“The influence of perceived ESG and policy incentives on consumers’ intention to purchase new energy vehicles: Empirical evidence from China”

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THE INFLUENCE OF PERCEIVED ESG AND POLICY INCENTIVES ON CONSUMERS' INTENTION TO PURCHASE NEW ENERGY VEHICLES: EMPIRICAL EVIDENCE FROM CHINA

Abstract

The new energy vehicle industry has proliferated in the face of global climate change and challenges to sustainable development. Understanding the factors that encourage consumers to purchase new energy vehicles is essential to driving the new energy vehicle industry's future development. Based on signaling theory, this study aims to investigate the significant influence of various factors, such as perceived ESG and policy incentives, on Chinese consumers' intention to purchase new energy vehicles and explore the mediating effect of brand image and perceived value. This study adopts a quantitative research methodology by collecting data from 860 potential new energy vehicle consumers in China through a questionnaire survey and analyzing the data using structural equation modeling in AMOS 24.0. The results of the study show that consumers' perceived ESG significantly affects their intention to purchase new energy vehicles. Brand image and perceived value mediate consumers' perceived ESG factors and their purchase intention of new energy vehicles. Consumers' positive attitudes will increase the purchase intention of new energy vehicles. In addition, government incentives also have a positive and significant effect on the intention to purchase new energy vehicles. These results provide sustainable marketing guidance for NEV companies, confirming the importance of good environmental, social, and governance performance, good brand image, and perceived benefits in driving purchases. In addition, this study provides empirical evidence of policy support for the NEV industry, thus reinforcing its importance for policymakers.

Keywords ESG, brand, perceived value, policy, consumer, intention, new energy vehicle, China

JEL Classification M31, M38, M14

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INTRODUCTION

The world faces two major challenges: global climate change and the urgent need for sustainable development (Poschen, 2017; Tian et al., 2022). These challenges have catalyzed a shift in the automotive industry paradigm, leading to the rapid growth and development of the new energy vehicle industry (Yuan et al., 2015). With countries making efforts to reduce the carbon footprint and advocate for the Sustainable Development Goals (SDGs) (UN, 2015), new energy vehicles are at the frontline of this transformational journey, offering a sustainable alternative to traditional vehicles.

The new energy vehicle industry has experienced rapid growth in China, mainly due to the government's strong support and favorable policies, such as financial subsidy policies, exemption from purchase tax, easy licensing, and unlimited travel (Y. Li et al., 2018). These policy measures have promoted a significant increase in new energy vehi-

cle sales and attracted more and more consumer attention and participation (Ma et al., 2019). However, the government's cancellation of the most critical financial subsidy policy in 2023 has posed a considerable challenge to the new energy vehicle industry and triggered uncertainty about the future of the industry (MOF et al., 2021).

Despite growing recognition that environmental, social, and governance (ESG) factors have become important considerations for companies and investors (Van Duuren et al., 2016), there are still significant gaps in understanding the evolving role of ESG factors in consumers' NEV purchase decisions. Recently, however, consumer concerns about corporate social responsibility, environmental management, and sustainability have been on the rise (Gong et al., 2023), driven by increased awareness of sustainability and environmental protection (Tan & Zhu, 2022), highlighting the need for deeper research into how environmental, social, and corporate governance factors influence consumer choices in the new energy vehicle industry. In this context, understanding environmental, social, and corporate governance factors and their intricate interplay with consumer purchasing decisions is a significant gap in the literature.

1. LITERATURE REVIEW AND HYPOTHESES

In purchasing new energy vehicles, signaling theory, as described by Connelly et al. (2011), plays a significant role. It addresses the issue of information asymmetry between consumers and sellers. Automakers and dealerships act as signalers in this context, initiating communication with potential consumers. Automakers and dealers employ various signaling strategies to convey information and build trust with potential new energy vehicle consumers. A notable signal in this context is demonstrating a commitment to ESG principles. By showing ESG efforts such as eco-friendly production practices, transparent sustainability reporting, and partnerships that promote clean energy, signalers aim to reduce information asymmetry and influence consumer purchase intent. Through effective signaling, they inspire confidence in new energy vehicle consumers, emphasizing the suitability of these vehicles as sustainable and socially responsible transportation options (Khalid & Khuman, 2022).

Environmental, social, and governance (ESG) factors significantly influence consumer perceptions and decisions about companies and brands. These factors include a company's environmental friendliness, social impact, and ethical management practices. In the case of new energy vehicle brands, consumers determine their purchasing decisions by evaluating these ESG factors. Koh et al. (2022) emphasized that perceived ESG refers to how consumers perceive these aspects of a company or brand. S. Du et al. (2007) stated that strong beliefs about ESG make consumers more sensitive, which in turn causes them to show higher levels of ESG-performing companies' heightened loyalty and advocacy behaviors. Companies are beginning to recognize the importance of ESG activities not only because of their impact on stakeholders but also to gain legitimacy and recognition, especially from consumers (Giannarakis, 2014). Camilleri (2022) further highlighted that environmentally and socially responsible companies that demonstrate excellent governance practices are more likely to attract and retain consumers who prefer sustainable and reputable brands.

Brand image is a powerful determinant of consumer perception and behavior. It summarizes individuals' beliefs, emotions, attitudes, and experiences with a brand. Aaker (2011) and Kuusela (2003) defined brand image as consumers' overall impression based on these associations. Brand image has become even more important in the emerging new energy vehicle market. For consumers, a new energy vehicle's brand image represents their perception and reputation of these innovative vehicle brands, influencing their purchasing decisions (Jiang et al., 2021). From a broader business and marketing perspective, brand image includes the perceptions of all stakeholder groups, both internal and external. This overall image reflects stakeholders' satisfaction with the company, its products, and services and is determined by their subjective beliefs and perceptions (Le Roux & Du Plessis, 2014; Schultz & Kitchen, 2004).

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Empirical studies have underlined the positive correlation between brand image and consumer purchasing behavior. Agmeka et al. (2019) emphasized the mediating role of brand image between discount framing and consumer purchasing. Similarly, Isyanto et al. (2020) identified that strong brand image perceptions lead to product-centered attention, which increases purchase intentions. Benhardy et al. (2020) further elaborated that a positive brand image amplifies consumers' purchase intentions, while trust in the brand reinforces this relationship. Gong et al. (2023) explored the sustainable marketing strategies of Chinese new energy vehicle companies. Their findings suggest that a robust brand image promotes customer engagement in the Chinese new energy vehicle market and strengthens sustainable purchase intentions.

When evaluating a new energy vehicle, consumers consider its perceived value, which is the overall value or benefit they expect from a product or service relative to price (Currás-Pérez et al., 2018). The advantages of new energy vehicles over traditional internal combustion engine vehicles include energy efficiency, renewable energy sources, and lower carbon emissions, which provide consumers with clear perceived environmental benefits (Su et al., 2021). In addition, the new energy vehicle has lower fuel and maintenance costs compared to conventional vehicles, which is a significant consumer's perceived economic value (Z. Wang et al., 2017). With the continuous innovation of new energy vehicle technology, consumers have gradually accepted the overall performance and quality of new energy vehicles (C. Zhang et al., 2022). When studying the purchase intention of new energy vehicles, Chen et al. (2019) divided the perceived value into three dimensions: price factor, functional quality, and service quality. Accordingly, perceived value will influence consumers' adoption of new energy vehicles as well as their purchase intentions (Higueras-Castillo et al., 2019; W. Liu et al., 2021; Loudiyi et al., 2022; W. Zhang et al., 2022).

As defined by Monirul and Han (2012) and Vahdati et al. (2015), consumer attitudes influence purchase decisions by reflecting perceptions and evaluations of products or services. Keller (2003) showed that effective marketing can promote positive brand associations. Fan (2019) indicated that a positive Chinese brand image influences Korean consumers, while Hwang and Lyu (2020) stressed the impact of an airline's green image on consumer choice. In the new energy vehicle sector, alignment with ESG values can improve consumer attitudes. Lee and Rhee (2023) found that sustainability perceptions enhance consumer purchase attitudes toward new energy vehicles. X. Zhang et al. (2018) and W. Zhang et al. (2022) further highlighted the positive impact of perceived benefits on attitudes.

Policy incentives play a crucial role in boosting the development of the new energy vehicle industry. Z. Wang et al. (2017) pointed out that these incentives are government-imposed measures aimed at promoting the development of the new energy vehicle industry and increasing sales. In China, the government has implemented a series of consumer-focused policy incentives. J. Li et al. (2021) listed financial subsidies, purchase tax reductions, parking fee reductions, restrictions on traditional fuel vehicles, unlimited driving policies for new energy vehicles, and the construction of charging infrastructure. These incentive policy measures have paved the way for developing new energy vehicles, creating a favorable external environment, and facilitating the industry's market expansion in China (W. Li et al., 2016). In exploring the impact of these policies on consumer behavior, Z. Wang et al. (2017) applied the theory of planned behavior model to investigate consumers' willingness to purchase new energy vehicle, and the findings provided evidence of a significant correlation between policy privileges and consumers' purchase intentions. Furthermore, Huang and Ge (2019) confirmed that monetary incentives can significantly affect consumers' purchase intentions. In addition, Lin and Shi (2022) revealed that the government could use non-monetary incentive policy propaganda to influence consumers' early car purchase intention.

Consumer purchase intention is a key indicator for understanding market behavior. Yoo et al. (2000) define it as a consumer's tendency to purchase a product. This intention reflects current consumer sentiment and bridges the gap between consumers' beliefs, attitudes, and final decisions (Nagar, 2015). In corporate responsibility, ESG factors have be-

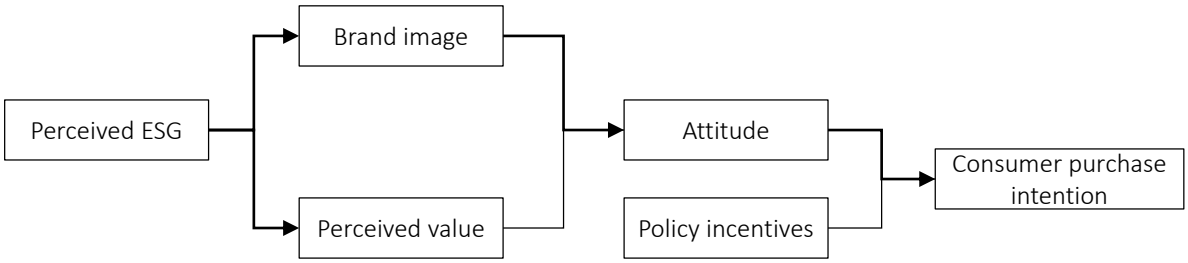

Figure 1. Research model

come important factors influencing purchase intention. Hur et al. (2018) summarized that ESG initiatives enhance corporate image by demonstrating corporate responsibility and ethics, positively influencing customer attitudes, and increasing purchase intention.

Moreover, D. Zhang and Liu (2022) pointed out that good ESG performance will send positive signals through brand image, increasing Chinese consumers' purchase intention. The perceived ESG will affect consumers' attitudes through the transmission of perceived value, and then consumers' attitudes will affect consumers' willingness to buy the brand. If consumers perceive a brand's new energy vehicle to demonstrate high quality and meet ESG principles, it will enhance overall attitudes toward that brand (Chen et al., 2019). The perceived value of new energy vehicles, including their ESG performance, acts as a bridge between signaling and consumer attitudes (He & Hu, 2022), ultimately influencing consumers' purchase intentions (Ng et al., 2018).

This study aims to investigate the significant influence of various factors, such as perceived ESG and policy incentives, on Chinese consumers' intention to purchase new energy vehicles and explore the mediating effect of brand image and perceived value. The conceptual model is shown in Figure 1. Thus, the paper develops the following hypotheses:

H1: Consumers' perceived ESG is positively related to brand image.

H2: Consumers' perceived ESG is positively related to perceived value.

H3: Brand image is positively related to consumer attitudes.

H4: Perceived value is positively related to consumer attitudes.

H5: Consumer attitude is positively related to consumer purchase intention.

H6: Policy incentives are positively related to consumer purchase intention.

H7a: Brand image will mediate the relationship between consumers' perceived ESG and attitudes.

H7b: Perceived value will mediate the relationship between consumers' perceived ESG and attitudes.

H8a: Consumers' perceived ESG and brand image play a positive mediation role in consumer attitudes and consumer purchase intention.

H8b: Consumers' perceived ESG and perceived value play a positive mediation role in consumer attitudes and purchase intention.

2. METHOD

This quantitative study uses a questionnaire survey method to collect data. The purpose is to investigate the significant influence of various factors, such as perceived ESG and policy incentives, on Chinese consumers' intention to purchase new energy vehicles, as well as to explore the mediating effect of brand image and perceived value. Therefore, the research subjects are potential consumers of new energy vehicles in mainland China. This study used the division of seven geographic regions in China by Sang et al. (2021) to ensure geographic representation. These regions cover 31 provinces in mainland China, includ-

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Table 1. Questionnaire distribution and response rate

Geographical Regions	Population (million)	Distributed	Returned	Response Rate
Northeast	98.52	140	61	43.6%
Northwest	103.53	140	60	42.9%
North China	169.33	230	103	44.8%
Central China	223.56	260	135	51.9%
East China	423.47	450	259	57.6%
South China	186.22	230	109	47.4%
Southwest	205.15	260	133	51.2%
Total	1409.78	1710	860	50.3%

ing Northeast, Northwest, North, Central, East, South, and Southwest China. Questionnaires were distributed proportionally according to the population size of these regions. 1,710 questionnaires were distributed, and 860 valid questionnaires were collected, with a recovery rate of 50.3%. The detailed results of the questionnaire survey are shown in Table 1.

The measurement of variables is based on scales validated in previous studies. The perceived ESG scale is adapted from the scale of Puriwat and Tripopsakul (2022) and Sultana et al. (2018). The five items of the brand image scale were adapted from the scale of Agmeka et al. (2019) and Islam and Hussain (2022). The five items of the perceived value scale were adapted from the questionnaire of W. Zhang et al. (2022), Koller et al. (2011), and Ng et al. (2018). The consumer attitude scale is adapted from C. Wang et al. (2022). The policy incentive scale is adapted from the by H. Du et al. (2018). The consumer purchase intention scale is adapted from M. T. Liu et al. (2020) and L. Zhang et al. (2023). All scales are scored using the 5-point Likert scale. The original questionnaire was back-translated with the help of language experts to maintain the consistency of the questionnaire content. In this study, to avoid users who do not meet the target, the questionnaire is designed with a screening question that first asks the respondents whether they are interested in new energy vehicles and whether they intend to purchase them in the future.

3. RESULTS

This study first conducted descriptive statistical information on the subjects and verified the data's reliability and validity through SPSS26.0 and AMOS24.0. Then, it constructed a structural equation model to analyze whether each path hypothesized was supported. Table 2 shows descriptive information about the participants.

Table 2. Demographic variable descriptive statistics

Construct	Items	Number	Percentage
Age	20-29 years old	229	26.6%
	30-39 years old	345	40.1%
	40-49 years old	242	28.1%
	50-59 years old	44	5.1%
Gender	Female	403	46.9%
	Male	457	53.1%
Monthly income	3000 or lower RMB	136	15.8%
	3001-6000 RMB	227	26.4%
	6001-10000 RMB	247	28.7%
	10001-20000 RMB	148	17.2%
	20001 or higher RMB	102	11.9%
Educational level	High school or below	126	14.7%
	Junior college	180	20.9%
	Bachelor's degree	374	43.5%
	Master's degree	128	14.9%
	Doctoral degree or above	52	6.0%
Number of new energy vehicles owned	No new energy vehicle	381	44.3%
	Have one new energy vehicle	284	33.0%
	Have two new energy vehicles	133	15.5%
	Have more than two new energy vehicles	62	7.2%
Experience with new energy vehicle	Yes	437	50.8%
	No	423	49.2%

To verify the reliability and validity of the data, this study measured it through factor loadings, Cronbach's alpha, Composite Reliability, and Average Variance Extraction (AVE) (Table 3). Since the factor loadings of each item are greater than 0.6, Cronbach's alpha values are greater than 0.7, Composite Reliability values are greater than 0.8, and the Average Variance Extraction values are greater than 0.5, the reliability and validity of the data in this study meet the threshold standards.

Table 3. Reliability and validity

Construct	Items	Factor Loading	Cronbach's alpha	CR	AVE
PESG	E1	0.775	0.930	0.957	0.570
	E2	0.791			
	E3	0.824			
	E4	0.772			
	E5	0.774			
	S1	0.801			
	S2	0.808			
	S3	0.778			
	S4	0.754			
	S5	0.822			
	G1	0.673			
	G2	0.685			
	G3	0.694			
	G4	0.723			
	G5	0.717			
	G6	0.692			
	G7	0.720			
Brand Image	BI1	0.747	0.885	0.885	0.606
	BI2	0.800			
	BI3	0.774			
	BI4	0.786			
	BI5	0.784			
Perceived Value	PV1	0.752	0.882	0.882	0.598
	PV2	0.779			
	PV3	0.778			
	PV4	0.776			
	PV5	0.782			
Attitude	ATT1	0.767	0.870	0.867	0.566
	ATT2	0.753			
	ATT3	0.761			
	ATT4	0.752			
	ATT5	0.728			
Policy Incentives	PO1	0.785	0.914	0.914	0.603
	PO2	0.771			
	PO3	0.786			
	PO4	0.751			
	PO5	0.777			
	PO6	0.772			
	PO7	0.794			
Consumer Purchase Intention	CPI1	0.741	0.850	0.844	0.576
	CPI2	0.775			
	CPI3	0.752			
	CPI4	0.767			

Note: CR = Composite Reliability, AVE = Average Variance Extraction, PESG = Perceived ESG, E = Environmental, S = Social, G = Governance, BI = Brand Image, PV = Perceived Value, ATT = Attitude, PO = Policy Incentives, CPI = Consumer Purchase Intention.

Table 4 reports correlations, means, and standard deviations. There is a significant positive correlation between each variable. These results highlight the close relationship between the study variables, as well as their distribution characteristics, providing useful background information for further data analysis.

This study used AMOS 24.0 software for data analysis of structural equation modeling, first using maximum likelihood estimation to test model fit. The results show that the model fits the data well, and the specific fit indicators are as follows: CMIN/DF = 2.416, CFI = 0.942, GFI = 0.900, AGFI = 0.888, TLI = 0.938, RMR = 0.092, RMSEA = 0.041. These metrics indicate that the model can explain the variation in the data well and is a very close fit to the observed data.

Hypothesis 1 about the impact of consumers' perceived ESG on brand image was fully supported ($\beta = 0.482$, $p < 0.001$). Hypothesis 2 on the impact of consumers' perceived ESG on perceived value was supported ($\beta = 0.504$, $p < 0.001$). H3, brand image has a positive impact on consumer attitudes, was also supported ($\beta = 0.319$, $p < 0.001$). H4 about the impact of perceived value on consumer attitudes was supported ($\beta = 0.290$, $p < 0.001$). Hypothesis 5 of consumer attitude on consumer intention to purchase new energy vehicle was fully supported ($\beta = 0.324$, $p < 0.001$). This finding is consistent with Vafaei-Zadeh et al. (2022). H6 about the positive impact of policy incentives on consumer purchase intention was also supported ($\beta = 0.274$, $p < 0.001$). This result verifies the role of policy incentives in promoting consumer purchase intentions in the X.-W. Wang et al.'s (2021) study. The standardized regression estimates and p-values for all hypothetical outcomes are summarized in Table 5 and Figure 2.

Table 4. Bivariate correlation, mean, and standard deviations

	PESG	BI	PV	ATT	PO	CPI	Mean	SD
PESG	0.755						3.436	0.773
BI	0.364***	0.778					3.633	0.861
PV	0.379***	0.373***	0.773				3.507	0.941
ATT	0.368***	0.355***	0.344***	0.752			3.520	0.874
PO	0.316***	0.349***	0.406***	0.387***	0.777		3.435	0.926
CP	0.287***	0.353***	0.314***	0.355***	0.345***	0.759	3.747	0.906

Note: ***p < 0.001. PESG = Perceived ESG, BI = Brand Image, PV = Perceived Value, ATT = Attitude, PO = Policy Incentives, CPI = Consumer Purchase Intention, SD = Standard Deviation.

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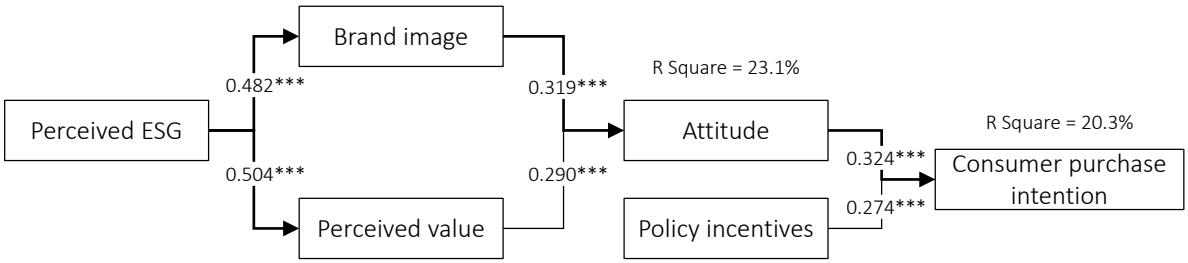

Figure 2. Research model with results

Table 5. Standardized regression estimates and p-values

Paths	Estimates	p-values	Results
H1: Perceived ESG → Brand image	0.482	.000	Supported
H2: Perceived ESG → Perceived value	0.504	.000	Supported
H3: Brand image → Attitudes	0.319	.000	Supported
H4: Perceived value → Attitudes	0.290	.000	Supported
H5: Attitudes → Purchase intention	0.324	.000	Supported
H6: Policy incentives → Purchase intention	0.274	.000	Supported

To test the mediating effect of brand image and perceived value, this study used the bootstrapping function in AMOS 24.0 software. The 95% confidence interval results from 5000 bootstrap samples are presented in Table 6. It is worth noting that the absolute value of all Z values is greater than 1.96, and the 95% confidence interval does not include zero. This indicates that the results of the mediation effect are significant.

Specifically, perceived ESG significantly impacts consumer attitudes through the mediating effect of brand image ($\beta = 0.175$, $p < 0.001$). This result provides strong support for H7a. Perceived ESG significantly impacts consumer attitudes through the mediating effect of perceived value ($\beta = 0.166$, $p < 0.001$). This result provides strong support for H7b. Perceived ESG significantly impacts consumers' intention to purchase new energy vehicles through the mediating effect of brand image and consumer attitude ($\beta = 0.057$, $p < 0.001$). This result provides strong support for H8a. Perceived ESG significantly impacts consumers' intention to purchase new energy vehicles through the mediating effect of perceived value and consumer attitude ($\beta = 0.054$, $p < 0.001$). This result provides strong support for H8b.

4. DISCUSSION

This study explores the complex factors that influence consumer decision-making in China's fast-growing new energy vehicle industry. The core of the findings is the profound impact of consumers' perceived ESG on consumer attitudes and consumer purchase intentions. The findings are consistent with Koh et al. (2022), who emphasized the positive correlation between consumers' perceived ESG and brand image. This suggests that in

Table 6. Mediating effect test

Path	Point Estimate	Product of Coefficients		Bootstrapping				P value	Conclusion
				Percentile 95% CI		Bias-corrected 95% CI			
		SE	Z	Lower Bound	Upper Bound	Lower Bound	Upper Bound		
Indirect effect									
H7a: PESG → BI → ATT	0.175	0.034	5.147	0.114	0.248	0.117	0.251	0.000 (***)	Supported
H7b: PESG → PV → ATT	0.166	0.036	4.611	0.103	0.244	0.105	0.246	0.000 (***)	Supported
H8a: PESG → BI → ATT → CPI	0.057	0.015	3.8	0.033	0.090	0.035	0.094	0.000 (***)	Supported
H8b: PESG → PV → ATT → CPI	0.054	0.015	3.6	0.030	0.088	0.032	0.091	0.000 (***)	Supported

Note: ***p < 0.001. PESG = Perceived ESG, BI = Brand Image, PV = Perceived Value, ATT = Attitude, CPI = Consumer Purchase Intention.

China, consumers perceive companies with strong ESG practices as more reputable and trustworthy.

Furthermore, the findings emphasize that a company's commitment to ESG activities improves brand image and increases the perceived value of the new energy vehicles it serves. This is in accordance with the observation made by W. Zhang et al. (2022) that when consumers perceive the efforts made by companies in ESG, they feel positive about the value of the brand.

This study also reveals the mediating role of brand image and perceived value between perceived ESG and consumer attitudes. This result aligns with Elseidi and El-Baz (2016) and Chen et al. (2019), who emphasized the mediating effect of brand image and perceived value. New energy vehicle companies that prioritize and advocate their ESG initiatives can enhance their brand image and perceived value, contributing to positive consumer attitudes.

In addition to ESG factors, the study also highlights the critical role of policy incentives in guiding consumer behavior. Similar to the findings of Y. Li et al. (2018) and X.-W. Wang et al. (2021), the results found that policy incentives such as subsidies and tax exemptions significantly increased new energy vehicle adoption rates.

Admittedly, there are some limitations in this study. First, the research sample used in this study may not fully represent the broader population and may be subject to sampling bias. Second, as a cross-sectional study, it is difficult to determine cause-and-effect relationships between variables. Longitudinal or experimental designs can more strongly reveal cause-and-effect relationships. Finally, this study focuses on the specific context of the new energy vehicle industry, and the findings may not apply to other industries.

Based on the limitations, several future research directions are worth looking forward to. Longitudinal studies provide greater insight into the long-term impact of perceived ESG and policy incentives on new energy vehicle purchase intentions. Exploring potential moderating factors, such as consumer demographics or environmental awareness, can reveal subtle relationships. Qualitative research methods such as in-depth interviews or focus groups can reveal consumers' underlying motivations and decision-making processes for adopting new energy vehicles. Assessing the effectiveness of a particular policy incentive is critical to promoting sustainable transport. In addition, research on obstacles to the expansion of the new energy vehicle market and potential solutions to these challenges will help boost the development of the field.

CONCLUSION

This study examines the significant influence of perceived ESG and policy incentives on Chinese consumers' intention to purchase new energy vehicles. It discusses the mediating effect of brand image and perceived value. The results of this study show that perceived ESG positively affects brand image and perceived value and that brand image and perceived value directly affect consumer attitudes toward new energy vehicles. The results suggest that consumer attitudes and policy incentives significantly influence new energy vehicle purchase intentions. The results also reveal the significant mediating effects of brand image and perceived value as perceived ESG influences consumer attitudes. Firstly, perceived ESG is a significant antecedent influencing consumer purchase intention. Meanwhile, perceived value was a significant predictor of consumer attitudes. In addition, consumer attitudes are an essential factor in their purchase decisions.

There are the following management implications based on the findings of this study. First, new energy vehicle companies should prioritize and publicize their ESG measures, invest in brand-building activities, and create a credible brand image around sustainability and innovation. Second, new energy vehicle companies should emphasize value propositions and focus on delivering high-quality vehicles with outstanding performance and safety at competitive prices. For policymakers, incentives for consumers to purchase new energy vehicles, such as financial subsidies and tax exemptions, should be en-

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hanced to directly influence consumers' intention to purchase new energy vehicles. Next, policymakers can increase awareness of the importance of ESG factors through public awareness campaigns. Finally, policymakers should encourage and support new energy vehicle companies to engage in technological innovation to upgrade product performance and competitiveness and promote the development of the new energy vehicle industry.

AUTHOR CONTRIBUTIONS

Conceptualization: Aweewan Panyagometh, Xiangyu Bian.
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Writing – original draft: Xiangyu Bian.
Writing – review & editing: Aweewan Panyagometh.

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