—the nation associated with the product's production (Passagem et al., 2020). COO can influence perceptions of technology, quality, and reliability, particularly for complex products such as electric vehicles (Ghasri et al., 2019). Although China has made significant progress in EV innovation, its long-standing image as a manufacturer of low-cost goods continues to generate skepticism among Indonesian consumers (Chinen & Matsumoto, 2021).

In addition to Country of Origin, perceived quality is a critical determinant of purchase intention, especially for used products (Ardisa et al., 2022). Perceived quality reflects a consumer's subjective evaluation of the product's excellence or reliability, influenced by intrinsic factors (e.g., battery life, design, technology) and extrinsic factors (e.g., brand reputation, quality assurance). In the context of used electric vehicles, perceived quality plays a key role in mitigating uncertainty and perceived risk regarding product performance (Yang et al., 2025; Liao et al., 2022).

Previous studies have examined the effects of Country of Origin and perceived quality on purchase intention, particularly in the context of emerging technological products such as smartphones or autonomous vehicles (Kenesei et al., 2022; Suhud et al., 2022). However, research on used electric vehicles—especially those from Chinese brands—remains limited, particularly among consumers in developing markets like Indonesia. Considering the rising

importance of EVs in sustainable development and carbon reduction strategies, investigating factors influencing consumer purchase intentions has become increasingly relevant.

Therefore, this study aims to analyze the influence of Country of Origin and perceived quality on the purchase intention of used electric vehicles from Chinese brands in the Greater Jakarta area. It also examines the mediating role of perceived quality in the relationship between COO and purchase intention. The findings are expected to provide valuable insights for automotive industry stakeholders, policymakers, and EV entrepreneurs in designing effective communication and marketing strategies to encourage greater adoption of used electric vehicles in Indonesia.

Problem Statement

The global growth of electric vehicles (EVs) has created new opportunities for developing countries to transition toward environmentally friendly transportation. However, high prices and limited incentives remain major barriers for consumers in markets such as Indonesia, particularly in the Greater Jakarta area. In this context, used electric vehicles from China have emerged as a more affordable and accessible alternative for the urban middle class. Despite this potential, adoption remains low, and consumer purchase intentions toward used EVs have yet to develop positively.

Various studies indicate that Country of Origin (COO) is a key factor influencing consumer perceptions and purchasing decisions, especially when it comes to high-tech products (Passagem et al., 2020; Chinen & Matsumoto, 2021). Although China has made significant progress in the field of electric vehicle technology, its long-standing image as a producer of low-cost, lower-quality goods persists among some Indonesian consumers.

Conversely, perceived quality serves as a crucial determinant in building consumer trust and reducing perceived risk—factors that are especially relevant when purchasing used products like electric vehicles (Liao et al., 2022; Yang et al., 2025). However, there is limited research examining how the interplay between Country of Origin and perceived quality shapes purchase intention in the context of used EVs, particularly those originating from China and marketed in Indonesia.

Moreover, most of the Indonesian government's current incentives remain focused on promoting new electric vehicle purchases, while the secondary EV market has not yet received sufficient regulatory support, financing incentives, or public awareness campaigns. The absence of a comprehensive understanding of the psychological and perceptual factors influencing used EV purchases may hinder this market's development. Therefore, the central issue explored in this study is how Country of Origin and perceived quality influence the purchase intention of used Chinese-brand electric vehicles in Greater Jakarta, particularly against the backdrop of brand perception and product quality challenges.

The urgency of this research is underscored by several converging factors. First, Indonesia's ambitious EV adoption targets cannot be achieved through new vehicle sales alone; a robust secondary market is essential to improve accessibility and affordability for a broader consumer base. Second, without an adequate understanding of perceptual barriers, marketing strategies may fail to address the core concerns of potential buyers. Third, as Chinese EV brands continue to expand into the Indonesian market, understanding how their country-of-origin image influences perceived quality and purchase decisions is vital for brand

competitiveness and sustainable market growth. Consequently, this research is both timely and necessary to provide evidence-based insights for policymakers and industry stakeholders.

The novelty of this study lies in its specific focus on the used EV market for Chinese brands in the Jabodetabek region—an underexplored yet rapidly developing segment. It extends prior theoretical frameworks by examining a comprehensive model that simultaneously assesses the direct and indirect effects of Country of Origin and brand image on purchase intention, with perceived quality and perceived risk serving as key mediating variables. In contrast to previous studies that analyzed these constructs in isolation, this research integrates them into a unified analytical model, offering a holistic understanding of consumer decision-making within this context. It contributes to the existing literature by providing empirical evidence from a developing country perspective, enriching the predominantly Western-centered discourse on EV adoption.

The primary objective of this research is to analyze the influence of Country of Origin and perceived quality on the purchase intention for used Chinese-brand electric vehicles in the Jabodetabek area. It also aims to examine the mediating roles of perceived quality and perceived risk in these relationships. The contributions of this study are twofold: theoretically, it enhances understanding of consumer behavior in the emerging used EV market; and practically, it provides actionable insights for automotive manufacturers, marketers, and policymakers. Ultimately, this research seeks to produce empirical evidence that can inform communication strategies, product positioning, and policy interventions to accelerate used EV adoption in Indonesia, thereby supporting the nation's sustainable transportation and carbon reduction goals.

METHOD

This study uses an associative descriptive research design because it aims to test the cause-effect relationship between the variables Country of Origin, Perceived Quality, Perceived Risk, Brand Image, and Purchase Intention. This design is in accordance with the synthesis and hypothesis models that have been developed in previous literature reviews (Hien et al., 2020; Li & Setiowati, 2023). This study uses a quantitative approach, because all variables are measured through a structured questionnaire and statistically analyzed.

The unit of analysis is individual consumers in Greater Jakarta who have an interest in or have considered buying used electric vehicles of Chinese brands, such as Wuling Air EV, BYD. The study was cross-sectional, where data was collected only once. Data collection is carried out in an online field setting, which reflects the real conditions of consumer decision-making in the daily environment.

Sampling Methods and Procedures

The target population of the study is consumers domiciled in Greater Jakarta who have knowledge or interest in electric vehicles, especially brands from China. Jabodetabek was chosen because the electric vehicle ecosystem in this region is relatively the most mature in Indonesia, reflected in the 5,695 Home Charging Services customers at PLN UID Jakarta Raya as of October 2024 and the availability of extensive charging infrastructure, namely 1,582 Public Electric Vehicle Charging Stations (SPKLU), 2,182 Public Electric Vehicle Battery Exchange Stations (SPBKLU), 9,956 Public Electric Charging Stations (SPLU), and 14,524 Home Charging. On the other hand, the increase in distribution that is quite evenly distributed

around the West Java region there are 394 chargers in 248 locations (IDN Times West Java, 2025) and the Banten area there are 163 chargers in 91 points (Liputan6, 2025) also supports the ecological validity of this study.

The sampling method used is non-probability purposive sampling because there is no specific population list available and the study requires respondents according to the study objectives.

Respondents were selected with special criteria, namely:

(1) living in Greater Jakarta,

(2) know the Chinese brand electric vehicle, and

(3) have the potential or experience to purchase an electric vehicle.

A sample size of 150 respondents was selected with reference to the standard range recommended in the SEM analysis by Memon, where a number of about 150–200 respondents was considered sufficient for a model with a moderate number of predictors, moderate effects, significance level of 5%, and power ≥ 0.80. So the use of 200 respondents is considered relevant to the complexity of this research model. This selection also takes into account time and access limitations, but still allows for valid analysis.

Data Collection Methods and Techniques

Data collection in this study was carried out through an online survey using the Google Forms platform. This technique was chosen because it is considered efficient, able to reach a large number of respondents relatively quickly, and in accordance with the characteristics of the target population who are generally digital-savvy in the Greater Jakarta metropolitan area. In addition, the online method allows researchers to screen respondents through screening questions according to the purposive sampling criteria that have been set.

The research instrument was adapted from the scale that had been validated in previous research. The construct of Purchase Intention is measured with reference to indicators from Liao et al. (2022) and Nguyen (2023). The Country of Origin (COO) construct is measured using a scale developed by Hien et al. (2020), while the Perceived Quality construct is adapted from (Hazen et al., 2017). The constructs of Brand Image, Perceived Risk, and Purchase Intention were compiled by referring to the research of Li and Setiowati (2023). All items were measured using a 5-point Likert scale, from 1 = "strongly disagree" to 5 = "strongly agree," which is commonly used in consumer behavior research because it makes it easier for respondents to express their level of approval of statements.

Proposed Data Analysis

The analysis was carried out using PLS-SEM This technique was chosen to test the direct and indirect influence (mediation and moderation) between latent variables as in the previous synthesis model (hypothesis H1–H8). Reliability test (Cronbach's Alpha),. Measurement Model testing to assess the reliability and validity of the construct. Internal reliability will be tested through Cronbach's Alpha and Composite Reliability (CR) values, while convergent validity will be evaluated through Average Variance Extracted (AVE) values. A CR value of ≥ 0.70 and AVE ≥ 0.50 are used as minimum criteria, and a goodness-of-fit test will be performed to ensure the feasibility of the model

Referring to Memon, the evaluation of the adequacy of the sample was carried out based on a power analysis which ensured that the sample size (200 respondents) met the minimum requirements for models with a moderate number of predictors and moderate effects. This is

important so that the results of the PLS-SEM analysis have adequate statistical power, not just relying on the traditional rule of thumb.

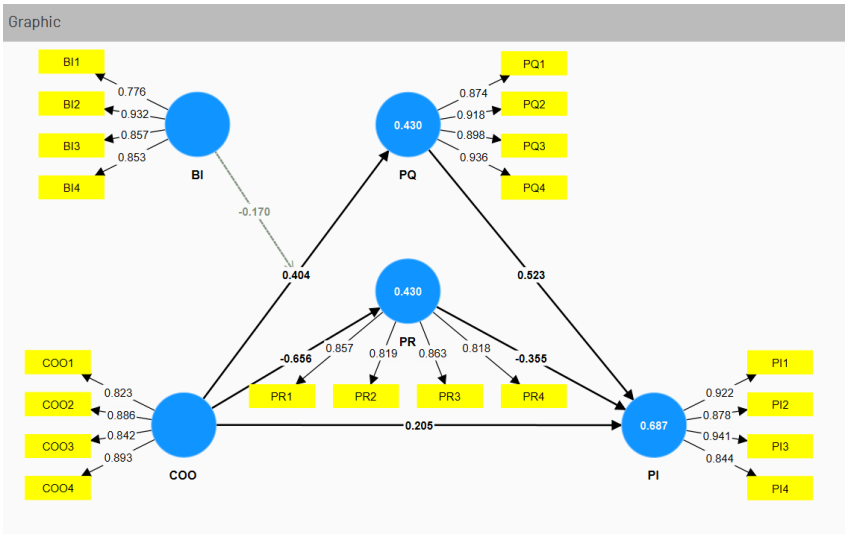

Figure 2. Structural Model

Based on the results of the PLS-SEM analysis, it can be interpreted that the proposed measurement model generally meets the criteria of validity and reliability, with several important notes requiring further attention.

The convergent validity of the constructs in the model was assessed by examining the loading factor values of each indicator. For the B1 construct, all indicators—B11 (0.776), B12 (0.830), B13 (0.840), and B14 (0.770)—showed loading factor values exceeding the minimum threshold of 0.7. A similar pattern was observed for the COO construct, where all indicators—C001 (0.823), C002 (0.883), C003 (0.885), and C004 (0.870)—met the criteria for convergent validity. These findings suggest that the indicators adequately explain the variance of the latent constructs they represent. However, in the PQ construct, one problematic indicator was identified—PQ4—with a loading factor of only 0.400. This value is well below the recommended limit; therefore, PQ4 is deemed invalid and should be removed from the model to preserve the measurement integrity of the PQ construct.

In terms of reliability, both the B1 and COO constructs demonstrate excellent internal consistency. The Composite Reliability (CR) and Cronbach's Alpha values for these two constructs exceed 0.85, which is substantially higher than the accepted cut-off value of 0.7. This indicates that the indicators within each construct are interrelated and consistently measure the same underlying concept. Meanwhile, although most indicators within the PQ construct—such as PQ1, PQ2, and PQ3—display high loadings (above 0.8), the presence of the weak PQ4 indicator reduces the overall reliability score of this construct. Therefore, eliminating PQ4 will not only improve convergent validity but also increase the composite reliability of the PQ construct.

Furthermore, the model satisfies the requirements for discriminant validity. Cross-loading analysis shows that each indicator loads highest on its corresponding construct compared to other constructs, indicating that no significant measurement overlap exists. This confirms that each construct represents a distinct conceptual dimension. These results strengthen the conclusion that the measurement model demonstrates both good convergent and

discriminant validity, ensuring that each construct is well-defined and empirically distinguishable.

Although the measurement model meets most validity and reliability standards, several refinement steps remain necessary. The removal of the PQ4 indicator is essential to guarantee that the PQ construct includes only robust and relevant indicators. After its deletion, the model should be re-estimated to confirm improvements in model quality. The re-estimation is expected to increase the Average Variance Extracted (AVE) of the PQ construct beyond the threshold of 0.5, confirming that most of the indicator variance is explained by its latent construct. Additionally, an evaluation of the structural (inner) model should follow by analyzing the R-square (R^2) values of endogenous variables and testing the significance of path coefficients through the bootstrapping procedure. This step is crucial for evaluating the causal relationships and predictive power proposed in the research model

Overall, the tested model exhibits a strong measurement foundation. With the revision of weak indicators, the model is expected to meet all evaluation criteria of the PLS-SEM approach in accordance with the guidelines proposed by Hair et al. (2017). These findings establish a solid basis for subsequent interpretation of the structural relationships among variables in this study.

Table Operation Variable

Table 1. Operation Variable

Variable		Item	References
Purchase Intention (PI)	PI.1	I want to use a used Chinese brand electric car as my first choice	Liao et al (2022)
	PI.2	I want to buy a used electric car of Chinese brand because of the good choice	
	PI.3	I want to buy a used electric car from a Chinese brand	
	PI.4	I would buy a used electric car from China rather than a product from other similar countries.	Nguyen, Pham, & Ho (2023)
Country Of Origin (COO)	COO.1	The technology of used electric cars of Chinese brands is relatively sophisticated.	(Hien, N. N., et al., 2020)
	COO.2	The workforce in China has creative professional skills in producing electric cars	
	COO.3	Chinese brand used electric cars are made by highly qualified workers	
	COO.4	China is a developed country in the development of electric cars.	

Perceived Quality (PQ)	PQ.1	I believe that used electric car vehicles from China are produced with advanced technology.	Kim et al (2024)
	PQ.2	I love the design of used electric cars from China.	
	PQ.3	Used electric car vehicles from China have competitive prices.	
	PQ.4	I believe that used electric car vehicles from China have good quality.	
Brand Image (BI)	BI.1	I have a positive impression of the electric car brand from China	Li and Setiowati (2023)
	BI.2	Chinese electric car brands have a good reputation in the market	
	BI.3	Chinese electric car brands are known as trustworthy brands	
	BI.4	I feel proud if I use an electric car vehicle from China	
Perceived Risk (PR)	PR.1	I am worried about my own safety when using a Chinese brand used electric car.	Li and Setiowati (2023)
	PR.2	I have doubts about the quality of the battery from a Chinese brand used electric car.	
Variable		**Item**	**References**
Perceived Risk (PR)	PR.3	I'm worried that Chinese brand used electric cars have a short service life.	Li and Setiowati (2023)
	PR.4	I feel that buying a used electric car of the Chinese brand is a risky decision.	

RESULTS AND DISCUSSION

This research was carried out on a temporary sample of 31 people as a trial with a domicile in Greater Jakarta located in the Plaza PP office area on Jl. Tb Simatupang No 57 Pasar Rebo, East Jakarta. After we conducted a trial and tried using PLS-SEM, the results of the data were valid and can be used, for the next time we will spread it again to a wider scope.

Table 2. Respondents

NUMBER OF CORRESPONDENTS	31 People
Location of residence or domicile	Jabodetabek
Have a Vehicle	
Cars	20 People
Engine	11 People
Chinese Car Brands That Are Known and Liked	
Wuling	10 People
BYD	16 People
DFSK	People
Cherry	People

The collected data was then analyzed using the Partial Least Squares–Structural Equation Modeling (PLS-SEM) method. The results of the trial show that the data meets the criteria of validity and reliability, so that the research instrument can be declared feasible for use in the main data collection. Thus, in the next stage, the questionnaire will be distributed to a wider scope according to the target population of the study, namely consumers in the Greater Jakarta area who have knowledge or interest in Chinese brand used electric vehicles.

Based on respondent demographic data from a preliminary study (trial) in the office environment of PT PP Presisi Tbk, East Jakarta, the characteristics of the sample showed harmony with the literature on the adoption of electric vehicles. This study involved 31 respondents who were employees of companies in the Greater Jakarta area, a metropolitan area that according to Li et al. (2023) has a higher level of exposure and acceptance to automotive innovation, including electric vehicles, due to infrastructure factors and socio-economic dynamics.

In terms of vehicle ownership, 20 respondents (64.5%) owned a car, while 11 respondents (35.5%) owned a motorcycle. This high level of private vehicle ownership supports the findings of Wang & Zhang (2022) that private vehicle ownership is a significant predictor of interest in electric vehicle adoption, as consumers with driving experience tend to better understand mobility needs and are more open to environmentally friendly vehicle alternatives.

In terms of brand preference, respondents showed the highest interest in BYD (16 people, 51.6%), followed by Wuling (10 people, 32.3%), and Chery (5 people, 16.1%), while no respondents chose DFSK. This pattern is in line with a study by Chen which reported that BYD and Wuling dominate Indonesian consumers' perception of electric vehicles from China, driven by aggressive marketing strategies and stronger value perceptions. BYD's dominance can also be attributed to its image as a global leader in battery technology, as shown by Liu. On the contrary, the lack of preference for DFSK shows a market penetration challenge for brands that do not yet have a strong position in the minds of consumers. This is consistent with the Brand Awareness–Accessibility theoretical framework proposed by Kim & Lee, that low levels of brand awareness limit the accessibility of the brand in consumer considerations.

A total of 20 respondents (64.5%) stated that they knew where to sell used Chinese cars, while 11 respondents (35.5%) did not know about it. These findings are in line with research

by Santoso which emphasizes that knowledge of distribution channels and accessibility is a critical barrier factor in the adoption of used electric vehicles, even more dominant than price considerations. This relatively moderate level of knowledge indicates that marketing efforts for used electric vehicles still need to be improved, especially in terms of increasing market visibility and building consumer trust in their sales channels.

Overall, the demographic profiles of respondents in this preliminary study not only describe a relatively representative and automotive-literate sample, but also confirm key findings in the current literature. The characteristics of respondents who live in urban areas, own private vehicles, and demonstrate differentiated brand awareness make them an ideal sample to evaluate perceptions and attitudes towards used electric vehicles from China. This data also strengthens the proposition of Zhang that early adopters of electric vehicles in emerging markets such as Indonesia tend to come from urban populations with access to adequate information and financial resources.

Factor Loading

Table 3. Loading Factor

Outer loadings - Matrix

	BI	COO	PI	PQ	PR	BI x COO
BI1	0.776					
BI2	0.932					
BI3	0.857					
BI4	0.853					
COO1		0.823				
COO2		0.886				
COO3		0.842				
COO4		0.893				
PI1			0.922			
PI2			0.878			
PI3			0.941			
PI4			0.844			
PQ1				0.874		
PQ2				0.918		
PQ3				0.898		
PQ4				0.936		
PR1					0.857	
PR2					0.819	
PR3					0.863	
PR4					0.818	
BI x COO						1.000

Based on the results of the loading factor analysis, all indicators have values above 0.70 as recommended by Hair. This shows that all indicators are declared valid and are able to represent the construct being measured. The summary of results can be described as follows:

Brand Image (BI)

The indicators BI2 (0.932) and BI3 (0.857) showed the strongest contribution. This indicates that a positive and trustworthy brand image is a key aspect in shaping consumer perception, in line with the findings of Kim & Lee.

Country of Origin Image (COO)

The indicators C004 (0.893) and C002 (0.886) dominate the COO construct. These results reflect the perception of technological progress and the quality of products from China as factors that shape the image of the country of origin, as shown by Liu.

Purchase Intention (PI)

The indicators PI3 (0.941) and PI1 (0.922) had the highest contributions. This shows that there is a strong buying interest in Chinese brand electric vehicles, consistent with the Wang

& Zhang (2022) study which emphasizes that purchase intent is strongly influenced by trust in quality and brand image.

Perceived Quality (PQ)

The PQ4 (0.936) and PQ2 (0.918) indicators emerged as the dominant indicators. These results confirm the role of technology and product quality in shaping consumer perception of Chinese electric vehicles, as reported by Chen.

Perceived Risk (PR)

The PR1 (0.857) and PR3 (0.863) indicators had the highest values, reflecting consumer concerns about safety and battery quality aspects. These findings are consistent with research by Santoso which highlights the issue of risk as one of the main barriers to the adoption of electric vehicles.

Brand Image Interaction × COO

A loading value of 1,000 indicates a very strong synergistic influence between the brand image and the image of the country of origin. This confirms that brand image is able to strengthen the influence of COOs on quality perception, as supported by Zhang.

Reliability Analysis

The reliability of the constructs in this study was evaluated using Cronbach's Alpha (CA) and Composite Reliability (CR). These two measures are used to assess the internal consistency of the indicator in reflecting latent constructs. The results of the analysis showed that the entire construct had a CA and CR value higher than the threshold of 0.70, thus meeting the reliability criteria recommended by Hair et al. (2017). The Brand Image construct value has a Cronbach's Alpha value of 0.879 and a Composite Reliability of 0.916. This value indicates a strong internal consistency, so that this research instrument can be declared reliable in measuring the latent construct in question.

Table 4. Construct Reliability and Validity

Construct reliability and validity - Overview

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
BI	0.879	0.913	0.916	0.733
COO	0.886	0.916	0.920	0.742
PI	0.919	0.929	0.943	0.805
PQ	0.928	0.929	0.949	0.822
PR	0.861	0.875	0.905	0.705

The results of the reliability and validity test show that all constructs meet the required criteria. Cronbach's Alpha and Composite Reliability values were above 0.70, and AVE was above 0.50, which confirms that the research instrument has good internal consistency and convergent validity (Hair et al., 2017).

Convergent Validity

Convergent validity was measured using outer loadings, Composite Reliability (CR), and Average Variance Extracted (AVE). The results of the analysis showed that all indicators had outer loadings above 0.70, CR values above 0.70, and AVE above 0.50. For example, the Perceived Quality construct has an AVE of 0.822 and a CR of 0.949, which meets the criteria

of convergent validity (Hair et al., 2017). This proves that the indicators in the construct consistently measure the same concept

Fornell and Larcker's Criteria

Table 5. Fornell-Larcker Criterion

Discriminant validity - Fornell-Larcker criterion					
	BI	COO	PI	PQ	PR
BI	0.856				
COO	-0.085	0.861			
PI	0.142	0.610	0.897		
PQ	0.517	0.331	0.667	0.907	
PR	-0.040	-0.656	-0.601	-0.215	0.839

Discriminant validity was tested using the Fornell-Larcker criterion. The results show that the square root of AVE of each construct is greater than the correlation between other constructs. For example, the √AVE for Purchase Intention (0.897) is higher than its correlation with Perceived Quality (0.667) and Perceived Risk (-0.601). Thus, all constructs meet discriminant validity.

Heterotrait-Monotrait Ratio (HTMT)

Table 6. Heterotrait-Monotrait (HTMT) Matrix

Discriminant validity - Heterotrait-monotrait ratio (HTMT) - Matrix						
	BI	COO	PI	PQ	PR	BI x COO
BI						
COO	0.138					
PI	0.148	0.641				
PQ	0.554	0.344	0.713			
PR	0.187	0.715	0.657	0.230		
BI x COO	0.054	0.184	0.111	0.093	0.122	

The validity of the discriminant was also tested using the Heterotrait-Monotrait Ratio (HTMT). The results showed that all HTMT values were below the 0.85 threshold, which confirmed that each construct was empirically different from the other. For example, the highest HTMT value is between Country of Origin and Perceived Risk (0.715), but it is still within acceptable limits. Thus, the model meets the discriminant validity based on the HTMT criteria.

Cross Loading

Table 7. Cross Loadings

Discriminant validity - Cross loadings						
	BI	COO	PI	PQ	PR	BI x COO
BI1	0.776	-0.099	0.062	0.331	0.050	-0.044
BI2	0.932	-0.031	0.177	0.508	-0.102	0.057
BI3	0.857	-0.102	0.106	0.520	0.004	0.035
BI4	0.853	-0.067	0.127	0.356	-0.072	0.036
COO1	-0.262	0.823	0.326	0.094	-0.464	0.180
COO2	-0.012	0.886	0.686	0.356	-0.579	0.261
COO3	0.010	0.842	0.376	0.347	-0.520	0.040
COO4	-0.088	0.893	0.606	0.286	-0.657	0.118
PI1	0.105	0.630	0.922	0.588	-0.623	0.016
PI2	0.097	0.448	0.878	0.647	-0.474	0.041
PI3	0.238	0.540	0.941	0.695	-0.569	0.133
PI4	0.051	0.576	0.844	0.441	-0.480	0.191
PQ1	0.490	0.254	0.605	0.874	-0.319	-0.118
PQ2	0.531	0.219	0.639	0.918	-0.159	-0.045
PQ3	0.400	0.461	0.621	0.898	-0.153	0.052
PQ4	0.451	0.256	0.544	0.936	-0.150	-0.109
PR1	0.148	-0.612	-0.496	-0.119	0.857	0.221
PR2	-0.113	-0.376	-0.360	-0.075	0.819	0.023
PR3	-0.133	-0.644	-0.518	-0.153	0.863	-0.067
PR4	-0.057	-0.511	-0.600	-0.344	0.818	0.068
BI x COO	0.031	0.178	0.102	-0.058	0.075	1.000

The validity of the discriminant was also tested using cross-loading analysis. The results show that all indicators have the highest loading on their own constructs compared to other constructs. For example, the BI2 indicator has a loading of 0.932 in the Brand Image construct, but only 0.508 in Perceived Quality and -0.031 in the Country of Origin. Similarly, the C004 indicator has a loading of 0.893 on the Country of Origin, but lower on the other constructs. These results confirm that all constructs in the model meet discriminant validity (Hair et al., 2017).

STRUCTURAL MODELS & HYPOTHESIS TESTING

In the model and hypothesis testing, Botstrapping analysis was used, and the results were as follows:

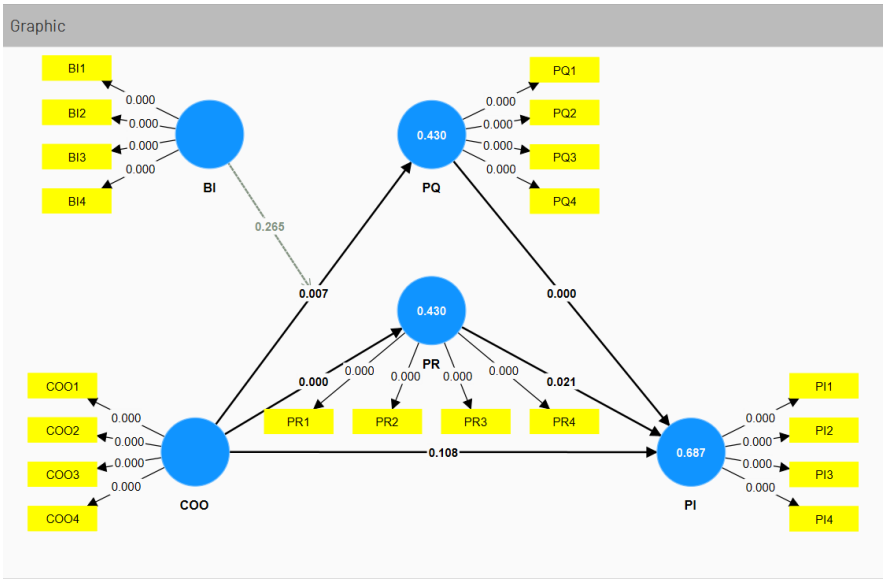

Figure 3. Bootstrapping Results

Testing Path Coefficients

The results of the path analysis showed that Brand Image and Country of Origin had a significant effect on Perceived Quality, with path coefficients of 0.556 ($p < 0.01$) and 0.404 ($p < 0.01$) respectively. Perceived Quality and Perceived Risk also had a significant effect on Purchase Intention, with values of -0.355 ($p < 0.05$) and 0.523 ($p < 0.01$). However, Country of Origin had no direct effect on Purchase Intention ($\beta = 0.205$, $p = 0.108$), and the interaction between Brand Image and Country of Origin was not significant on Perceived Quality ($\beta = -0.170$, $p = 0.265$).

Table 8. Path Coefficients

Path coefficients - Mean, STDEV, T values, p values

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
BI -> PQ	0.556	0.565	0.126	4.421	0.000
COO -> PI	0.205	0.210	0.127	1.606	0.108
COO -> PQ	0.404	0.406	0.149	2.708	0.007
COO -> PR	-0.656	-0.674	0.084	7.825	0.000
PQ -> PI	0.523	0.511	0.109	4.788	0.000
PR -> PI	-0.355	-0.362	0.153	2.313	0.021
BI x COO -> PQ	-0.170	-0.165	0.153	1.114	0.265

Mediation Analysis

The results of the mediation analysis showed that Perceived Quality (PQ) and Perceived Risk (PR) mediated the relationship between Country of Origin (COO) and Purchase Intention (PI). The indirect effect of COO → PQ → PI was 0.211 ($p < 0.01$), and COO → PR → PI was 0.233 ($p < 0.05$). Meanwhile, PQ also mediated the relationship between Brand Image (BI) and PI with an indirect effect of 0.291 ($p < 0.01$). These findings confirm that the perception of

quality and the perception of risk are key mechanisms that explain how brand image and the image of the country of origin affect the buying interest of consumers.

Specific Indirect Effects

The results of the mediation analysis revealed that Perceived Quality significantly mediated the relationship between Brand Image and Purchase Intention (β = 0.291, p = 0.002) as well as between Country of Origin and Purchase Intention (β = 0.211, p = 0.014). In addition, Perceived Risk also mediated the relationship between Country of Origin and Purchase Intention (β = 0.232, p = 0.049). However, the interaction between Brand Image and Country of Origin did not have a significant mediating effect through Perceived Quality (β = -0.089, p = 0.282). These findings confirm that quality perception and risk perception are critical mechanisms that explain the influence of brand image and country of origin on buying interest.

Table 9. Specific indirect effects

Specific indirect effects - Mean, STDEV, T values, p values					
	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
BI -> PQ -> PI	0.291	0.290	0.093	3.141	0.002
COO -> PQ -> PI	0.211	0.205	0.086	2.468	0.014
COO -> PR -> PI	0.232	0.247	0.118	1.972	0.049
BI x COO -> PQ -> PI	-0.089	-0.085	0.083	1.077	0.282

Total Indirect Effects

Total indirect effects showed that Brand Image had a significant influence on Purchase Intention through the mediator tested (β = 0.291, p = 0.002). Similarly, Country of Origin also has a significant indirect effect on Purchase Intention (β = 0.444, p = 0.000). However, the interaction between Brand Image and Country of Origin did not have a significant indirect effect on Purchase Intention (β = -0.089, p = 0.282). These results reinforce previous findings that mediation occurs through Perceived Quality and Perceived Risk, while interactions do not have a significant impact.

Table 10. Specific indirect effects

Total indirect effects - Mean, STDEV, T values, p values					
	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
BI -> PI	0.291	0.290	0.093	3.141	0.002
COO -> PI	0.444	0.452	0.116	3.816	0.000
BI x COO -> PI	-0.089	-0.085	0.083	1.077	0.282

Moderation Analysis

The results of the moderation effect test are shown in the Total Indirect Effects table which illustrates the interaction of the Country of Origin (COO) moderation variable to the relationship between Behavioral Intention (BI) and Purchase Intention (PI).

Based on the SmartPLS output, the direct relationship between BI → PI shows a coefficient value of 0.291, with a t-statistic of 3.141 and a p-value of 0.002. This value is less than 0.05, so it can be concluded that BI has a positive and significant effect on PI. These results reinforce

the argument that the higher the tendency of consumers to try, use, or recommend products (BI), the greater their intention to make a purchase (PI).

Furthermore, the direct relationship of COO → PI resulted in a coefficient of 0.444, with a t-statistic of 3.816 and a p-value of 0.000. This result is significant, so that COO has a positive effect on PI. Thus, consumer perception of the product's country of origin has been proven to contribute to increasing purchase intent; The more positive the consumer's view of the reputation of the country of origin, the more they will want to buy the product.

However, the interaction test of BI × COO → PI showed a coefficient value of –0.089, t-statistic of 1.077, and p-value of 0.282. This value is insignificant because it is greater than 0.05. Therefore, it can be concluded that COO does not play a role as a moderation variable in BI's relationship with PI. The negative direction of the coefficient even indicates that COOs tend to weaken BI's influence on PI, although it is not statistically significant.

Theoretically, this result implies that consumers' purchase intentions are more influenced by internal factors (BI) and external factors (COO) independently, rather than in the form of simultaneous interactions. Consumers who already have the intention to buy (BI) will still do so, without having to be influenced by their perception of the COO. COO remains important as a direct determinant of PI, but is ineffective when positioned as a moderator.

Practically, these findings suggest that marketers should continue to pay attention to COOs as one of the determinants of purchase intention, but marketing strategies do not need to be focused on making COO a reinforcing relationship between BI and PI. A more effective approach is to strengthen BI through promotions, product quality improvements, and positive user experiences, while maintaining the good image of the country of origin as a factor that supports consumer purchase intention.

CONCLUSION

This study successfully developed and tested a comprehensive model explaining the factors that influence purchase intention for used Chinese-brand electric vehicles in Jabodetabek. The findings reveal that Country of Origin (COO) and Brand Image (BI) do not directly drive purchase intention but exert their impact indirectly by shaping consumers' perceptions of product quality and risk. Perceived Quality (PQ) was found to have a strong positive direct effect on purchase intention and served as a key mediating variable for both BI and COO. Conversely, Perceived Risk (PR) demonstrated a significant negative direct effect and also mediated the influence of COO, underscoring consumer concerns about safety, battery life, and reliability as critical purchase barriers. The non-significant moderation effect indicates that COO and BI function as independent, additive antecedents of quality perception rather than interactive forces. Theoretically, this research contributes by clarifying the dual mediating mechanisms—quality and risk—through which extrinsic cues such as COO and BI affect purchase intention, particularly in the context of used EVs within a developing market.

Building on these conclusions, several directions for future research are proposed. First, to enhance generalizability, future studies should extend their geographic scope beyond Jabodetabek to include other major Indonesian cities with developing EV infrastructure, such as Surabaya, Bandung, and Medan. Second, conducting a comparative study between used and new EV purchase intentions would provide insight into whether the drivers and barriers differ significantly between these market segments. Third, future research could integrate additional

variables—such as environmental concern, subjective norms, and perceptions of government incentives—to construct a more holistic model of used EV adoption. Fourth, given the rapid evolution of EV technology and shifting consumer perceptions, a longitudinal research design would be beneficial to examine how these relationships evolve over time as the market matures and as more Chinese brands enter Indonesia. Finally, qualitative methods, such as in-depth interviews or focus groups, are recommended to explore consumers' specific risk perceptions and quality priorities in greater depth, thereby enriching and contextualizing the quantitative findings of this study.

REFERENCES

Ardisa, C., Rohman, F., & Puspaningrum, A. (2022). Country of origin and perceived quality in mediating the influence of consumer ethnocentrism on purchase intention. *Jurnal Aplikasi Manajemen*, *20*(3), 563–577.

Ariyani, L., Dinasevianib, A., Rosadic, A. H. Y., Febriandad, R., Hermawatie, W., & Aminullahf, E. (2023). Challenges in Connecting the Elements of Sectoral SYSTEM OF Innovation for the Development of Indonesia's Electric Vehicle Industry. *Journal of STI Policy and Management*, *8*(2), 119–144.

Autoindo.id. (2025). The First EV Indonesia Center in Asia Comes at Pluit Junction. https://autoindo.id/ev-center-pertama-di-asia-hadir-di-pluit-jakarta/

Chinen, K., & Matsumoto, M. (2021). Indonesians' perceptions of auto parts remanufactured in China: Implications for global remanufacturing operations. *Sustainability, 13*(7), 3968. https://doi.org/10.3390/su13073968

CNBC Indonesia. (2025, February 24). The bad news is that Indonesian people are starting to delay buying a new car, what's wrong? https://www.cnbcindonesia.com/news/20250224180110-4-613278

Ferraro, A., & Garofalo, A. (2025). Navigating the Transition to Green Mobility: Assessing the Impact of Tax Incentives on Vehicle Efficiency and Market Dynamics in Italy. *Corporate Social Responsibility and Environmental Management*, *32*(3), 3167–3180.

Ghasri, M., Ardeshiri, A., & Rashidi, T. (2019). Perception towards electric vehicles and the impact on consumers' preference. *Transportation Research Part D: Transport and Environment*, *77*, 271–291.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). Sage Publications. ISBN: 978-1-4833-7744-9

Hasibuan, H. S., & Mulyani, M. (2022). Transit-oriented development: towards achieving sustainable transport and urban development in jakarta metropolitan, Indonesia. *Sustainability*, *14*(9), 5244.

Havale, D. S., Yeole, S. M., & Khang, A. (2025). Electric vehicles: Paving the way for sustainable green transportation and environmental protection. In *Driving Green Transportation System Through Artificial Intelligence and Automation: Approaches, Technologies and Applications* (pp. 67–89). Springer.

Hazen, B. T., Boone, C. A., Wang, Y., & Khor, K. S. (2017). Perceived quality of remanufactured products: construct and measure development. *Journal of Cleaner Production*, *142*, 716–726.

Hien, N. N., Phuong, N. N., Tran, T. V., & Thang, L. D. (2020). The effect of country-of-origin image on purchase intention: The mediating role of brand image and brand evaluation. *Management Science Letters, 10*(5), 1205–1212.

https://doi.org/10.5267/j.msl.2019.11.038

IDN Times West Java. (2025, March 18). List of SPKLU in West Java: 394 chargers in 248 locations. https://jabar.idntimes.com/news/jawa-barat/makin-nyaman-mudik-pakai-kendaraan-listrik-ini-daftar-spklu-di-jabar-00-9y7yl-q25nkt

Industry.co.id. (2025). Asia's First Electric Vehicle Mall Coming Soon: Boosting the Used Electric Car Market. https://www.industry.co.id/read/142015/mal-kendaraan-listrik-pertama-di-asia-segera-hadir-entrev-dorong-pasar-mobil-listrik-bekas

Kant, R., Mehta, B., Jaiswal, D., & Kumar, A. (2024). Adoption intention and willingness to pay for electric vehicles: role of social-psychological attributes, fiscal incentives and socio-demographics. *Management of Environmental Quality: An International Journal*, *35*(4), 945–963.

Kenesei, Z., Svnyi, K., Kkny, L., Jszbernyi, M., Miskolczi, M., Gyulavri, T., & Syahrivar, J. (2022). Trust and perceived risk: How different manifestations affect the adoption of autonomous vehicles. *Transport Research Part A: Policy and Practice, 164*, 379-393. https://doi.org/10.1016/j.tra.2022.02.002

Kim, L., Maijan, P., Jindabot, T., & Yeo, S. F. (2024). How country of origin, perceived quality, and trust influence intention to purchase SARS COVID medications. *Social Sciences & Humanities Open, 10*, 101116. https://doi.org/10.1016/j.ssaho.2024.101116

Li, X., & Setiowati, R. (2023). The influence of country of origin, brand awareness, perceived risk, and brand image on purchase intention of China Wuling Air Electric Vehicles. *Open Journal of Applied Sciences, 13*, 618-635. https://doi.org/10.4236/ojapps.2023.135049

Liao, S.-H., Hu, D.-C., & Chou, H.-L. (2022). Consumer perceived service quality and purchase intention: Two moderated mediation models investigation. *SAGE Open, 12*(4), 1–15. https://doi.org/10.1177/21582440221139469

Mashrur, S. M., & Mohamed, M. (2025). Uncovering factors affecting consumers' decisions for pre-owned electric vehicles. *Transportation Research Part D, 139*, 104555. https://doi.org/10.1016/j.trd.2024.104555

Nguyen, T. D., Pham, N. H., & Ho, H. T. (2023). Role of consumer ethnocentrism on purchase intention toward foreign products: Evidence from data of Vietnamese consumers with Chinese products. *Cogent Business & Management, 10*(1), 2185350. https://doi.org/10.1080/23311975.2023.2185350

Pamungkas, M. R., Maulina, E., Arifianti, R., & Muftiadi, A. (2025). Sustainable Transportation in Indonesia: Opportunities for Environmentally Friendly Shuttle Services on the Bandung-Jakarta Route. *E3S Web of Conferences*, *611*, 3006.

Passagem, N., Crespo, C. F., & Almeida, N. (2020). The impact of country of origin on brand equity: An analysis of the wine sector. *Wine Economics and Policy, 9*(2), 63–81. https://doi.org/10.36253/web-8407

Ramanath, A. (2024). Sustainability and environmental impacts of electric vehicles. In *Handbook of Power Electronics in Autonomous and Electric Vehicles* (pp. 337–351). Elsevier.

Suhud, U., Allan, M., Rahayu, S., & Prihandono, D. (2022). When brand image, perceived price, and perceived quality interplay in predicting purchase intention: Developing a rhombus model. *Academic Journal of Interdisciplinary Studies, 11*(1), 239-252. https://doi.org/10.36941/ajis-2022-0021

Wang, Y., & Zhang, Y. (2022). Perceived risk and used electric vehicle adoption: Evidence from China. *Journal of Cleaner Production*. https://doi.org/10.1016/j.jclepro.2022.130898

Yang, Y., Wang, Y., & Bi, X. (2025). Factors influencing purchase of advanced intelligent driving vehicles in China: A perspective of value-based adoption model. *World Electric*

Vehicle Journal, 16(3), 154. https://doi.org/10.3390/wevj16030154

Zhao, H., Furuoka, F., Rasiah, R. A., & Shen, E. (2024). Consumers' purchase intention toward electric vehicles from the perspective of perceived green value: An empirical survey from China. *World Electric Vehicle Journal*, *15*(6), 267.