DETERMINANTS OF STUDENTS' ATTITUDE AND ADOPTION INTENTION TOWARDS ELECTRONIC VEHICLES IN ZHEJIANG, CHINA

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Abstract

This study investigates the determinants of consumer attitudes and adoption intentions toward electric vehicles in Zhejiang Province, China. The conceptual framework determines how environmental concern, subjective norms, knowledge, perceived incentives policy, perceived usefulness, perceived ease of use, and perceived fun to use affect attitudes and adoption intentions. The sample (n=460) was collected from online and offline questionnaires using multi-stage sampling, including judgmental, stratified random, and convenient Sampling. The study applied the structural equation model and confirmatory factor analysis to analyze the data to confirm the model's goodness-of-fit and hypothesis. The results indicate that environmental concerns, subjective norms, knowledge, and perceived incentive policies significantly impact attitude. Perceived incentive policy, perceived usefulness, perceived ease of use, and perceived fun of use have a significant impact on adoption intention. Based on this research result, this study provides feasible suggestions for formulating Chinese government policies. It provides a basis for optimizing the design of public policies that align with China's national conditions to enhance consumer attitudes and adoption intentions toward electric vehicles.

Keywords: Electric Vehicles, Consumers' Attitude, Adoption Intention, China

Introduction

With the rapid development of society and economy, the process of urbanization and motorization in China has been accelerating. Residents' travel needs are no longer satisfied with a single mode of transportation, and their reliance on motor vehicles has gradually increased. According to the 2022 Statistical Communiqué of the People's Republic of China on National Economic and Social Development, the number of civilian motor vehicles in China was 1.3584 million at the end of 1978. By the end of 2022, the number has reached 319 million, with the highest proportion being private cars (278 million). However, China's motor vehicle ownership per thousand people remains relatively low. According to data from the World Bank, in 2019, China's motor vehicle ownership per thousand people was 173, ranking

17th in the world. In comparison, developed countries such as the United States (837 vehicles per thousand people), Australia (747 vehicles per thousand people), and Italy (695 vehicles per thousand people) have much higher vehicle ownership. This indicates that there is still significant room for development in the Chinese automobile market, and the number of motor vehicles will continue to increase steadily.

As one of the important means of transportation for people's travel, automobiles provide many conveniences for spatial displacement but also cause a series of ecological problems and contradictions. The rapid growth of motor vehicle ownership has already exceeded the carrying capacity of the existing environment, resulting in serious pollution problems, such as greenhouse gas emissions and energy security crises (Li & Chen, 2019). According to the "Global Risks Report 2019" released by the World Economic Forum at the Davos Annual Meeting, environmental risks have been the biggest threat to humanity for three consecutive years. Studies have shown that automobile exhaust emissions are the main cause of urban air pollution (Li & Chen, 2019). Actively developing energy-saving and electric vehicles is a key solution to many challenges, and it is also an inevitable choice to promote the transformation and upgrading of China's automobile industry structure.

Experts believe that promoting electric vehicles is an effective way to encourage environmentally friendly transportation (Wang et al., 2016; Yang et al., 2019). Increasing the proportion of electric vehicles in total vehicle ownership is a more feasible solution than simply reducing the use of cars (Haustein & Jensen, 2018). Promoting electric vehicles can meet current transportation needs and alleviate national energy demand, significantly reducing greenhouse gas emissions and air pollution (Li et al., 2020). Compared with traditional internal combustion engine vehicles, electric vehicles can reduce their carbon emissions by about 36% to 47% over their lifecycle (Wang et al., 2018).

China is currently making great efforts to reduce energy consumption and carbon emissions. An important strategy in this regard is the development of low-carbon transportation, with a particular emphasis on environmentally friendly and energy-efficient vehicles, especially electric vehicles. This initiative is considered an important aspect of the reform of the transportation sector, and in recent years, this reform has made progress in many countries (Tang & Ma, 2016).

Literature Review

1. Environmental Concern

Environmental concern refers to an attitude that centers on environmental protection's cognitive and affective evaluations (Dunlap & Van Liere, 1978). This attitude is linked to the public's awareness of environmental issues, which reflects their attitudes, knowledge, and responses to environmental problems (Weigel & Weigel, 1978). Dunlap and Michelson (2002) define environmental concerns as "people's level of awareness of

environmental problems and their willingness to support efforts to solve these problems and to contribute personally to their solution." This willingness encourages consumers to engage in environmental challenges and inspires them to take action to safeguard the environment (Higueras-Castillo et al., 2019; Matthes et al., 2014). Hence, a hypothesis is developed:

H1: Environmental concern has a significant effect on attitude.

2. Subjective Norm

Ajzen (1988) defined subjective norm as the hypothesis an individual receives from others regarding their behavior. Rouibah et al. (2009) viewed subjective norms as the reason for human intentions and behavior. Collins et al. (2011) suggested that subjective norm refers to the perceived social pressure to perform or not perform a behavior. Subjective norms apply to specific individuals or groups who support and encourage a particular behavior (Han et al., 2020; Shalender & Sharma, 2021). Subjective norms have also been described as consumers' perceptions of what other valuable people think they should or should not adopt electric vehicles (Asadi et al., 2021; Huang & Ge, 2019). Hence, a hypothesis is developed:

H2: Subjective norms have a significant effect on attitude.

3. Knowledge

Kaplan (1991) pointed out that knowledge is crucial in consumer attitudes and purchasing decisions toward products. Personal knowledge about environmentally friendly products and services is an important cognitive measure, reflected in specific interests and awareness of impacts on the general ecosystem (D'souza et al., 2006; Laroche et al., 2001; Uddin & Khan, 2018). De Koning et al. (2015) argued that a lack of consumer knowledge is a barrier to using environmentally friendly products. Potential electric vehicle users have a certain degree of understanding of the main features of electric vehicles and related technologies, such as no need for gasoline, zero carbon emissions, low driving costs, charging time, and facilities (Egbue & Long, 2012; Policarpo & Aguiar, 2020; Tu & Yang, 2019). Hence, a hypothesis is developed:

H3: Knowledge has a significant effect on attitude.

4. Perceived Incentives Policy

Coad et al. (2009) categorized electric vehicle incentive policies into informational and financial. Coffman et al. (2017) identified three key policy mechanisms to encourage electric vehicle adoption: providing financial and non-financial incentives, supporting charging infrastructure, and raising awareness. Liao (2022) proposed that financial and non-financial incentives are two forms of incentive policies, with financial incentives providing direct monetary benefits to consumers and non-economic incentives offering non-monetary benefits such as unrestricted travel or road usage privileges. Financial policy measures can lower the cost of purchasing electric vehicles, while non-financial incentives can increase the value of using them (Wang et al., 2018). Hence, below hypotheses are developed:

H4: Perceived incentives policy has a significant effect on attitude.

H5: Perceived incentives policy has a significant effect on adoption intention.

5. Attitude

Attitude is commonly described as an individual's psychological experience that mirrors ingrained preferences and aversions, along with the positive or negative assessment of actions. The assessment of an individual, object, or topic is delineated in diverse attitude definitions (Eagly & Chaiken, 2007). Attitude represents a consistent reaction to specific scenarios, entities, or categories. It elucidates the assessment and appraisal of goods or services. Attitude is a fundamental precursor to behavior (Machleit et al., 1993; Mitchell & Olson, 1981) and a valuable predictor of intent (Plötz et al., 2018). Hence, a hypothesis is developed:

H6: Attitude has a significant effect on adoption intention.

6. Perceived Usefulness

Perceived usefulness is a crucial factor in the Technology Acceptance Model (TAM), which reflects an individual's belief that using a particular technology will improve their job performance (Davis, 1989). Additionally, it is a significant psychological factor that affects consumer acceptance of new and innovative products (Egbue & Long, 2012; Schuitema et al., 2013). Perceived usefulness refers to an individual's subjective belief in how a new technology can support a product's performance (Kim et al., 2018; Venkatesh & Davis, 2000). Scholars have noted that in the context of electric vehicles as an innovative and environmentally friendly technology, perceived usefulness should be evaluated based on multiple factors, including energy efficiency, environmental impact, and health benefits (Wang et al., 2017; Wu et al., 2019; Zhang et al., 2013). Hence, a hypothesis is developed:

H7: Perceived usefulness has a significant effect on adoption intention.

7. Perceived Ease of Use

Perceived ease of use pertains to an individual's belief that utilizing new technology will be effortless (Davis, 1989). This concept is measured by the extent to which consumers perceive the use of new technology or products as easy and not mentally or physically taxing (Lieven et al., 2011; Venkatesh & Davis, 2000; Wang et al., 2017). The more user-friendly and easy-to-operate consumers find new technology, products, or services, the more inclined they are to express an intention to adopt such products. Venkatesh and Bala (2008) defined perceived ease of use as the conviction to use new technology or products without difficulty. Wissmann (2013) introduced a contemporary perspective to perceived ease of use by defining it as "usability," which offers a favorable interpretation of product complexity. Hence, a hypothesis is developed:

H8: Perceived ease of use has a significant effect on adoption intention.

8. Perceived Fun to Use

Holbrook and Hirschman (1982) defined perceived fun to use (PFU) as the pursuit of an "engaging and pleasurable experience, sensory stimulation, and enjoyment of usage" that consumers seek when contemplating a purchase. PFU reflects the degree of satisfaction consumers derive from using a new product and indicates both internal motivation and behavioral manifestation (Davis et al., 1992). Liao et al. (2008) and Venkatesh et al. (2003) posit that PFU is a foundational behavioral motivation driver. Chen (2016) contends that PFU captivates consumer interest and fosters relaxation in the context of electric vehicle usage. Within the domain of electric vehicles, the quest for "perceived fun to use" arises from a driving experience distinct from that of conventional vehicles (Azadfar et al., 2015). Hence, a hypothesis is developed:

H9: Perceived fun to use has a significant effect on adoption intention.

9. Adoption Intention

As per Ajzen (1991), the concept of "adoption intention" can be utilized to forecast the embracing of novel technologies. Rogers (1995) posits that adoption intention mirrors consumers' receptiveness to innovative products. Additionally, certain researchers view consumers' adoption of new technologies or products as a form of behavioral reaction, encompassing purchase and usage intentions (Huijts et al., 2012; Jansson et al., 2010; Schuitema et al., 2013). Within the realm of electric vehicles, adoption intention denotes the willingness of consumers to opt for electric vehicles as their mode of transportation (Liu, 2017).

Research Framework

The conceptual framework of this study is derived from existing theories and research, integrating three primary theoretical frameworks. Huang et al. (2021) suggested a significant positive link between knowledge, perceived usefulness, perceived ease of use, perceived fun to use, and consumers' intentions to adopt electric vehicles. Hence, the conceptual framework of this study presents a multi-layered structure with intricate relationships among various variables, as depicted in Figure 1.

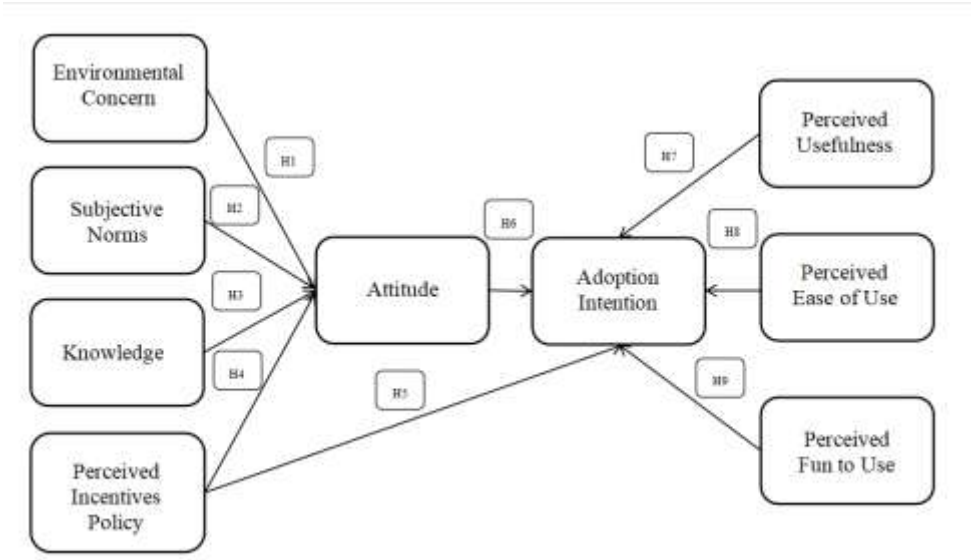


Figure 1 Conceptual Framework

The hypotheses of the research variables based on the conceptual framework are;

H1: Environmental concern has significant effect on attitude.

H2: Subjective norms have a significant effect on attitude.

H3: Knowledge has a significant effect on attitude.

H4: Perceived incentives policy has a significant effect on attitude.

H5: Perceived incentives policy has a significant effect on adoption intention.

H6: Attitude has a significant effect on adoption intention.

H7: Perceived usefulness has a significant effect on adoption intention.

H8: Perceived ease of use has a significant effect on adoption intention.

H9: Perceived fun to use has a significant effect on adoption intention.

Research Methodology

The questionnaire comprised three sections: screening questions, measurement items, and demographic details. The screening section determined respondent eligibility, while the measurement section utilized a 5-point Likert scale to evaluate nine variables, ranging from strongly disagree (1) to agree (5). The questionnaire's reliability was assessed using Cronbach's Alpha, content validity was evaluated with IOC, and a pilot test was conducted with 50 participants.

Additionally, confirmatory factor analysis (CFA) or a measurement model was conducted to establish the constructs' convergent and discriminant validity and evaluate fit indices. Finally, the structural equation model (SEM) was applied to confirm significant relationships and test the research hypotheses.

1. Population and Sample Size

As per Kline (2011), a structural equation model necessitates a sample size of at least

200 respondents. To determine the appropriate sample size, researchers utilized the Structural Equation Model Priori Sample Size Calculator available on the Danielsoper website (Soper, 2019). With nine latent and 34 observed variables considered, the study established the required sample size at a significance level 0.05. The analysis revealed that the structural equation model recommended a minimum of 460 participants. To meet the minimum criteria and achieve population representativeness, the researchers gathered data from 500 participants.

2. Sampling Techniques

The research implemented a multi-stage sampling strategy that integrated probability and non-probability sampling methods for quantitative research. A sequential sampling approach was applied to ensure that the data collected aligned with the research objectives. Initially, a judgmental sampling technique was utilized to identify students at Zhejiang Ocean University with expertise and practical experience in the electric vehicle domain.

Results and Discussion

1. Demographic Information

Of the 500 participants, 56.4% (282) were male, and 43.6% (218) were female. The largest proportion of respondents, at 39.6% (198), were in the age range of 21 to 22 years. This was followed by 28.6% (143) who were under 23 to 24 years old, 16.4% (82) who were over 24 years old, and 15.4% (77) who were between 18 to 20 years old. Among the respondents, undergraduate students comprised 66.4% (332), while master's students comprised 33.6% (168).

Table 1 Demographic Profile

Demographic and General Data (N=500)		**Frequency**	**Percentage**
Gender	Male	282	56.4%
	Female	218	43.6%
Age	18-20 years old	77	15.4%
	21-22 years old	198	39.6%
	23-24 years old	143	28.6%
	More than 24 years old	82	16.4%
Status	Undergraduate Student	332	66.4%
	Graduate Student	168	33.6%

2. Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) is a measurement model systematically proposed by the Swedish statistician Jöreskog (1969). It aligns actual data with a specific factor model of

known factors to validate internal consistency and convergent validity. The CFA findings in this study indicate the significance of all items within each variable, confirming convergent validity. Internal consistency is evaluated using Composite Reliability (CR), with a coefficient exceeding 0.6. As the CR coefficient increases, the internal correlation level among the measurement variables within this specific group also rises, leading to a better understanding of the related latent variables (Cronbach, 1951). Convergent validity is assessed through Average Variance Extracted (AVE) and factor loadings. Typically, when the AVE surpasses 0.5, it suggests acceptable internal model quality (Fornell & Larcker, 1981). The statistical values of the CFA are presented in Table 2.

Table 2 Confirmatory Factor Analysis Result, Composite Reliability (CR) and Average Variance Extracted (AVE)

Latent Variables	Source of Questionnaire	No. of Items	Cronbach's Alpha	Factors Loading	CR	AVE
Environmental Concern (EC)	Dash (2021)	6	0.912	0.814-0.786	0.913	0.637
Subjective Norms (SN)	Jaiswal et al. (2022)	3	0.916	0.908-0.854	0.916	0.783
Knowledge (KN)	Jaiswal et al. (2022)	4	0.949	0.958-0.849	0.948	0.821
Perceived Incentives Policy (PIP)	Jaiswal et al. (2022)	4	0.876	0.839-0.761	0.872	0.630
Attitude (ATT)	Dash (2021)	3	0.966	0.990-0.932	0.967	0.908
Perceived Usefulness (PU)	Huang et al. (2021)	3	0.828	0.805-0.756	0.819	0.602
Perceived Ease of Use (PEU)	Huang et al. (2021)	4	0.942	0.980-0.842	0.944	0.809
Perceived Fun to Use (PFU)	Huang et al. (2021)	3	0.966	0.923-0.817	0.890	0.730
Adoption Intention (AI)	Jaiswal et al. (2022)	3	0.962	0.965-0.907	0.957	0.882

Source: Created by the author.

GFI, AGFI, NFI, CFI, TLI, and RMSEA serve as metrics in CFA analysis for evaluating model adequacy. The results presented in Table 3 validate that the fit indices in this study exceed the acceptable thresholds. Following CFA analysis in this study, convergent and discriminant validity were confirmed, thus affirming the efficacy of subsequent structural model estimation.

Table 3 Goodness of Fit for Measurement Model

Index	Acceptable Values	Statistical Values After Adjustment
CMIN/DF	< 3.00 (Hair et al., 2006)	909.706/460 or 1.976
GFI	≥ 0.80 (Doll et al., 1994)	0.903
AGFI	≥0.80 (Sica & Ghisi, 2007)	0.881
NFI	≥0.90 (Hair et al., 2006)	0.943
CFI	≥0.90(Hair et al., 2006)	0.971
TLI	≥0.90(Hair et al., 2006)	0.967
RMSEA	< 0.08 (Pedroso et al., 2016)	0.044
Model summary		**Acceptable Model Fit**

Note: CMIN/DF = The ratio of the Chi-square value to degree of freedom, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, NFI = Normed fit index, CFI = Comparative fit index, TLI = Tucker-Lewis index, RMSEA = Root mean square error of approximation.

Before conducting hypothesis testing in the study, it is crucial to confirm the validation of discriminant validity (Ab Hamid et al., 2017). Following the perspective of Fornell and Larcker (1981), the evaluation of discriminant validity involves calculating the square root of each latent variable. As illustrated in Table 4, the discriminant validity values for each latent variable in this research surpass all inter-factor correlations, substantiating the discriminant validity.

Table 4 Discriminant Validity

	EC	SN	KN	PIP	PU	PEU	PFU	ATT	AI
EC	**0.798**								
SN	0.316	**0.885**							
KN	0.263	0.341	**0.906**						
PIP	0.222	0.294	0.224	**0.794**					
PU	0.287	0.384	0.248	0.334	**0.776**				
PEU	0.199	0.318	0.235	0.348	0.346	**0.899**			
PFU	0.279	0.331	0.259	0.324	0.308	0.325	**0.854**		
ATT	0.571	0.757	0.394	0.406	0.560	0.379	0.416	**0.953**	
AI	0.375	0.467	0.381	0.521	0.731	0.581	0.589	0.649	**0.939**

Note: The diagonally listed value is the AVE square roots of the variable

3. Structural Equation Model (SEM)

SEM is a statistical technique employed to assess the associations among numerous independent factors and multiple dependent variables, evaluate the reliability and validity of measurements, and estimate both direct and indirect effects among latent variables (Zhang & Wang, 2019). Goodness of Fit is a metric within Structural Equation Modeling (SEM) to gauge the level of alignment between the model and the data (Hair et al., 2014).

Table 6: Goodness of Fit for Measurement and Structural Model

Index	Acceptable Criterion	Statistical Values
CMIN/DF	< 3.00 (Hair et al., 2006)	1364.592/480 or 2.843
GFI	≥ 0.80 (Doll et al., 1994)	0.829
AGFI	≥0.80 (Sica & Ghisi, 2007)	0.800
NFI	≥0.90 (Hair et al., 2006)	0.915
CFI	≥0.90(Hair et al., 2006)	0.943
TLI	≥0.90(Hair et al., 2006)	0.937
RMSEA	< 0.08 (Pedroso et al., 2016)	0.061
Model Summary		**Acceptable Model Fit**

Note: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, NFI = Normed fit index, RMSEA = Root mean square error of approximation CFI = Comparative fit index, and TLI = Tucker-Lewis index

4. Hypothesis Testing Result

The research model assesses the importance of each variable's causal relationships through regression weights. The findings presented in Table 6 demonstrate that all proposed hypotheses are statistically supported at a significance level of p=0.05.

Table 6 Hypothesis Results of the Structural Equation Model

Hypothesis	(β)	t-Value	Result
H1: EC⟶ATT	0.401	12.903***	Supported
H2: SN⟶ATT	0.726	23.267***	Supported
H3: KN⟶ATT	0.085	3.097*	Supported
H4: PIP⟶ATT	0.164	5.686***	Supported
H5: PIP⟶AI	0.183	6.178***	Supported
H6: ATT⟶AI	0.162	16.749***	Supported
H7: PU⟶AI	0.664	11.261***	Supported
H8: PEU⟶AI	0.317	12.643***	Supported
H9: PFU⟶AI	0.380	5.829***	Supported

Note: *** p<0.001, * p<0.05

Source: Created by the author.

All nine hypotheses were supported based on the results of the hypothesis testing in Table 7. In H1, environmental concern significantly influences attitudes toward electric vehicles. This indicates that individuals with a strong environmental inclination tend to have more positive attitudes toward electric vehicles and are likelier to choose electric vehicles. This finding is consistent with previous research by Kahn (2007). Regarding H2, subjective norms play a significant role in shaping consumers' attitudes towards electric vehicles. Influence from sources such as media campaigns, friends, family, and colleagues positively impact individuals' attitudes and adoption intentions towards products, as supported by Andarge et al. (2020), Schmalfuß et al. (2017). The results of H3 indicate that consumers' knowledge of environmentally friendly products significantly affects their attitudes toward them. A better understanding of electric vehicles leads to more positive attitudes and a higher willingness to purchase, contributing to the development of the electric vehicle industry. This finding aligns with the conclusions of Burgess et al. (2013). H4 and H5 show that perceived incentive policies have a significant impact on consumers' attitudes towards and adoption intentions of electric vehicles. Positive perceptions of financial and non-financial incentives increase consumers' acceptance and willingness to purchase electric vehicles. This aligns with the findings of Stern et al. (1999). In H6, consumers' attitudes towards electric vehicles are key to adoption intentions. This conclusion is supported by research from Moons and De Pelsmacker (2012). H7 and H8 indicate that perceived usefulness and ease of use significantly influence consumers' intention to adopt electric vehicles, consistent with the TAM model. H9 shows that perceived fun to use also plays a significant role in influencing consumers' adoption intentions towards electric vehicles, with hedonic motivation positively impacting their intention to adopt, as supported by Magid (1994).

Conclusions, Recommendations, Limitations and Future Research

1. Conclusions

This research investigates the factors that impact consumers' attitudes and intentions to adopt electric vehicles in Zhejiang, China. Drawing on the Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB), Technology Acceptance Model (TAM), and existing empirical studies, a conceptual framework was developed to explore how environmental concerns, subjective norms, knowledge, and perceived incentive policies influence consumer attitudes towards electric vehicles. Additionally, the study examines how perceived incentive policies, perceived usefulness, perceived ease of use, perceived fun to use, and attitudes influence consumers' intentions to adopt electric vehicles. Data for the study was gathered through 500 survey questionnaires distributed to undergraduate and graduate students from four major colleges at Zhejiang Ocean University with experience with electric vehicles. Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) were employed to analyze the

data, confirm the concepts' reliability and validity, assess model fit, and test the research hypotheses. The results of data validation provided support for all nine hypotheses.

2. Recommendations

In the electric vehicle market advancement, the government, enterprises, and consumers each play pivotal roles. On the governmental front, it is imperative to bolster policy direction toward consumers to amplify the efficacy of regulations. Perceived incentive policies wield a favorable influence on consumer mindsets and intentions to adopt. Hence, the government should refine existing financial subsidy policies, channeling subsidies towards advantageous enterprises and the production and R&D of key components. Furthermore, expediting the expansion of electric vehicle infrastructure and devising a rational blueprint for charging facility growth is essential to heighten consumer convenience.

From a corporate standpoint, enhancing the performance of electric vehicles to align with consumer demands is paramount. Perceived usefulness, ease of use, and fun to use significantly shape consumer purchase intentions. Businesses should harmonize consumer perceptions and expectations, elevate perceived usefulness, ease of use, and fun to use throughout the usage process and concentrate on autonomous research and innovative technologies to translate the fundamental value of technology into perceived consumer value.

In terms of consumers, steering consumer behavior is pivotal. Environmental concerns, subjective norms, and knowledge of electric vehicles profoundly influence consumer attitudes, with attitudes serving as a mediating factor impacting consumer adoption intentions through comprehensive promotion and guidance, nurturing environmental concern concepts.

3. Limitations and Future Research

This study investigated the status of the electric vehicle industry in Zhejiang, China, by conducting empirical research on consumers' intentions to adopt electric vehicles and deriving significant conclusions. Despite the valuable insights obtained, the research has limitations, particularly considering the rapid development requirements of the electric vehicle sector.

The research sample is limited as it primarily focuses on cities in the eastern coastal region of China. It lacks representation from consumer groups in the northern and western regions, which have varying levels of economic development and consumer incomes. Future endeavors should prioritize data collection from a broader array of countries and geographic locations to enhance the research's generalizability and relevance.

Moreover, while consumer intention is pivotal in predicting purchasing behavior, a disparity exists between intention and actual behavior among electric vehicle consumers. Subsequent research should further explore the correlation between consumers' behavioral intentions and their actual behaviors concerning electric vehicles. This investigation can offer a more comprehensive understanding of consumers' decision-making processes in electric

vehicle purchases, providing valuable insights for industry advancement.

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