

The impact of ESG factors on purchase intention for electric vehicle ride-hailing in Vietnam

    Pham Thanh Huyen^{1*},  Nguyen Thi Minh Huyen¹,  Tran Nguyen Quan², Ngo Thi Phuong Anh²

¹Faculty of Economics and Management, International School, Vietnam National University, Hanoi, Vietnam;
huyenpt@vnuis.edu.vn (P.T.H.).

²International Business Program, International School, Vietnam National University, Hanoi, Vietnam.

Abstract: Environmental challenges such as global warming and climate change have prompted companies to adopt ESG practices to reduce carbon emissions and protect the environment. As consumers become more environmentally conscious, they increasingly evaluate firms' ESG commitments. This study examines how ESG practices influence customers' purchase intentions toward ride-hailing services using electric vehicles, focusing on Xanh SM, a subsidiary of VinFast. The model integrates Signaling Theory and the Theory of Planned Behavior, with mediating variables (Brand Image, Perceived Value, and Attitude) and moderating variables (Price Sensitivity and Convenience). Using a questionnaire survey of 233 participants and data analysis via SmartPLS 4.1.1.2, the findings show that ESG practices positively affect purchase intention through partial mediation of Brand Image, Perceived Value, and Attitude. However, Price Sensitivity and Convenience show no moderating effects. The study contributes theoretically by explaining customer decision-making through ESG perception and offers practical implications for businesses and policymakers promoting sustainable transportation.

Keywords: Attitude, Brand image, Convenience, Environment, Governance, Perceived ESG, Perceived value, Price sensitivity, Purchase intention, Social, Xanh SM.

1. Introduction

Environmental, Social, and Governance (ESG) factors are vital in modern corporate management and investment decisions. ESG includes non-financial social and environmental sustainability considerations that firms should assess alongside financial metrics when making investments [1]. ESG influences consumer behavior and perceptions, especially in service sectors like ride-hailing, promoting sustainable business development [2, 3]. The environmental dimension emphasizes protecting labor rights, improving community welfare, and ensuring customer satisfaction. The governance aspect promotes transparency, accountability, and ethical conduct. Empirical research shows a positive correlation between ESG performance and financial outcomes, highlighting ESG's influence on customer trust and brand preference [4].

In our research on ride-hailing services using electric vehicles (EVs), scholars and industry experts have examined how corporate ESG practices influence consumers' decisions to adopt EVs or use ride-hailing services. Findings suggest that ESG initiatives can improve consumers' purchase intentions and engagement with these services [5], particularly due to their eco-friendly nature, affordability, and technological innovation [6], often strengthened by fintech integration. Moreover, when passengers perceive higher levels of privacy protection, safety, and overall well-being, they are more inclined to use ride-hailing services [2], especially when supported by progressive and innovative policy measures [3].

Existing research on how ESG factors influence customers to choose electric vehicles (EVs) for ride-hailing remains limited. Most studies emphasize consumers' short-term perceptions [2] without

exploring whether ESG commitments foster long-term customer loyalty. Additionally, previous works have examined how ESG influences consumers' price sensitivity in purchasing decisions [7, 8] or the link between convenience and purchase intention [9]. It clearly states that no studies have examined how price sensitivity and convenience influence customer attitudes toward green EVs in ride-hailing services. The research aims to explore the relationship between ESG practices at Xanh SM and customer purchase intentions, considering the moderating effects of price sensitivity and convenience.

There is limited research on how the ESG practices of a specific electric vehicle (EV) company in Vietnam influence consumers' purchase intentions within the ride-hailing sector. Few studies have examined the impact of ESG factors on consumer choices in EV-based ride-hailing services. According to the Pew Research Center, nearly 80% of Vietnamese households own at least one traditional fuel-powered vehicle. The rapid growth of such vehicles has caused severe air pollution and increased carbon emissions, threatening public health and the environment. In response, Vingroup has pioneered the production and deployment of electric vehicles under its Xanh SM brand (as shown in Figure 1), according to Mordor Intelligence. This initiative reduces CO₂ emissions and promotes the development of Vietnam's electric vehicle market, supporting sustainable growth in the transportation sector, especially in major cities where conventional transportation methods still dominate (Mordor Intelligence).

Although Anh et al. [10] suggested that Vingroup should strengthen areas such as fintech integration and regulatory compliance, no existing study has specifically examined how Xanh SM, a subsidiary of Vingroup, attracts customers through its ESG initiatives. Additionally, previous research has explored how ESG influences consumers' price sensitivity in purchase decisions [7, 8], and the relationship between convenience and purchase intention [9] remains underexplored regarding how ESG influences customer attitudes toward adopting green electric vehicles in Vietnam's ride-hailing industry.

The objective of this study is to develop a conceptual model examining the impact of perceived ESG on customers' purchase intentions. It explores how ESG practices influence purchase intentions for electric vehicle-based ride-hailing services through the mediating roles of brand image, perceived value, and attitude. Additionally, it assesses whether price sensitivity and convenience moderate the relationships between perceived ESG and purchase intentions via these mediators.

2. Literature Review

2.1. Theory Framework and Conceptual Model

2.1.1. Signaling Theory

Our research is based on signaling theory to explain how ESG practices influence users' purchase intentions in Xanh SM's ride-hailing services. Moratis [11] states that signaling theory describes how two entities exchange signals to transmit intrinsic value, reducing information asymmetries. This characteristic makes it difficult for both parties to directly detect the true value, so signaling theory focuses on social differentiation issues within contexts of incomplete knowledge.

A signal represents information that a sender (signaller) intends to convey to receivers, who evaluate and respond to that information through feedback. According to Moratis [11], varying levels of quality are required from signalers as receivers interpret the meaning behind the signals. The receivers' responses serve as indicators for signalers to refine and strengthen their communication strategies. Although signals may be imperfect, those that are costly and consistently repeated tend to enhance the sender's trustworthiness and credibility. Repetition reinforces credibility by increasing receivers' confidence and ability to interpret signals accurately. In an organizational context, this suggests that a firm's legitimacy can be established through intrinsic attributes such as ESG practices, especially when its actions align with its stated commitments to customers [11]. Therefore, firms need to communicate their initiatives consistently to demonstrate reliability and credibility, thereby strengthening their brand image, fostering customer loyalty, and enhancing purchase intentions [12].

According to Chong and Loh [13], signaling theory suggests that companies can reduce information asymmetry in inefficient markets by openly disclosing information to stakeholders, especially customers. Providing detailed ESG disclosures enhances a firm's credibility and demonstrates its commitment to addressing ESG-related risks and vulnerabilities. As stricter regulations and harsher penalties are imposed, companies are encouraged to minimize unethical behavior and negative environmental impacts by integrating green strategies and sustainable practices into their operations. Despite potential legal, reputational, and financial risks, such integration can create a competitive advantage. By adopting transparent ESG standards, firms can effectively communicate their actions and strengthen overall accountability. Furthermore, Moratis [11] argued that when parties lack necessary information, they may incur costs to obtain it, indicating that decisions are influenced by trade-offs between transparency and ambiguity for both the sender and the audience. In this context, signaling involves firms' actions in sharing information and expectations about their ESG initiatives with customers. If managers, as representatives of the firm, fail to fulfill these responsibilities, customers are justified in responding or taking action against them.

In this research context, when EV companies effectively provide sufficient information and actively implement green initiatives, they can enhance their reputation and increase consumer purchase intentions, especially as environmentally friendly vehicles become more popular as sustainable transportation options [14]. Customers tend to recognize and value the green benefits embedded in such sustainable practices [15]. Moreover, transparent communication of ESG activities helps bridge the information gap between firms and consumers, enhancing brand valuation through social media engagement [16]. When companies effectively signal their ESG practices, they can build a strong brand image and increase perceived value [12], thereby fostering greater trust and credibility among customers [1]. Based on this reasoning, we propose that ESG practices have a positive relationship with purchase intention, consistent with the findings of Khalil and Khalil [17], who emphasized that efficient green initiatives can significantly strengthen consumers' purchasing intentions.

2.1.2. Theory of Planned Behaviour

According to Suntornsan et al. [18], the Theory of Planned Behavior (TPB) extends the Theory of Reasoned Action by including perceived behavioral control as a key determinant of human behavior. The theory suggests that an individual's behavior is primarily driven by their intention to perform it, which is influenced by three main factors: attitude toward the behavior, subjective norms, and perceived behavioral control. Attitude refers to how an individual evaluates a behavior; a positive evaluation increases the likelihood of forming an intention, while a negative one decreases it. Subjective norms involve the social pressure or expectations perceived by an individual; people are more likely to engage in behaviors endorsed by significant others and less likely if those figures disapprove. Perceived behavioral control reflects an individual's perception of their ability to perform a behavior, considering internal capabilities and external constraints. It affects both behavioral intention and the behavior itself, as higher perceived control tends to enhance the likelihood of both intention formation and behavioral execution.

In the context of purchase intention in the electric vehicle (EV) industry, Ji et al. [19] found that subjective norms, attitudes, and perceived behavioral control collectively influence consumers' decisions to buy EVs. Individuals form purchase intentions not only based on social expectations from various groups but also through increased awareness of environmental issues caused by fuel-based vehicles, such as pollution and resource depletion. This awareness enhances a sense of personal responsibility and ethical motivation to select environmentally friendly options. Moreover, consumers are more inclined to purchase EVs when they believe they have the necessary resources, opportunities, and confidence, driven by a sense of environmental duty that recognizes both ecological benefits and moral obligations toward sustainability. External influences can thus translate into internal motivations. Therefore, we argue that consumers' attitudes significantly impact their purchase intentions within the EV industry.

2.2. Environmental, Social, and Governance (ESG) Concept

According to Koh et al. [1], scholars and practitioners have devoted considerable attention to the concept of Environmental, Social, and Governance (ESG) since its introduction in the United Nations Principles for Responsible Investment in 2006. ESG encompasses three core pillars of Corporate Social Responsibility (CSR), along with related concepts such as green, ethical, impact, socially responsible, and sustainable practices, all aiming to generate greater benefits for society. ESG can be described as a set of actions and processes that define an organization's relationship with the natural environment, its interactions and coexistence with people and communities, and its internal governance system that regulates activities including operations, procedures, customs, and legal frameworks to align organizational objectives with stakeholder interests [1]. Although ESG originates from broader CSR principles and the two terms are often used interchangeably, the ESG framework has evolved significantly and continues to expand in scope. While no universally fixed definition exists, ESG is generally understood as a collection of initiatives and policies related to environmental protection, social responsibility, and corporate governance, addressing challenges such as waste reduction, ethical conduct, and regulatory compliance. These efforts are designed to manage risks effectively and strengthen a firm's competitive advantage, underscoring the critical role of stakeholders, including investors, shareholders, and government entities [20].

Kim and Lee [21] stated that environmental concern reflects individuals' awareness and willingness to support efforts addressing environmental issues or contribute personally to solutions. It can be categorized into three dimensions: egoistic, altruistic, and ecocentric awareness. Egoistic concern emphasizes how environmental conditions impact personal well-being, future, and lifestyle; altruistic concern involves caring for the broader community and future generations; ecocentric concern focuses on preserving the natural ecosystem itself. According to Nugroho et al. [22], environmental activities involve ecological sustainability, dependence on natural habitats, and developing climate-conscious products and services. Firms increasingly recognize the importance of adopting eco-friendly designs throughout their product innovation cycles, which enhances environmental performance and strengthens competitive advantage. Moreover, Nugroho et al. [22] highlighted that environmental and ethical concerns are reshaping managerial mindsets, urging managers to incorporate environmental ethics into strategic decisions to enhance customer loyalty and profitability. Consequently, a firm's core values are closely linked to its environmental activities and commitments.

Furthermore, Nugroho et al. [22] defined the governance aspect refers to how an organization is directed and controlled. It influences financial outcomes and overall stability by including key managerial elements such as ethical standards, accountability, transparency, disclosure practices, board diversity, mechanisms for addressing fraud and misconduct, and stakeholder management. Concerning the social dimension, the authors highlighted that it involves community well-being, protection of fundamental rights, and promotion of collective interests. Recognizing and addressing social issues is crucial for enhancing brand image and influencing consumer decisions. Similarly, Pande et al. [23] confirmed that active ESG engagement positively impacts society, reinforcing the link between corporate responsibility and social well-being.

2.3. Perceived ESG

According to Wang and Hu [24], perceived ESG refers to stakeholders' evaluations of a company's effectiveness in implementing and maintaining ESG strategies, which influence investors' trust and engagement. It also serves as a valuable assessment tool for stakeholders to gauge corporate performance in sustainability [25]. Each ESG dimension plays a crucial role in shaping overall perceived ESG [1, 14]. As outlined by Koh et al. [1], environmental responsibility reflects a company's commitment to sustainability through efforts to reduce carbon emissions, enhance energy efficiency, and minimize environmental impact; social responsibility encompasses ethical labor practices, community involvement, and contributions to societal well-being; and governance focuses on corporate ethics, transparency, and accountability. Collectively, these three dimensions influence consumer

attitudes and strengthen purchase intentions, as customers tend to view firms demonstrating strong ESG performance as trustworthy and reliable over time [1, 14, 25, 26]. Therefore, each ESG dimension serves as a second-order component contributing to the construct of perceived ESG.

3. Research Methodology

This study employs a quantitative research design using a structured survey to examine how consumers' perceptions of Environmental, Social, and Governance (ESG) practices influence their purchase intentions within the context of electric vehicle (EV) ride-hailing services. The empirical focus is Xanh SM, a subsidiary of Vingroup and a pioneer in EV-based ride-hailing in Vietnam. As one of the first large-scale providers of such services in Hanoi, Xanh SM offers a suitable case for exploring the impact of ESG-oriented strategies on consumer decision-making in emerging markets where conventional fuel-based transportation still dominates. Data were collected via an online questionnaire distributed through student, lecturer, and professional networks over one month. The questionnaire consisted of two sections: the first gathered respondents' demographic information, while the second included seven measurement variables, each assessed using five items. All variables were measured on a five-point scale. Likert [27] ranging from 1 (strongly disagree) to 5 (strongly agree). A total of 233 responses were received; after screening for completeness and consistency, 215 valid responses were retained for analysis. The use of convenience sampling aligns with prior studies exploring emerging models under time and resource constraints [4, 28]. Respondents reflected on their experiences with EV ride-hailing services and evaluated perceptions of ESG practices. The sample mainly comprised young consumers aged 18–25, representing the core demographic driving ride-hailing adoption in Vietnam.

4. Data Description

In this study, 233 responses were collected from Hanoi residents over three weeks. Of these, 215 responses were valid and used for analysis, while 18 were invalid. The demographic characteristics of respondents are as follows:

Table 1.
Demographic profile of respondents.

	Variables	N	Percentage
Gender	Male	57	26.5%
	Female	156	72.6%
	Other gender	2	0.9%
Age	Under 18	5	2.3%
	18–25	177	82.3%
	26–35	25	11.6%
	36–45	2	0.9%
	Over 45	6	2.8%
Occupation	Student	172	80.0%
	Teacher	4	1.9%
	Business	7	3.3%
	Employee	29	13.5%
	Ride-hailing driver	1	0.5%
	Retiree	2	0.9%

The mean values suggest that respondents generally agreed with the related statements, with most average scores exceeding 4.0. The standard deviations were moderate, indicating a reasonable dispersion around the mean values.

5. Hypothesis Development

5.1. Relationship between Perceived ESG and Brand Image

According to Koh et al. [1], brand image refers to how customers perceive and interpret a brand based on associations stored in their memory, shaped by the company's past interactions and efforts. A positive brand image increases purchase intention and fosters brand loyalty, as customers with a strong connection are more likely to repurchase [4]. In this study, brand image value is influenced by a firm's ESG performance. As sustainability concerns grow, consumers expect brands to demonstrate stronger commitments to sustainable practices. Perceptions of a firm's ESG efforts encourage companies to adopt initiatives addressing environmental challenges, thereby enhancing customer loyalty and strengthening brand image. This relationship is also confirmed by Eom et al. [26].

Clearly, firms cannot rely solely on incorporating green features into their products and services [29]; they must also implement robust ESG practices and strategic investments in research and development to positively influence their brand image. Companies that fulfill social responsibilities, engage in environmental initiatives, and earn public and governmental recognition can strengthen stakeholder relationships, thereby advancing sustainability efforts and enhancing corporate image and value [30]. According to Tu et al. [29], a strong brand image is reinforced through clear, transparent communication that minimizes greenwashing, enabling firms to build consumer trust and engagement via credible reputations. Although consumers increasingly see green initiatives as a basic expectation rather than a competitive advantage, companies must avoid greenwashing, as it damages brand credibility. Regardless of size, continuously improving ESG performance, maintaining transparency, and building investor trust are essential for cultivating an authentic, reliable brand image [30].

H₁: The perceived ESG positively influences brand image.

H_{1a}: The perceived environmental aspect of ESG positively influences brand image.

H_{1b}: The perceived social aspect of ESG positively influences brand image.

H_{1c}: The perceived governance aspect of ESG positively influences brand image.

5.2. Relationship between Perceived ESG and Perceived Value

Perceived value is defined as the customer's overall assessment of a product or service's worth based on their perceptions and experiences [31]. It represents the total benefits customers receive from purchasing and using a product or service, relative to the costs and efforts involved. When customers perceive greater value, their engagement and satisfaction increase, leading to stronger commitment and long-term relationships with the brand. Product quality and differentiation positively influence perceived value [20]. Furthermore, when customers hold favorable evaluations of a product, they are more likely to engage in positive word-of-mouth communication and demonstrate greater loyalty toward the brand [7]. Therefore, perceived value is an essential factor in fostering strong, lasting relationships among buyers, sellers, and producers.

Liang et al. [20] stated that ESG initiatives allow companies to differentiate their products and services by emphasizing customization, incorporating customer feedback, and continuous improvement to maintain quality. ESG performance influences customer perception of a company's value, indicating that firms should evaluate and refine their services while also strengthening customer–company relationships. Similarly, Pong and Man [32] highlighted that ESG activities attract the attention of both customers and investors, fostering loyalty when these stakeholders share similar values with the firm. This value alignment occurs when customers recognize a company's genuine commitment to ethical and sustainable practices. Although implementing ESG initiatives can be costly, they are essential for long-term success. Jin and Lei [33] argued that such investments significantly enhance corporate value by reducing risks and financial costs while building trustworthy partnerships. Moreover, Jin and Lei [33] concluded that firms benefit not only from external stakeholder recognition but also from an enhanced sense of accountability, which serves as a long-term competitive advantage. Therefore, ESG practices play a crucial role in enhancing customers' perceived value of a firm.

H₂: Perceived ESG positively influences perceived value.

H_{2a}: The perceived environmental aspect of ESG positively influences perceived value.

H_{2b}: The perceived social aspect of ESG positively influences perceived value.

H_{2c}: The perceived governance aspect of ESG positively influences perceived value.

5.3. Relationship between Brand Image, Perceived Value, and Customer's Attitude.

Customer attitude refers to the extent to which consumers respond positively or negatively to specific products, brands, or businesses. It is influenced by knowledge and information from family, friends, society, and personal experiences with a brand [34]. Customer attitude affects overall brand perception and preference; favorable attitudes tend to increase purchase likelihood and brand advocacy, while unfavorable attitudes may discourage consumers from engaging with a company's products or services [35]. Therefore, customer attitude plays a crucial role in determining how consumers develop trust, preference, and long-term loyalty toward a brand [34].

Fishbein and Ajzen [36] defined attitude toward behavior as an individual's positive or negative evaluation of performing a specific action. It comprises two components: experiential and instrumental. The experiential aspect reflects emotional responses to engaging in behavior, focusing on anticipated feelings or affective experiences associated with it [37]. Descriptors like "interesting" or "boring" reflect the emotional dimension, while the instrumental component involves a cognitive evaluation of expected outcomes, described as "valuable" or "worthless," highlighting perceived usefulness or consequences. Empirical studies indicate that experiential attitudes are generally stronger predictors of behavioral intentions and actual behavior than instrumental attitudes [38]. In the context of this research, Panyagometh and Bian [14] found that strong brand image significantly influences customer attitudes by shaping perceptions and evaluations of products and services, especially when aligned with an eco-friendly corporate image that boosts customers' willingness to buy. Puriwat and Tripopsakul [39] emphasized that integrating ESG factors into corporate strategies and operations can enhance brand image and foster positive customer attitudes. Transparent communication of ESG initiatives across multiple platforms allows customers to recognize a firm's ethical commitment, building trust and reinforcing brand credibility. Consequently, when a company's brand image is strengthened through authentic ESG practices, it can improve customer trust and increase purchase intention.

Furthermore, Salehzadeh and Pool [40] and Dam [41] emphasized that perceived value has a direct relationship with customer attitude, and both positively influence purchase intention when customers recognize the value derived from ESG activities [42]. To enhance this perception, Park and Shin [43] recommended that firms actively educate consumers about ESG awareness, helping them better appreciate the value created through sustainable practices. Perceived value, which results from comparing costs and benefits, is closely linked to the relationship between brands and customers under ESG initiatives, as these practices are crucial for ensuring quality and increasing perceived value Liang et al. [20]. Wang et al. [44] also found that customers assess ESG efforts based on risk management, transparency, and strategic initiatives, which show how firms reduce harm and generate stakeholder value. In today's tech-driven environment, perceived value is vital for customer satisfaction and competitive edge [45]. Notably, perceived green value and trust from ESG engagement significantly influence customers' purchase intentions.

Moreover, Tai et al. [46] confirmed that companies aligning public perceptions of sustainability and ethical conduct with ESG principles in their strategic and decision-making processes can significantly enhance their trustworthiness by attracting talent and improving risk management. Similarly, Kim et al. [47] found that ESG practices strongly influence how customers perceive value while also strengthening brand reputation and credibility. As customer awareness of ESG continues to rise, firms must maintain consistent, transparent, and ethical operations to build trust and reliability, as consumers increasingly view ESG initiatives as delivering superior benefits. Consequently, perceived value leads customers to regard brands as prestigious and dependable, fostering long-term emotional connections that increase their likelihood of repurchasing products and services [45, 48]. In addition, ESG practices serve as protective mechanisms that reduce consumer uncertainty and enhance

engagement, creating strong value propositions that encourage impulse purchases and positively influence buyers' emotional responses [17]. Therefore, perceived value serves as a mediating factor linking ESG practices to customer attitude.

H₃: Brand image positively influences Attitude.

H₄: Perceived values positively influence Attitude.

H₅: Attitude positively influences purchase intention.

5.4. Relationship between Customer's Attitudes and Purchase Intention

According to Ilieva et al. [35], purchase intention refers to a consumer's inclination or planned decision to buy a specific product or service in the future, reflecting the likelihood of purchase influenced by various internal and external factors. Understanding how customers form purchase intentions enables companies to analyze market trends and adapt their offerings to increase sales and profitability. Trust plays a vital role in reinforcing these intentions, as consumers' attitudes toward brand recognition and perceived value significantly impact their decision-making process [49]. Similarly, Sallam and Algammash [50] found that consumer attitudes directly influence purchase intention, especially when ESG considerations are evaluated before buying, which is particularly relevant for green firms (Hartmann & Apaolaza-Ibáñez, 2012). As environmental concerns increase, eco-friendly products enhance consumers' perceptions of ESG practices, directly affecting purchase intentions [7]. Attitude, defined as an individual's evaluative stance toward a behavior, plays a key role in shaping intention; positive attitudes increase the likelihood of purchase, while negative attitudes decrease it. Consequently, customer attitudes significantly impact purchase intention, as prior experiences and expectations influence perceived benefits from products and services. To mitigate negative perceptions that could harm reputation and reduce purchase intent, companies should carefully develop brand image strategies [49]. Since brand image emerges from the connection between firms and customers, strong brand features help consumers recall and emotionally engage with the brand, while consistent communication strengthens trust, loyalty, and differentiation in the marketplace [51].

Furthermore, Song et al. [52] stated that comprehending customer perceptions of ESG can be examined through internal elements (incentives and beliefs) and external elements (observable features). Higher involvement with ESG activities and performance [48] leads to a better understanding of a firm's ESG commitment and reputation development. Consequently, increased corporate trust and awareness positively influence purchase intention. Companies should therefore communicate a clear, transparent message to shift customer attitudes towards ESG [4] and improve platform flexibility for greener purchasing options.

H₆: Attitude positively influences purchase intention.

5.5. The Moderating Role of Price Sensitivity and Convenience.

According to Lin et al. [7], price sensitivity refers to the extent to which a product's or service's price influences a consumer's evaluation and purchasing decision. Consumers tend to be more tolerant of price fluctuations when they trust a brand, but they react more strongly when they perceive a product as unreliable or of lower quality. Those with high price sensitivity are more likely to adjust their purchasing behavior in response to price changes, while those with low sensitivity remain relatively unaffected. However, when consumers perceive a product or service as offering high value, particularly when quality outweighs cost considerations, their price sensitivity tends to decrease. Purchase decisions are therefore influenced by consumers' understanding of market prices and available information, as each individual has a specific price range they are willing to accept. Consequently, consumers with low price sensitivity are more likely to purchase green products when they perceive strong ESG value, whereas those with high price sensitivity are less inclined to buy, even if they are aware of environmental issues [8].

Hypothesis 6 (H6): Price sensitivity has a moderating effect on the relationship between attitude and purchase intention.

According to Pham et al. [9], convenience refers to a customer's perception of the time and effort needed to acquire and use a service within the service economy. The concept originated from designing products and services to minimize the time and effort involved in purchasing and ownership. In the modern knowledge-based economy, rapid innovation is a key driver of competitiveness, prompting firms to refine business processes and leverage technological advancements to deliver seamless customer experiences. These innovations improve organizational performance and social capital, while also increasing customers' sense of convenience, thus facilitating their purchase decisions.

Hypothesis 7 (H7): Convenience has a moderating effect on the relationship between attitude and purchase intention

5.6. The Conceptual Model

Based on the hypotheses proposed (H1 to H7), the research model in Figure 1 illustrates the relationship between perceived ESG practices and customers' purchase intentions. The model starts with customers' perceptions of ESG activities and ends with their purchase intention. Each of the three ESG dimensions acts as a second-order factor of perceived ESG [1]. When customers recognize the value of ESG practices, they tend to develop greater trust and loyalty toward services, accompanied by feelings of confidence and positivity when engaging with brands demonstrating strong ESG commitments [1, 14, 39]. Consequently, these perceptions foster favorable attitudes and encourage customers to make informed decisions to use electric vehicle-based ride-hailing services, thereby increasing purchase intention [1, 14]. Nonetheless, customers still consider factors such as price sensitivity and service convenience before making final decisions, regardless of a firm's ESG performance [7-9].

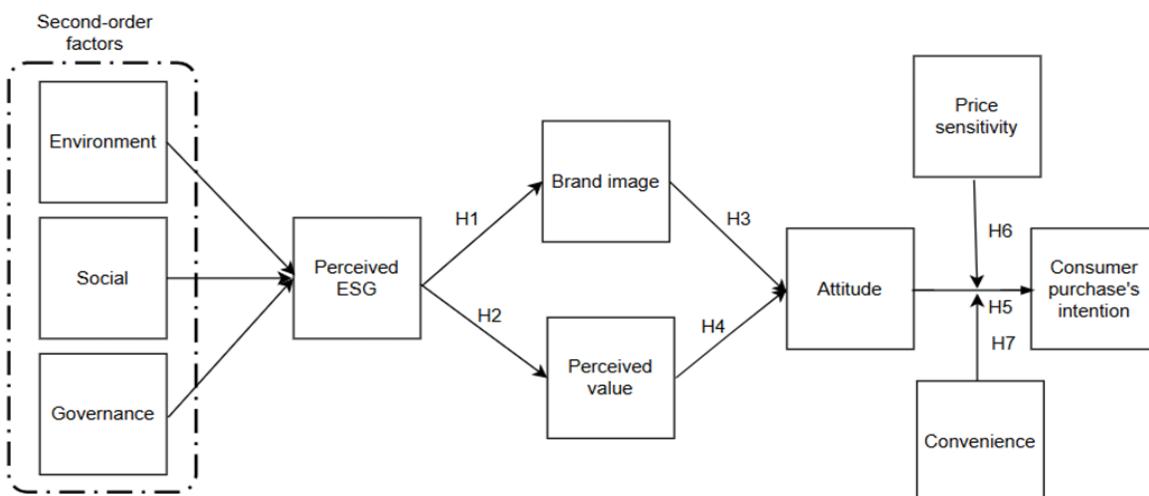


Figure 1.
Conceptual Model.

6. Findings and Analysis

The measurement model's reliability and validity were initially assessed. All constructs demonstrated acceptable internal consistency, with Cronbach's alpha and composite reliability (CR) values exceeding the 0.70 threshold. Convergent validity was confirmed as the average variance extracted (AVE) values were above 0.50 for all constructs. Although two environmental indicators and some price sensitivity items loaded below 0.70, they were retained due to their theoretical importance and overall reliability. Discriminant validity was established through both the Fornell–Larcker criterion and the HTMT ratio, confirming that the constructs were empirically distinct.

Table 2.

Reliability and Validity Assessment of Constructs.

Construct	Cronbach's α	CR	AVE	HTMT (max)	Conclusion
Perceived ESG	0.892	0.925	0.612	< 0.85	Reliable & valid
Brand Image	0.873	0.914	0.639	< 0.85	Reliable & valid
Perceived Value	0.901	0.933	0.661	< 0.85	Reliable & valid
Attitude	0.881	0.918	0.654	< 0.85	Reliable & valid
Purchase Intention	0.889	0.926	0.678	< 0.85	Reliable & valid

These results confirm that the measurement model demonstrates satisfactory reliability, convergent validity, and discriminant validity, providing a robust foundation for structural model testing.

The structural model demonstrated strong explanatory and predictive power. The coefficient of determination (R^2) values indicated moderate to high explanatory strength: brand image (0.611), perceived value (0.750), attitude (0.662), and purchase intention (0.683). The effect size (f^2) analysis revealed very large impacts from perceived ESG on perceived value ($f^2=3.001$) and from attitude on purchase intention ($f^2=1.083$), while the effect of brand image on attitude was relatively small. Predictive relevance (Q^2) values were all positive and exceeded 0.50: brand image (0.609), perceived value (0.752), attitude (0.529), and purchase intention (0.524), demonstrating strong predictive accuracy. Overall, these results confirm that the proposed model possesses both explanatory and predictive strength.

The analysis confirmed support for all five direct hypotheses (H1–H5). Perceived ESG significantly influenced brand image ($\beta = 0.782$, $p < 0.001$) and perceived value ($\beta = 0.866$, $p < 0.001$). Both brand image ($\beta = 0.169$, $p = 0.029$) and perceived value ($\beta = 0.674$, $p < 0.001$) positively influenced attitude, which in turn strongly predicted purchase intention ($\beta = 0.727$, $p < 0.001$).

Table 3.

Results of Hypothesis Testing.

Hypothesis	Path	β (Beta)	t-value	p-value	Decision
H1	Perceived ESG → Brand Image	0.782	17.183	0.000	Supported
H2	Perceived ESG → Perceived Value	0.866	29.928	0.000	Supported
H3	Brand Image → Attitude	0.169	2.179	0.029	Supported
H4	Perceived Value → Attitude	0.674	9.585	0.000	Supported
H5	Attitude → Purchase Intention	0.727	14.007	0.000	Supported
H6	Price Sensitivity → Purchase Intention	0.106	1.673	0.094	Not Supported
H7	Convenience → Purchase Intention	0.060	0.963	0.335	Not Supported

The mediation tests further highlighted the indirect mechanisms linking ESG perceptions to purchase intention. Perceived ESG indirectly influenced purchase intention through brand image and attitude ($\beta = 0.096$, $p < 0.01$) and more strongly through perceived value and attitude ($\beta = 0.424$, $p < 0.05$). These findings underscore that ESG shapes behavioral intention primarily by enhancing perceived value, which then fosters favorable attitudes that drive intention.

Overall, the results demonstrate that ESG perceptions strongly influence purchase intention in Vietnam's EV ride-hailing market. Perceived value is the most influential mediator, with attitude serving as the key link between ESG perceptions and intention.

Brand image also plays a role, but has a smaller effect compared to value. Price sensitivity and convenience are not significant predictors, indicating that younger Vietnamese consumers prioritize ESG commitments over traditional cost and service factors. This reflects a generational shift in mobility choices, where sustainability values increasingly outweigh functional or financial considerations.

To illustrate the data distribution, Table 4 presents the descriptive statistics for the constructs included in the model.

Table 4.
Descriptive statistics for the constructs in the model.

Name		Mean	Standard deviation	Scale min.	Scale max.
Perceived environment (PE)	PE1	4.228	0.695	1.000	5.000
	PE2	4.135	0.750	1.000	5.000
	PE3	4.242	0.794	1.000	5.000
	PE4	4.223	0.775	1.000	5.000
	PE5	4.172	0.767	1.000	5.000
Perceived social (PS)	PS1	3.879	0.792	1.000	5.000
	PS2	4.019	0.795	1.000	5.000
	PS3	4.126	0.733	1.000	5.000
	PS4	4.177	0.686	2.000	5.000
	PS5	4.112	0.745	1.000	5.000
Perceived governance (PG)	PG1	4.279	0.726	1.000	5.000
	PG2	4.256	0.671	1.000	5.000
	PG3	3.977	0.821	1.000	5.000
	PG4	4.186	0.730	1.000	5.000
	PG5	4.079	0.714	1.000	5.000
Brand image (BI)	BI1	4.293	0.627	1.000	5.000
	BI2	3.926	0.809	1.000	5.000
	BI3	4.135	0.738	2.000	5.000
	BI4	4.135	0.757	1.000	5.000
	BI5	4.209	0.746	1.000	5.000
Perceived value (PV)	PV1	4.270	0.703	1.000	5.000
	PV2	4.181	0.728	1.000	5.000
	PV3	4.070	0.801	1.000	5.000
	PV4	3.958	0.848	1.000	5.000
	PV5	4.112	0.763	1.000	5.000
Attitude (A)	A1	4.163	0.706	1.000	5.000
	A2	4.153	0.695	1.000	5.000
	A3	4.037	0.740	1.000	5.000
	A4	4.163	0.757	1.000	5.000
	A5	4.079	0.800	1.000	5.000
Purchase intention (PI)	PI1	4.172	0.767	1.000	5.000
	PI2	4.102	0.765	1.000	5.000
	PI3	4.144	0.820	1.000	5.000
	PI4	4.014	0.865	1.000	5.000
	PI5	4.070	0.795	1.000	5.000
Price sensitivity (PSS)	PSS1	4.302	0.817	1.000	5.000
	PSS2	4.284	0.777	1.000	5.000
	PSS3	4.195	0.883	1.000	5.000
	PSS4	3.819	0.868	1.000	5.000
	PSS5	4.335	0.824	1.000	5.000
Convenience (C)	C1	4.363	0.674	2.000	5.000
	C2	4.335	0.728	1.000	5.000
	C3	4.326	0.732	1.000	5.000
	C4	4.316	0.723	1.000	5.000
	C5	4.377	0.649	1.000	5.000

7. Discussion

7.1. Perceived ESG, Brand Image, and Perceived Value

The hypotheses H1 and H2 demonstrated that ESG practices, as a second-order factor of Perceived ESG, influence Brand Image and Perceived Value. This aligns with findings by Panyagometh and Bian [14], Eom et al. [26], and Oh et al. [25]. Customers prefer greener transportation modes and believe electric vehicles promote environmental protection. They also value Xanh SM's internal environmental programs. Customers emphasize fair treatment of companies toward customer and employee well-being, responsible corporate culture, and transparent, strict codes of conduct for pricing and regulation compliance to prevent fraud. Consequently, customers feel a strong connection to the brand when they trust its trustworthiness. They recognize that the brand is competitive and capable of attracting attention. Additionally, customers appreciate Xanh SM's ESG efforts, viewing them as beneficial to society, which enhances their trust in the brand. They also believe that the benefits of ESG initiatives outweigh their costs.

7.2. Brand Image, Perceived value and Attitude

The hypotheses H3 and H4 were examined, suggesting that Brand Image and Perceived Value influence customer attitudes. This aligns with findings from Salehzadeh and Pool [40], Higuera-Castillo et al. [31], Yum and Kim [45], and Ji et al. [19]. Building trust, loyalty, and positive perceptions of ESG practices helps customers feel comfortable and well-informed during service experiences. This result confirms the findings of Pong and Man [32] and Pande et al. [23] that customers or investors perceive a firm as reliable when they share similar sustainability values and approaches. In our research, using Xanh SM's electric ride-hailing services indicates an informed decision if customers support the company's ESG commitments, which meet their expectations. This is especially relevant as the firm employs digital ESG practices, utilizing advanced technology to streamline processes and reduce carbon emissions [53]. Such alignment enhances trust and perceived reliability in the firm's sustainability efforts [34].

7.3. Attitude and Purchase Intention

The hypothesis H5 was found that Attitude and Purchase intention have a positive relationship, which is similar to the findings from the research of Chen et al. [49], Hartmann and Apaolaza-Ibáñez [54], Ilieva et al. [35], Puriwat and Triopsakul [34], and Salehzadeh and Pool [40]. When customers have a positive attitude toward a brand, they are more likely to recommend it, pay more, and prefer it over alternatives because they see ESG practices as rewarding and desirable for their time and expenditure on the service [48]. Increased knowledge about a firm correlates with a higher likelihood of purchase intention, emphasizing the importance of transparency and information sharing in building customer trust and loyalty [21]. As a result, if a firm invests in ESG practices, more customers will highly evaluate their efforts and are more likely to have purchase intentions or revisit later because they act like investors who recognize and process positive signals. These signals propel customers to increase their investment, purchase intention, or revisit frequency, reinforcing the importance of ESG initiatives in influencing consumer behavior [23, 32].

7.4. Price sensitivity and Convenience

The hypotheses H6 and H7 were not supported; therefore, price sensitivity and convenience do not moderate the relationship between ESG practices and purchase intention. It contradicts the result of the study of Lin et al. [7] and Pham et al. [9], but shares the same result as [8]. This is attributed to the fact that our respondents are young people aged 18 to 25 studying at university, making them more knowledgeable about ESG than other age groups because they are educated carefully about sustainability and environmental protection [34, 39]. Therefore, they value ESG internal practices and

the external presence of ride-hailing services more than price changes, higher costs, or convenience factors like booking or waiting times. ESG practices are seen as a competitive advantage, helping them make informed decisions about using electric vehicles or perceiving greater benefits than costs when adopting ESG-focused services [5, 8, 28].

7.5. Implications

7.5.1. Theoretical Implications

To explain the process from perceiving each ESG aspect to customer purchase intention for ride-hailing services adopting electric vehicles, we use a combination of signaling theory and the theory of planned behavior, which no previous research has done. Signaling theory emphasizes senders providing signals to receivers. Our findings indicate that if customers perceive ESG practices of Xanh SM, this perception translates into loyalty, trustworthiness, and a positive brand image, along with a favorable attitude, ultimately leading to well-informed purchase intentions. This process supports hypotheses H1 to H5, demonstrating that the research model is effectively explained by signaling theory, which is confirmed by the findings of Hobbs and Schneller [55] and Moratis [11] that sustainable factors transmit positive signals to customers by gradually increasing awareness of ESG, making customers feel they share similar values with the firm to contribute to environmental protection and social equity. This motivation encourages them to use ride-hailing services. The theory of planned behavior indicates that individuals are motivated when they recognize value and accumulate knowledge over time, leading them to see such actions as ethically responsible and normative [18]. In our research context, when customers understand ESG values, they find the ride-hailing service of Xanh SM ethically responsible because it aligns with societal norms, indicating they highly value the brand image and perceived value, fostering a positive attitude toward Xanh SM [19].

Additionally, we found that brand image, perceived value, and attitude partially mediated the process, indicating that in the Vietnam case, participants do not prioritize brand image, perceived value, and attitude, which is different from the study of Ji et al. [19] in China or study of Koh et al. [1] that Perceived value, attitude, and brand image are fully mediated, despite both our research and theirs identifying the mediation effect of these variables. Using signaling theory and the theory of planned behavior, it can be explained that Vietnamese customers prioritize direct experience over considerations of brand reputation, perceived value, and attitude.

The signaling theory and the theory of planned behavior explain why the moderating effect of price sensitivity and convenience is absent. The young group in the research, who understand ESG values and see them as social norms, will develop a direct purchase intention regardless of price or convenience. They perceive using green transportation as a positive signal and consider it essential to follow social norms, regardless of cost or ease of access [8, 9].

7.5.2. Practical Implications

The findings indicate that ESG practices significantly influence purchase intention in ride-hailing services adopting electric vehicles in the context of Xanh SM. Brand image, perceived value, and attitude partially mediate this process. Firms are recommended to focus on diverse media channels to communicate environmental concerns and emphasize social initiatives such as donations and welfare improvements to enhance reputation [39]. Additionally, firms should also communicate ESG activities transparently through many channels for customers to recognize the brand ethical commitment and sustainable efforts [1]. Finally, the research indicates that price sensitivity and convenience do not moderate the process. Firms are recommended to communicate clearly and openly about environmentally friendly product patterns to help customers understand added value rather than focusing solely on cost [8]. For the government, it is suggested that policy incentives be implemented to promote greener transportation modes like electric vehicles and that environmental protection be integrated into the national curriculum [14].

7.5.3. Policy Implications

The findings of this study offer valuable insights for policymakers aiming to promote electric vehicle (EV) adoption and develop sustainable transportation systems. To support ESG-oriented firms like Xanh SM, governments should consider expanding EV infrastructure, such as increasing charging stations, and providing incentives for EV operators. Additionally, scaling ESG-driven innovations across the transportation sector can be achieved through the development of public-private partnerships, fostering industry-wide progress.

Furthermore, implementing certification schemes that recognize ESG compliance and promoting transparency in corporate operations can help standardize and advance ESG practices industry-wide. Public awareness campaigns that highlight the benefits of ESG, both environmental and social, can educate consumers, build trust, and encourage sustainable consumption. These combined efforts may accelerate behavioral shifts toward environmentally responsible services and foster a supportive ecosystem for sustainable mobility.

7.6. Limitations and Suggestions for Further Study.

While this research provides valuable insights into the influence of ESG factors on consumers' intentions to use green ride-hailing services, some limitations should be acknowledged. These drawbacks suggest areas for future research to improve and expand upon the current findings.

To begin with, the study's geographical focus is limited to Hanoi, where Xanh SM currently has the most substantial presence. Since consumer attitudes and ESG awareness can vary across different regions in Vietnam, the results may not fully represent urban or rural areas nationwide. Future research should expand the geographic scope to include cities such as Ho Chi Minh City, Da Nang, and other provinces. This broader approach would enable a more comprehensive understanding of consumer behaviors and enhance the applicability of the proposed model for developing national green transportation policies.

In addition, although the research design employed validated tools to ensure data reliability and credibility, reliance on self-reported survey responses introduces potential biases, including personal subjectivity and social desirability effects. Future studies could adopt a mixed-method approach, incorporating qualitative interviews, behavioral analytics, or observational data to enhance objectivity and depth. Such methodological triangulation would support more evidence-based strategies for corporate managers and policy developers.

Furthermore, the study's structural model has been logically developed and demonstrates a high level of explanatory ability in capturing the impact of ESG elements. However, there is still significant potential for enhancement. To evaluate the model's stability and generalizability, further research could examine its application in various contexts, such as other green transport services or diverse consumer segments, to include more mediating or moderating variables. These extensions would increase the model's applicability in broader contexts and deepen our understanding of sustainable consumer behavior.

Last but not least, this research collected data at a specific point in time using a cross-sectional methodology. Although this method effectively identifies relationships and variations in the present, it is less suitable for assessing how customer attitudes and behaviors change over time. Future studies could benefit from a longitudinal design to track the long-term development of ESG awareness and its impact on purchase intention, as ESG remains a relatively new and evolving concept in Vietnam.

8. Conclusion and Implications

This study examined how ESG practices influence consumer purchase intention in Vietnam's EV-based ride-hailing market, focusing on the mediating roles of brand image, perceived value, and attitude. The results provide strong evidence that ESG perceptions significantly enhance brand image and perceived value, which in turn foster positive attitudes that drive purchase intention. Among the mediators, perceived value was the strongest, while attitude served as the essential bridge linking ESG

perceptions to consumer intention. Brand image also played a meaningful role, though less strongly than perceived value. Conversely, price sensitivity and convenience were not significant predictors, indicating that younger Vietnamese consumers prioritize sustainability commitments over cost or functional efficiency. The study advances theory by integrating signaling theory and the theory of planned behavior to clarify how ESG influences consumer behavior. The findings confirm that ESG practices act as credible signals that enhance brand image and perceived value [34, 53]. They also reinforce the TPB framework, emphasizing the central role of attitude in shaping behavioral intentions [48, 49]. The study shows perceived value is more influential than brand image in Vietnam, extending prior research [19, 23] and emphasizing the importance of context-specific mediators in emerging markets. It also notes that the non-significance of price sensitivity and convenience suggests that traditional TPB constructs may function differently across generational cohorts [21, 28]. From a managerial perspective, the results indicate that ESG initiatives should be positioned as both symbolic commitments and tangible sources of consumer value. For companies like Xanh SM, communicating environmental and social benefits, such as reducing pollution, improving community well-being, and aligning with sustainability goals, is crucial for enhancing perceived value. Transparent communication, consistent branding, and targeted engagement with younger consumers are likely more effective than focusing solely on price or convenience. Policymakers can support this transition by expanding EV infrastructure, ensuring transparency in ESG practices, and promoting sustainability awareness through public campaigns [5, 40]. These actions will not only accelerate the adoption of ESG-driven services but also embed sustainability more deeply into consumer decision-making in Vietnam. Despite its contributions, the study has several limitations. The sample was relatively small and concentrated in Hanoi, limiting generalizability across Vietnam. The cross-sectional design also restricts the ability to capture changes in consumer perceptions over time. Future research should address these limitations by employing larger and more diverse samples, conducting longitudinal studies, and extending the analysis to other cities and regions. Additionally, further studies could explore other potential moderators such as consumer trust, ESG awareness, or cultural differences to provide a more nuanced understanding of how ESG practices shape consumer behavior across contexts.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study, with no vital features omitted. Any discrepancies from the planned study have been explained. This study adhered to all ethical practices during writing.

Copyright:

© 2026 by the authors. This article is an open-access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

References

- [1] H.-K. Koh, R. Burnasheva, and Y. G. Suh, "Perceived ESG (environmental, social, governance) and consumers' responses: The mediating role of brand credibility, Brand Image, and perceived quality," *Sustainability*, vol. 14, no. 8, p. 4515, 2022. <https://doi.org/10.3390/su14084515>
- [2] N. Ali, M. A. Javid, T. Campisi, K. Chaiyasarn, and P. Saingam, "Measuring customers' satisfaction and preferences for ride-hailing services in a developing country," *Sustainability*, vol. 14, no. 22, p. 15484, 2022. <https://doi.org/10.3390/su142215484>
- [3] N. Hoang-Tung, H. T. Linh, H. V. Cuong, P. L. Binh, S. Takeda, and H. Kato, "Ride-hailing service adoption and local context in motorcycle-based societies: Case study in hanoi, vietnam," *Sustainability*, vol. 14, no. 2, p. 728, 2022. <https://doi.org/10.3390/su14020728>
- [4] H. J. Lee and T.-h. Rhee, "How does corporate ESG management affect consumers' brand choice?," *Sustainability*, vol. 15, no. 8, p. 6795, 2023. <https://doi.org/10.3390/su15086795>
- [5] Z. Xu, Z. Song, and K.-Y. Fong, "Perceived price fairness as a mediator in customer green consumption: Insights from the new energy vehicle industry and sustainable practices," *Sustainability*, vol. 17, no. 1, p. 166, 2025. <https://doi.org/10.3390/su17010166>

[6] A. Al-Banna, Z. A. Rana, M. Yaqot, and B. C. Menezes, "Supply chain resilience, industry 4.0, and investment interplays: A review," *Production & Manufacturing Research*, vol. 11, no. 1, p. 2227881, 2023. <https://doi.org/10.1080/21693277.2023.2227881>

[7] T. T. Lin, Y.-Q. Yeh, and S.-Y. Hsu, "Analysis of the effects of perceived value, price sensitivity, word-of-mouth, and customer satisfaction on repurchase intentions of safety shoes under the consideration of sustainability," *Sustainability*, vol. 14, no. 24, p. 16546, 2022. <https://doi.org/10.3390/su142416546>

[8] B. Yue, G. Sheng, S. She, and J. Xu, "Impact of consumer environmental responsibility on green consumption behavior in China: The role of environmental concern and price sensitivity," *Sustainability*, vol. 12, no. 5, p. 2074, 2020. <https://doi.org/10.3390/su12052074>

[9] Q. T. Pham, X. P. Tran, S. Misra, R. Maskeliūnas, and R. Damaševičius, "Relationship between convenience, perceived value, and repurchase intention in online shopping in Vietnam," *Sustainability*, vol. 10, no. 1, p. 156, 2018. <https://doi.org/10.3390/su10010156>

[10] H. T. N. Anh, N. Q. Hoa, D. N. T. Tam, N. T. H. Nga, and L. Van Toan, "Integrating sustainability into financial reporting: A case study of Vingroup," *International Journal Of All Research Writings*, vol. 6, no. 5, pp. 7-16, 2024.

[11] L. Moratis, "Signalling responsibility? Applying signalling theory to the ISO 26000 standard for social responsibility," *Sustainability*, vol. 10, no. 11, p. 4172, 2018. <https://doi.org/10.3390/su10114172>

[12] S. Ling, C. Zheng, and D. Cho, "How brand knowledge affects purchase intentions in fresh food e-commerce platforms: The serial mediation effect of perceived value and brand trust," *Behavioral sciences*, vol. 13, no. 8, p. 672, 2023. <https://doi.org/10.3390/bs13080672>

[13] T. Chong and L. Loh, "Innovating ESG integration as sustainable strategy: ESG transparency and firm valuation in the palm oil sector," *Sustainability*, vol. 15, no. 22, p. 15943, 2023. <https://doi.org/10.3390/su152215943>

[14] A. Panyagometh and X. Bian, "The influence of perceived ESG and policy incentives on consumers' intention to purchase new energy vehicles: Empirical evidence from China," *Innovative Marketing*, vol. 19, no. 4, pp. 187–198, 2023. [https://doi.org/10.21511/im.19\(4\).2023.15](https://doi.org/10.21511/im.19(4).2023.15)

[15] T.-L. Hu, C.-M. Chao, and C.-H. Lin, "The role of social media marketing in green product repurchase intention," *Sustainability*, vol. 16, no. 14, p. 5916, 2024. <https://doi.org/10.3390/su16145916>

[16] M. T. Lee, R. L. Raschke, and A. S. Krishen, "Signaling green! firm ESG signals in an interconnected environment that promote brand valuation," *Journal of Business Research*, vol. 138, pp. 1-11, 2022. <https://doi.org/10.1016/j.jbusres.2021.08.061>

[17] M. K. Khalil and R. Khalil, "Leveraging buyers' interest in ESG investments through sustainability awareness," *Sustainability*, vol. 14, no. 21, p. 14278, 2022. <https://doi.org/10.3390/su142114278>

[18] S. Suntornsan, S. Chudech, and P. Janmamool, "The role of the theory of planned behavior in explaining the energy-saving behaviors of high school students with physical impairments," *Behavioral Sciences*, vol. 12, no. 9, p. 334, 2022. <https://doi.org/10.3390/bs12090334>

[19] Z. Ji, H. Jiang, and J. Zhu, "Factors impacting consumers' purchase intention of electric vehicles in China: Based on the integration of theory of planned behaviour and norm activation model," *Sustainability*, vol. 16, no. 20, p. 9092, 2024. <https://doi.org/10.3390/su16209092>

[20] M. Liang, J. Yu, and C. Jin, "Effects of perceived benefits, value, and relationships of brands in an online-to-offline context: Moderating effect of ESG activities," *Sustainability*, vol. 16, no. 23, p. 10294, 2024. <https://doi.org/10.3390/su162310294>

[21] N. Kim and K. Lee, "Environmental consciousness, purchase intention, and actual purchase behavior of eco-friendly products: The moderating impact of situational context," *International Journal of Environmental Research and Public Health*, vol. 20, no. 7, p. 5312, 2023. <https://doi.org/10.3390/ijerph20075312>

[22] D. P. Nugroho, Y. Hsu, C. Hartauer, and A. Hartauer, "Investigating the interconnection between environmental, social, and governance (ESG), and corporate social responsibility (CSR) strategies: An examination of the influence on consumer behavior," *Sustainability*, vol. 16, no. 2, p. 614, 2024. <https://doi.org/10.3390/su16020614>

[23] R. Pande, H. Khan, and N. Fuloria, "Expectations, believes, and perceptions of investors towards environmental, social, governance (ESG) investment for sustainability," *Educational Administration: Theory and Practice*, vol. 30, no. 2, pp. 1188-97, 2024.

[24] R. Wang and Y. Hu, "Green behaviors among employees in Chinese E-commerce companies: Impact of environmental, social, and governance (ESG) performance," *Sustainability*, vol. 17, no. 3, p. 940, 2025. <https://doi.org/10.3390/su17030940>

[25] H. J. Oh, B. Lee, H. H. Ma, D. Jang, and S. Park, "A preliminary study for developing perceived ESG scale to measure public perception toward organizations' ESG performance," *Public Relations Review*, vol. 50, no. 1, p. 102398, 2024. <https://doi.org/10.1016/j.pubrev.2023.102398>

[26] H. Eom, H. Kim, H. Kim, and G. Gim, *The impact of ESG activities in midsize manufacturing companies on purchase intentions: Focusing on the mediating roles of corporate reputation, brand image, and perceived quality*. In R. Lee (Ed.), *Big Data and Data Science Engineering*. Cham, Switzerland: Springer, 2024.

[27] R. Likert, "A technique for the measurement of attitudes," *Archives of Psychology*, vol. 22, no. 140, pp. 1–55, 1932.

[28] M. B. Hasan, R. Verma, D. Sharma, S. A. Moghalles, and S. A. S. Hasan, "The impact of environmental, social, and governance (ESG) practices on customer behavior towards the brand in light of digital transformation: perceptions of university students," *Cogent Business & Management*, vol. 11, no. 1, p. 2371063, 2024. <https://doi.org/10.1080/23311975.2024.2371063>

[29] J.-C. Tu, Y. Cui, L. Liu, and C. Yang, "Perceived greenwashing and its impact on the green image of brands," *Sustainability*, vol. 16, no. 20, p. 9009, 2024. <https://doi.org/10.3390/su16209009>

[30] Y. Li and H. Wang, "Environmental, Social and governance performance on brand value in the context of "dual carbon": The mediating effect of R&D innovation," *Sustainability*, vol. 16, no. 22, p. 10046, 2024. <https://doi.org/10.3390/su162210046>

[31] E. Higueras-Castillo, S. Molinillo, J. A. Coca-Stefaniak, and F. Liébana-Cabanillas, "Perceived value and customer adoption of electric and hybrid vehicles," *Sustainability*, vol. 11, no. 18, p. 4956, 2019. <https://doi.org/10.3390/su11184956>

[32] H. K. Pong and F. L. C. Man, "The influence of environmental, social, and governance (ESG) perception on investor trust and brand relationship quality: A study among retail investors in Hong Kong," *Journal of Risk and Financial Management*, vol. 17, no. 10, p. 455, 2024. <https://doi.org/10.3390/jrfm17100455>

[33] X. Jin and X. Lei, "A study on the mechanism of ESG's impact on corporate value under the concept of sustainable development," *Sustainability*, vol. 15, no. 11, p. 8442, 2023. <https://doi.org/10.3390/su15118442>

[34] W. Puriwat and S. Tripopsakul, "From ESG to DESG: the impact of DESG (digital environmental, social, and governance) on customer attitudes and brand equity," *Sustainability*, vol. 14, no. 17, p. 10480, 2022a. <https://doi.org/10.3390/su141710480>

[35] G. Ilieva, T. Yankova, M. Ruseva, Y. Dzhabarova, S. Klisarova-Belcheva, and M. Bratkov, "Social media influencers: Customer attitudes and impact on purchase behaviour," *Information*, vol. 15, no. 6, p. 359, 2024. <https://doi.org/10.3390/info15060359>

[36] M. Fishbein and I. Ajzen, *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley, 1975.

[37] M. S. Hagger, S. R. Smith, J. J. Keech, S. A. Moyers, and K. Hamilton, "Predicting social distancing intention and behavior during the COVID-19 pandemic: An integrated social cognition model," *Annals of Behavioral Medicine*, vol. 54, no. 10, pp. 713-727, 2020.

[38] G. Tenenbaum and R. C. Eklund, *Handbook of sport psychology*. Hoboken, NJ: John Wiley & Sons, 2020.

[39] W. Puriwat and S. Tripopsakul, "Unveiling the power of ESG: How it shapes brand image and fuels purchase intentions — An empirical exploration," *HighTech and Innovation Journal*, vol. 3, no. 4, pp. 472-482, 2022b. <https://doi.org/10.28991/HIJ-2022-03-04-07>

[40] R. Salehzadeh and J. K. Pool, "Brand attitude and perceived value and purchase intention toward global luxury brands," *Journal of international consumer marketing*, vol. 29, no. 2, pp. 74-82, 2017.

[41] T. C. Dam, "Influence of brand trust, perceived value on brand preference and purchase intention," *The Journal of Asian Finance, Economics and Business*, vol. 7, no. 10, pp. 939-947, 2020. <https://doi.org/10.13106/jafeb.2020.vol7.no10.939>

[42] Y. Kim and Y. C. Cho, "How ESG communication shapes customer attitudes and purchase intention: Evidence from service industries," *Journal of Business Research*, vol. 158, p. 113467, 2024.

[43] J. Park and H. Shin, "Consumer education on ESG initiatives and sustainable purchase intentions: The role of ESG awareness and perceived value," *Sustainability*, vol. 16, no. 11, p. 8562, 2024.

[44] N. Wang, X. Li, and Q. Zhou, "ESG performance and perceived value: A study of stakeholder value creation and customer behavior," *Journal of Cleaner Production*, vol. 411, p. 138326, 2024.

[45] K. Yum and J. Kim, "The influence of perceived value, customer satisfaction, and trust on loyalty in entertainment platforms," *Applied Sciences*, vol. 14, no. 13, p. 5763, 2024. <https://doi.org/10.3390/app14135763>

[46] R. H. Tai *et al.*, "An examination of the use of large language models to aid analysis of textual data," *International Journal of Qualitative Methods*, vol. 23, p. 16094069241231168, 2024.

[47] Y. Kim, Y. Cho, and J. Park, "The effect of ESG practices on consumer perceived value, brand reputation, and purchase intention: Evidence from service industries," *Journal of Business Research*, vol. 160, p. 113789, 2023.

[48] X. Zhang, L. Ma, and M. Zhang, "Investor perception of ESG performance: Examining investment intentions in the Chinese stock market with social self-efficacy moderation," *Journal of Risk and Financial Management*, vol. 17, no. 4, p. 166, 2024. <https://doi.org/10.3390/jrfm17040166>

[49] H.-S. Chen, C.-H. Liang, S.-Y. Liao, and H.-Y. Kuo, "Consumer attitudes and purchase intentions toward food delivery platform services," *Sustainability*, vol. 12, no. 23, p. 10177, 2020. <https://doi.org/10.3390/su122310177>

[50] M. A. Sallam and F. A. Algammash, "The effect of attitude toward advertisement on attitude toward brand and purchase intention," *International Journal of Economics, Commerce and Management*, vol. 4, no. 2, pp. 509-520, 2016.

[51] L. Chen *et al.*, "Relationship analysis among apparel brand image, self-congruity, and consumers' purchase intention," *Sustainability*, vol. 13, no. 22, p. 12770, 2021. <https://doi.org/10.3390/su132212770>

[52] P.-T. Song, B. Oyunbazar, and T.-W. Kang, "The impact of agricultural food retailers' ESG activities on purchase intention: The mediating effect of consumer ESG perception," *Sustainability*, vol. 16, no. 19, p. 8376, 2024. <https://doi.org/10.3390/su16198376>

[53] D. G. Kuchinka, S. Balazs, M. D. Gavriltea, and B.-B. Djokic, "Consumer attitudes toward sustainable development and risk to brand loyalty," *Sustainability*, vol. 10, no. 4, p. 997, 2018. <https://doi.org/10.3390/su10040997>

[54] P. Hartmann and V. Apaolaza-Ibáñez, "Consumer attitude and purchase intention toward green energy brands: The roles of psychological benefits and environmental concern," *Journal of Business Research*, vol. 65, no. 9, pp. 1254-1263, 2012. <https://doi.org/10.1016/j.jbusres.2011.11.001>

[55] J. Hobbs and M. Schneller, "Dividend signalling and sustainability," *Applied Financial Economics*, vol. 22, no. 17, pp. 1395-1408, 2012. <https://doi.org/10.1080/09603107.2012.654909>