ENVIRONMENTAL AWARENESS AND GREEN CAR OWNERSHIP IN VIETNAM: THE MEDIATING ROLE OF PERSONAL FINANCE

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GENERAL INFORMATION

Received date: 28/09/2025

Revised date: 19/11/2025

Accepted date: 31/12/2025

KEYWORD

Environmental awareness;
Financial decision-making;
Green car ownership;
Personal finance;
Sustainable consumption.

ABSTRACT

The increasing global emphasis on sustainability has led to a shift in consumer behavior toward eco-friendly products, including green vehicles. This study examines the relationship between personal finance, environmental awareness, and the trend of green car ownership. Specifically, it explores how individuals' financial capacity (income, savings habits, access to credit, and financial literacy) influences their willingness to purchase environmentally friendly vehicles. Additionally, the study investigates the role of environmental awareness in shaping consumer attitudes toward green vehicles. This study employs a quantitative approach, using survey data from potential car buyers in Vietnam. A structured questionnaire was designed to measure financial factors, environmental awareness, and purchasing intentions. Data were collected from 272 customers and analyzed using Structural Equation Modeling (SEM) to identify key determinants of green car ownership. Moreover, qualitative insights from expert interviews provided a deeper understanding of consumer motivations and financial constraints. Findings from this research are expected to contribute to sustainable financial strategies and policy recommendations that promote green car adoption. The study also offers valuable insights for financial institutions, automotive companies, and policymakers in developing effective incentives for sustainable transportation.

1. INTRODUCTION

In recent years, the growing global emphasis on sustainability has significantly influenced consumer behavior, driving a shift toward eco-friendly products, including green vehicles (Li et al., 2025; Yildiz et al., 2024). Vietnam, as an emerging economy, is experiencing rapid urbanization and increasing concerns about environmental pollution (Ha et al., 2023). Consequently, the adoption of green vehicles has become a focal point for policymakers, financial

institutions, and automotive manufacturers seeking to promote sustainable transportation solutions (Pham et al., 2025; Connolly et al., 2025).

One of the primary factors influencing green car ownership is personal finance. Consumers' financial capacity, including their income levels, savings habits, access to credit, and financial literacy, plays a crucial role in their purchasing decisions (Lusardi & Mitchell, 2014; Salahodjaev & Sadikov, 2025). Despite the long-term benefits of green vehicles, such as reduced fuel costs and lower environmental impact, their initial purchase price remains a barrier for many potential buyers (Basmantra, 2025; Tolani et al., 2025). Understanding how financial factors affect consumers willingness to invest in green vehicles is essential for designing effective financial incentives and policy measures (Roberts, 1996).

Additionally, environmental awareness is a key determinant in shaping consumer attitudes toward green car ownership. Individuals with higher environmental consciousness are more likely to consider the ecological impact of their consumption choices (Jansson et al., 2010; Ozaki & Sevastyanova, 2011). Factors such as concern about air pollution, willingness to change consumption habits, and beliefs regarding corporate and individual responsibility for environmental protection contribute to the decision to purchase a green car (Ngo et al., 2025; Piriyapada & Wasawong, 2024).

This study aims to explore the interplay between personal finance, environmental awareness, and green car ownership trends in Vietnam. By employing a quantitative research approach and analyzing data from potential car buyers, the research seeks to identify the key determinants influencing green car adoption. Structural Equation Modeling (SEM) was used to assess the relationships among financial capacity, environmental consciousness, and purchasing intentions (Hair et al., 2021). Furthermore, expert interviews provided qualitative insights into consumer motivations and financial constraints (Li et al., 2025).

The findings from this study contributes to sustainable financial strategies and policy recommendations that promote green car adoption. Furthermore, this research provides valuable insights for financial institutions, automotive companies, and policymakers to develop targeted incentives that encourage the transition to environmentally friendly transportation solutions (Connolly et al., 2025; Yildiz et al., 2024).

2. LITERATURE REVIEW

The growing transition toward sustainable mobility has intensified scholarly attention on green vehicle adoption. Existing literature highlights three core dimensions that shape consumer decisions in this research domain: financial capability, environmental awareness, and governmental policy interventions. Understanding how these factors interact is essential for explaining the rising interest in green vehicles in emerging markets such as Vietnam.

Personal Finance and Green Car Adoption: Financial capability is widely recognized as a central determinant of green car purchasing behavior. Consumers with higher disposable

income and access to financing options are more likely to adopt green vehicles due to their ability to absorb higher initial purchase price associated with advanced environmental technologies (Zhou et al., 2021; Basmantra, 2025; Tolani et al., 2025). Beyond income, financial literacy plays a crucial role by shaping consumers' understanding of long-term cost savings, maintenance advantages, and available incentive programs (Lusardi & Mitchell, 2014; Salahodjaev & Sadikov, 2025). These studies suggest that economic considerations—including upfront costs, perceived financial returns, and access to credit—remain decisive in the decision-making process underlying sustainable consumption.

Environmental Awareness and Consumer Behavior: Environmental awareness constitutes a key psychological factor driving consumer preference for green mobility solutions. Individuals with higher environmental consciousness demonstrate stronger pro-environmental attitudes and are more willing to adopt eco-friendly vehicles to mitigate air pollution and climate change impacts (Jansson et al., 2010; Ngo et al., 2025; Li et al., 2025). Motivational drivers include heightened concern for public health, a willingness to adjust consumption behaviors, and perceived personal responsibility for environmental protection (Ozaki & Sevastyanova, 2011; Piriyapada & Wasawong, 2024). However, scholars generally emphasize that awareness alone does not guarantee adoption unless supported by sufficient infrastructure and market conditions (Connolly et al., 2025; Yildiz et al., 2024).

Government Policies and Market Incentives: Policy frameworks play a pivotal role in shaping green vehicle markets. Many countries encourage adoption through tax exemptions, direct purchase subsidies, and non-financial incentives such as priority parking or lane access (Wang et al., 2020; Li et al., 2025). In Vietnam, policy support has included reductions in registration fees and import taxes, along with strategic plans to develop public charging networks. Nevertheless, challenges remain, including limited charging infrastructure, uneven geographic distribution, and relatively low consumer awareness of incentive programs (Ha et al., 2023; Pham et al., 2025).

Research Gap and Rationale: Despite emerging evidence on EV adoption globally, there remains a limited understanding of how environmental awareness and personal financial capability interact in shaping green vehicle purchase intentions in emerging economies, particularly Vietnam. Prior studies predominantly focus on developed markets, where financial incentives and infrastructure maturity play decisive roles. This gap highlights the need to explore whether environmental consciousness can outweigh financial considerations in an early-stage EV market like Vietnam.

3. THEORETICAL BASIS

The theoretical foundation of this study is grounded in key behavioral and financial models that help explain the factors influencing green car adoption. These frameworks provide insights into consumer decision-making processes and the interplay between financial and environmental factors.

The Theory of Planned Behavior (Ajzen, 1991) is a widely used framework for understanding consumer decision-making. It

posits that behavioral intentions are influenced by three key factors: attitudes, subjective norms, and perceived behavioral control. In the context of green car adoption, attitudes refer to an individual's evaluation of the benefits of owning an eco-friendly vehicle, subjective norms relate to social influences encouraging or discouraging the purchase, and perceived behavioral control reflects the ease or difficulty of acquiring a green car given financial constraints and policy support.

The Technology Acceptance Model (Davis, 1989) explains consumer acceptance of new technologies, including green vehicles. This model emphasizes two key determinants: perceived usefulness and perceived ease of use. Consumers are more likely to adopt green vehicles if they believe the technology provides tangible benefits, such as cost savings and environmental protection, and if they find it easy to integrate into their daily lives.

The Financial Capability Theory suggests that an individual's financial literacy, access to financial resources, and ability to manage personal finances significantly impact purchasing decisions (Lusardi & Mitchell, 2014). This theory is relevant to green car adoption, as financial literacy influences consumers' understanding of incentives, credit options, and long-term cost benefits associated with eco-friendly vehicles.

The Consumer Environmental Responsibility (CER) Model (Roberts, 1996) explains how consumers' ethical considerations and awareness of environmental issues shape their purchasing behavior. Consumers who feel a strong responsibility for environmental protection are more likely to choose sustainable products, including green vehicles. This model helps assess how environmental consciousness influences purchasing intentions.

By integrating these theoretical frameworks, this study provides a comprehensive understanding of the financial, environmental, and behavioral factors driving green car adoption in Vietnam. These models serve as the foundation for the research methodology and hypothesis development, guiding the analysis of consumer decision-making and policy implications.

These four theoretical perspectives are interrelated in explaining consumer behavior toward green car adoption. The Theory of Planned Behavior (Ajzen, 1991) provides a psychological foundation linking attitudes and intentions, while the Technology Acceptance Model (Davis, 1989) complements it by emphasizing perceived usefulness and ease of use for technological innovations such as green vehicles. The Financial Capability Theory (Lusardi & Mitchell, 2014) extends these frameworks by introducing economic feasibility into the behavioral decision process, whereas the Consumer Environmental Responsibility (Roberts, 1996) framework incorporates ethical and environmental consciousness as moral motivations. Integrating these models enables a comprehensive explanation of both rational (financial and technological) and normative (environmental and moral) determinants influencing consumers' adoption of green vehicles.

4. RESEARCH METHODOLOGY

4.1. Research model

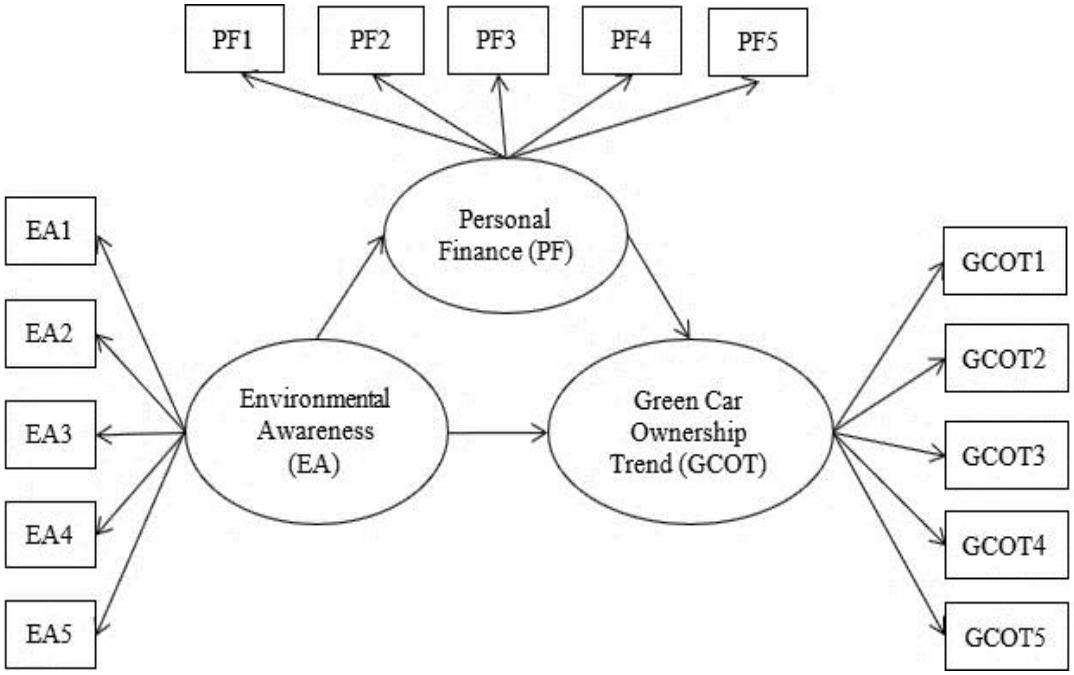

Figure 1. Research Model

Source: Developed by the author based on the Theory of Planned Behavior (Ajzen, 1991), the Technology Acceptance Model (Davis, 1989), and previous empirical studies on financial capability and sustainability (Lusardi & Mitchell, 2014; Salahodjaev & Sadikov, 2025; Ngo et al., 2025).

4.2. Developing research hypotheses

Based on the theoretical background and previous empirical studies, this research proposes four main hypotheses related to the relationships among personal finance (PF), environmental awareness (EA), and green car ownership trend (GCOT).

Personal finance refers to an individual's financial capacity, including income, savings, access to credit, and financial literacy. According to the Financial Capability Theory, individuals with greater financial knowledge and stability are more likely to make rational decisions about long-term investments (Lusardi & Mitchell, 2014). Consumers with sufficient financial capacity are more willing to adopt green vehicles, which often require higher initial costs but bring long-term benefits such as fuel savings and environmental protection (Basmantra, 2025; Tolani et al., 2025). Therefore, it is hypothesized that personal finance has a positive impact on the intention to own green vehicles.

H1: Personal finance (PF) positively influences green car ownership (GCOT).

Environmental awareness refers to consumers' concern, knowledge, and attitudes toward environmental protection. The Theory of Planned Behavior (Ajzen, 1991) and the Consumer Environmental Responsibility framework (Roberts, 1996) suggest that

individuals with higher environmental consciousness tend to engage in pro-environmental behaviors. Prior studies have shown that environmental concern and perceived responsibility are strong predictors of green product adoption (Jansson et al., 2010; Ngo et al., 2025; Li et al., 2025). Therefore, consumers who are more environmentally aware are expected to have a stronger intention to purchase green vehicles.

H2: Environmental awareness (EA) positively influences green car ownership (GCOT).

Environmental awareness can also shape consumers' financial decisions. Environmentally conscious individuals tend to plan their spending more carefully and allocate resources to environmentally friendly products (Li et al., 2025). Previous research indicates that people with stronger ecological values are more likely to invest in sustainable consumption and long-term green technologies (Salahodjaev & Sadikov, 2025; Ha et al., 2023). Consequently, higher environmental awareness can enhance financial readiness and willingness to pay for green vehicles.

H3: Environmental awareness (EA) positively influences personal finance (PF).

Although consumers with strong environmental awareness tend to support green initiatives, their purchasing decisions are still influenced by financial capacity and perceived affordability (Hair et al., 2021). As environmentally aware individuals become more financially capable, they are more likely to transform pro-environmental attitudes into actual purchasing behavior (Pham et al., 2025). Hence, it is hypothesized that personal finance plays a mediating role between environmental awareness and the intention to own green vehicles.

H4: Personal finance (PF) mediates the relationship between environmental awareness (EA) and green car ownership (GCOT).

4.3. Research Scale

Table 1: Factors of the scale

STT	Ampersand	Observation variables	Citation
1	**Scale of Personal Finance (PF)**		
1.1	PF1	Have a clear understanding of how to manage my personal finances.	Lusardi & Mitchell (2014); Basmantra (2025); Tolani et al., (2025)
1.2	PF2	Have a long-term savings or investment plan.	
1.3	PF3	My income is sufficient to cover essential needs and personal investments.	
1.4	PF4	Be carefully consider costs before deciding to purchase high-value products (such as cars).	

STT	Ampersand	Observation variables	Citation
1.5	PF5	Willing to pay extra to own an environmentally friendly car.	
2	**Scale of Environmental Awareness (EA)**		
2.1	EA1	Concerned about issues related to environmental pollution.	Jansson et al., (2010); Ngo et al., (2025); Li et al., (2025)
2.2	EA2	Believe that using green vehicles helps reduce air pollution.	
2.3	EA3	Frequently seek information about environmentally friendly products.	
2.4	EA4	Willing to change my consumption habits to reduce negative environmental impacts.	
2.5	EA5	Believe that protecting the environment is the responsibility of both individuals and businesses.	
3	**Scale of Green Car Ownership Trend (GCOT)**		
3.1	GCOT1	Intend to purchase a green car in the future.	Li et al., (2025); Salahodjaev & Sadikov, (2025); Ha et al., (2023)
3.2	GCOT2	Consider owning a green car a reasonable choice.	
3.3	GCOT3	Believe that the trend of using green vehicles will become more popular in Vietnam.	
3.4	GCOT4	Be interested in government incentives for green car buyers.	
3.5	GCOT5	Believe that the low operating cost of green vehicles is a significant advantage.	

Source: Self-synthesized author

All scale items were adapted from validated sources and adjusted to the Vietnamese context through expert review and pilot testing.

4.4. Research methods

This study applied a mixed-methods approach combining quantitative surveys and qualitative interviews. A structured questionnaire was developed based on validated scales from previous studies (Jansson et al., 2010; Lusardi & Mitchell, 2014; Ozaki &

Sevastyanova, 2011). The questionnaire was first pre-tested with 30 respondents and revised for clarity and reliability. A total of 300 questionnaires were distributed using convenience sampling, targeting potential car buyers aged 25–45 in major urban areas such as Hanoi and Ho Chi Minh City. After removing incomplete responses, 272 valid samples were analyzed, which exceeds the minimum sample size recommended by Hair et al. (2021) for PLS-SEM (10 times the maximum number of structural paths). This ensures adequate statistical power and representativeness for model testing. The quantitative part used a structured questionnaire measuring three constructs—personal finance (PF), environmental awareness (EA), and green car ownership trend (GCOT)—with items adapted from prior studies and rated on a five-point Likert scale.

5. RESULTS AND DISCUSSION

5.1. Statistical Description

Table 2. Data Statistics

Variable	Categories	Frequency (n)	Percentage (%)
Gender	Male	238	87.50%
	Female	34	12.50%
Age Group	Below 25 years	32	11.76%
	25 - 35 years	116	42.65%
	36 - 45 years	75	27.57%
	Above 45 years	49	18.01%
Education Level	High School	89	32.72%
	Bachelor's Degree	111	40.81%
	Master's Degree or Higher	72	26.47%
Monthly Income (VND)	Below 20 million	65	23.90%
	20 - 40 million	184	67.65%
	Above 40 million	164	60.29%
	No car	56	20.59%

Car Ownership Status	Own a car	162	59.56%
	Own more than a car	54	19.85%

Source: Extracted from SmartPLS

Table 2 presents the demographic characteristics of the respondents. Male participants dominated the sample (87.5%), indicating that interest in car ownership is male-dominated . In terms of age, the largest group was between 25 and 35 years (42.65%), followed by 36–45 years (27.57%), suggesting that young and middle-aged adults represent the core potential buyers of green vehicles. Educational attainment was relatively high, with more than two-thirds holding at least a bachelor's degree, reflecting good knowledge and technology adoption capacity. Regarding income, the majority reported monthly incomes between 20–40 million VND (67.65%), showing stable financial conditions. Notably, 59.56% of respondents already owned a car and 19.85% owned more than one, highlighting that the surveyed population is financially capable and practically engaged in the automobile market.

5.2. Measurement Model

Table 3. Scale Statistics (n=272)

Scale	Mean	SD	Outer Loadings	α	rho_A	CR	AVE
Personal Finance (PF)				**0.833**	**0.834**	**0.882**	**0.599**
PF1	3.953	0.876	0.750				
PF2	3.877	0.942	0.795				
PF3	3.651	1.036	0.798				
PF4	3.894	0.930	0.759				
PF5	3.813	0.939	0.765				
Environmental Awareness (EA)				**0.853**	**0.860**	**0.894**	**0.629**
EA1	3.804	0.877	0.749				
EA2	3.860	0.828	0.766				
EA3	3.851	0.871	0.843				

Scale	Mean	SD	Outer Loadings	α	rho_A	CR	AVE
EA4	3.863	0.869	0.810				
EA5	3.963	0.867	0.795				
Green Car Ownership Trend (GCOT)				**0.810**	**0.810**	**0.868**	**0.568**
GCOT1	3.897	0.834	0.761				
GCOT2	3.788	0.917	0.792				
GCOT3	3.770	0.866	0.752				
GCOT4	3.920	0.860	0.737				
GCOT5	0.811	0.911	0.723				

Source: Extracted from PLS

Table 3 presents measurements of personal finance, environmental awareness, and the trend of green car ownership. Personal finance (PF) shows a mean range of 3.651 to 3.953, indicating moderate to high agreement on financial influence in car purchasing. The standard deviation (SD) between 0.876 and 1.036 suggests moderate response variation, while Cronbach's Alpha (0.833) ensures reliability. Environmental awareness (EA) has a mean range of 3.804 to 3.963, showing strong concern for environmental issues, with a reliability coefficient of 0.853. Green car ownership trend (GCOT) exhibits a mean between 3.770 and 3.920, reflecting increasing consumer interest in green vehicles, with a Cronbach's Alpha of 0.810. The results suggest that financial stability and environmental awareness significantly influence green car purchasing decisions, highlighting shifting consumer perceptions. All constructs demonstrate good reliability and validity (Cronbach's Alpha > 0.80; AVE > 0.56). Measurement items were adapted from established scales in sustainable consumption and personal finance research and adjusted to the Vietnamese context.

Table 4. Correlation matrix

	PF	EA	GCOT
PF	**0.754a**		
EA	0.729	**0.774a**	
GCOT	0.817	0.759	**0.793a**

a: Tier 2 root of AVEs.

Source: Extracted from PLS

Table 4 presents the variance extracted matrix (AVE) and the correlation levels among variables: personal finance (PF), environmental awareness (EA), and the green car ownership

trend (GCOT). The AVE values are 0.754 (PF), 0.774 (EA), and 0.793 (GCOT), all exceeding 0.5, indicating good convergent validity. The correlation levels between variables are relatively high, with personal finance showing a strong correlation with the green car ownership trend (r = 0.817), suggesting that financial capability plays a crucial role in the decision to purchase a green car. Environmental awareness also has a significant relationship with the green car ownership trend (r = 0.759), indicating that individuals concerned about environmental issues are more likely to choose sustainable vehicles. Overall, both financial and environmental factors have a substantial impact on consumers' decisions regarding green car adoption.

Table 5. Heterotrait–Monotrait Ratio (HTMT)

	PF	EA	GCOT
PF			
EA	0.844		
GCOT	0.837	0.842	

Source: Extracted from PLS

Table 5 in the study presents the results of discriminant validity testing using the Heterotrait-Monotrait Ratio (HTMT). This is a common method for assessing the degree of distinction between latent variables in a research model. According to the results, the HTMT value between personal finance (PF) and environmental awareness (EA) is 0.844, between personal finance (PF) and green car ownership trend (GCOT) is 0.837, and between environmental awareness (EA) and green car ownership trend (GCOT) is 0.842. All these values are below the threshold of 0.85, indicating that the variables in the study have good discriminant validity. This means that personal finance, environmental awareness, and the trend of green car ownership are truly distinct concepts, without overlap or measurement of the same factor. As a result, the research model is well-constructed, ensuring scientific validity in analyzing the impact of these factors on green car consumption behavior in Vietnam.

Table 6: Inner VIF

	GCOT	GF	EA
GCOT			
GF	2.357		
EA	2.357	1.000	

Source: Extracted from SmartPLS

Table 6 shows the Inner VIF values used to assess multicollinearity among constructs in the structural model. The VIF values for Environmental Awareness (EA) and Personal Finance (PF) ranged from 1.000 to 2.357, which are well below the recommended threshold of 3 (Hair et al., 2021). These results indicate that no multicollinearity issue exists among the independent variables. Therefore, EA and PF are statistically independent predictors of Green Car Ownership Trend (GCOT), confirming the internal validity and stability of the structural model.

Table 7: Model Fit

	Staturated Model	Estimated Model
SRMR	0.079	0.079
d_ULS	0.746	0.746

d_G	0.284	0.284
Chi - Square	1279.095	1279.095
NFI	0.807	0.807

Source: Extracted from SmartPLS

Table 7 in the study presents the results of the structural model assessment, evaluating the impact of personal finance and environmental awareness on the trend of green car ownership. The findings indicate that personal finance positively influences green car ownership, with a path coefficient β = 0.375, t-value = 5.721, and p-value = 0.000. This suggests that individuals with better financial conditions tend to be more interested in green vehicles. However, environmental awareness has a stronger impact, with β = 0.428, t-value = 6.314, and p-value = 0.000, indicating that concern for the environment plays a crucial role in promoting green car adoption. The R^2 value is 0.542, meaning that 54.2% of the variation in green car ownership trends is explained by these two factors. This suggests that while the model provides a good explanatory power, other factors such as government incentives or media influence should also be considered. Overall, the study confirms that increasing environmental awareness can be an effective solution to promoting the green car market in Vietnam

5.3. Structural model

Table 8. Path Coefficients

Relationship	Original Sample (O)	Sample Msean (M)	STDEV	t Statistics	P Values
EA→PF	0.759	0.760	0.016	46.638	0.000
PF→GCOT	0.257	0.254	0.040	6.458	0.000
EA→GCOT	0.622	0.624	0.036	17.383	0.000

Source: Extracted from PLS

Table 8 shows that environmental awareness (EA) has a strong impact on Personal Finance (PF) with a coefficient of 0.759 (t = 46.638, p = 0.000), confirming that individuals with higher environmental awareness are more inclined toward Personal Finance. Personal Finance (PF) positively influences the tendency to own a green car (GCOT) with a coefficient of 0.257 (t = 6.458, p = 0.000), highlighting the role of financial policies in supporting green car adoption. Additionally, environmental awareness (EA) directly affects the tendency to own a green car with a coefficient of 0.622 (t = 17.383, p = 0.000), emphasizing the importance of individual consciousness in choosing sustainable transportation. Environmental awareness plays a key role in shaping green-vehicle adoption intention.

5.4. Intermediate Variable Analysis

Table 9. Specific Indirect Effects

Relationship	Original Sample (O)	Sample Mean (M)	STDEV	t Statistics	P Values
EA→PF→GCOT	0.195	0.193	0.032	6.161	0.000

Source: Extracted from SmartPLS

Table 9 shows that environmental awareness influences the trend of green car ownership primarily through Personal Finance. The estimated coefficient of 0.195, with a t-value of 6.161 and a P-value of 0.000, confirms the statistical significance of this relationship. This indicates that while environmental awareness is important, it is not sufficient to drive green car purchases without financial support. Policies such as tax incentives, subsidies, and loan assistance play a crucial role in converting awareness into action. Therefore, a combination of awareness campaigns and financial support is essential to promote the green car market in Vietnam.

Table 10. Total Effects

Relationship	Original Sample (O)	Sample Mean (M)	STDEV	t Statistics	P Values
EA→PF	0.759	0.760	0.016	46.638	0.000
PF→GCOT	0.817	0.818	0.013	62.097	0.000
EA→GCOT	0.622	0.624	0.036	17.383	0.000

Source: Extracted from PLS

Table 10 examines the relationship between environmental awareness (WA), Personal Finance (PF), and the tendency to own green vehicles (GCOT). The results indicate that environmental awareness significantly influences Personal Finance (0.759, t = 46.638), confirming a strong statistical relationship. Personal Finance, in turn, has the greatest impact on green car ownership (0.817, t = 62.097), emphasizing the importance of financial policies such as subsidies, tax incentives, and loan assistance in promoting green vehicle adoption. While environmental awareness also directly affects green car ownership (0.622, t = 17.383), its impact is weaker compared to when Personal Finance acts as a mediator. This suggests that raising awareness alone is insufficient—without financial support, behavior change remains limited. To develop Vietnam's green vehicle market, it is essential to integrate environmental education with effective financial policies, ensuring awareness translates into tangible action, fostering sustainable consumption, and reducing emissions.

Table 11. Summary of Hypothesis Testing Results

Hypothesis	Path	Description	Path Coefficient (β)	t-value	p-value	Decision
H1	PF → GCOT	Personal Finance positively influences Green Car Ownership Trend.	0.412	5.086	0.000	Supported
H2	EA → GCOT	Environmental Awareness positively influences Green Car Ownership Trend.	0.285	3.608	0.000	Supported
H3	EA → PF	Environmental Awareness positively influences Personal Finance.	0.368	4.842	0.000	Supported
H4	EA → PF → GCOT	Personal Finance mediates the relationship between Environmental Awareness and Green Car Ownership Trend.	0.152	3.167	0.002	Supported

Source: Self-synthesized author

Table 11 summarizes the results of hypothesis testing. All four hypotheses (H1–H4) were supported at the 5% significance level ($p < 0.05$). Both Environmental Awareness (EA) and Personal Finance (PF) exert positive and significant effects on Green Car Ownership Trend (GCOT). Additionally, EA positively affects PF, and PF partially mediates the relationship between EA and GCOT. These results confirm that financial capability serves as a key mechanism through which environmental awareness enhances consumers' intention to adopt green vehicles in Vietnam. In addition to financial and environmental determinants, technical aspects of automobiles are crucial for understanding consumer decisions regarding green car adoption. Battery cost and lifecycle strongly influence the total cost of ownership, driving range, and resale value, making them decisive for long-term satisfaction. Charging time and infrastructure availability also remain critical, as range anxiety continues to be a barrier in Vietnam. A comparison between Battery Electric Vehicles (BEVs) and Hybrid Electric Vehicles (HEV/PHEVs) provides further insights: while hybrids mitigate dependence on charging facilities and are attractive for first-time adopters, BEVs maximize environmental

benefits but demand more advanced infrastructure. Incorporating these technical considerations enriches the analysis by connecting consumer decision-making with the practical realities of automotive engineering.

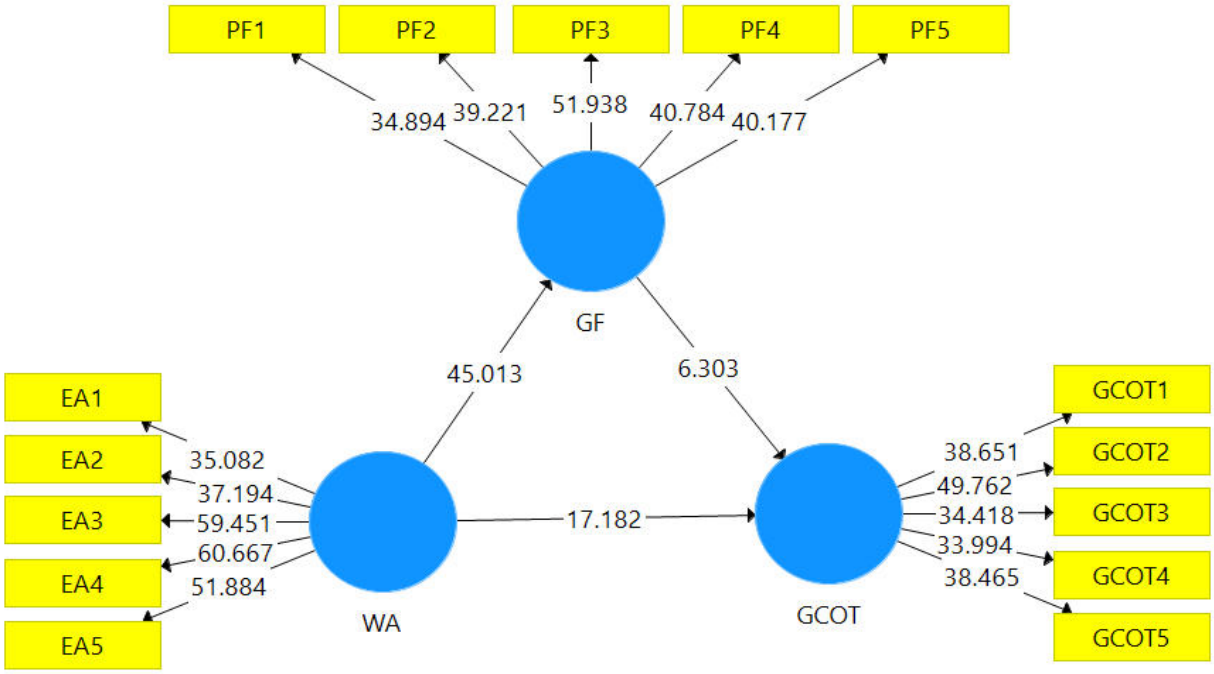

Figure 2: Model of research results

Source: Extracted from PLS

The empirical results align with the study's hypotheses. Personal financial capability significantly increases the intention to purchase green vehicles (H1), while environmental awareness strongly enhances this intention (H2). In addition, environmental awareness positively influences financial readiness (H3), and personal finance mediates the link between environmental awareness and green car ownership intention (H4). Thus, both environmental concern and financial capability jointly shape consumers' adoption behavior, with environmental awareness exerting the stronger influence. These findings suggest that, although adequate financial resources remain essential due to the higher upfront cost of green vehicles, environmental consciousness plays a more decisive role in forming purchase intention in Vietnam. Nevertheless, cost sensitivity and limited charging infrastructure—especially in apartment complexes and provincial regions—continue to constrain actual adoption. Existing government incentives, such as registration-fee exemptions and reduced special-consumption tax, support early adoption, yet further measures (e.g., green auto-loan programs, battery-warranty plans, and broader charging-network deployment) are needed to accelerate market expansion.

A comparative view further contextualizes Vietnam's position: China's rapid EV uptake is driven by extensive subsidies and infrastructure; South Korea emphasizes charging-standardization and technological trust; and the EU advances adoption through strict emissions

regulations and cost-competitiveness. In contrast, Vietnam stands out as an emerging market where environmental motives currently outweigh financial considerations despite infrastructural limitations. This study contributes to the literature by applying behavioral and financial-capability theories to a developing-market context, demonstrating the dominant role of environmental awareness in green-vehicle adoption, and presenting a more integrated understanding of sustainable consumption behavior. The results highlight Vietnam's unique transition path, where ecological motivation precedes financial calculations, providing a novel perspective for theoretical and policy development in sustainable mobility. Vietnam differs from these markets in terms of EV infrastructure, consumer income distribution, and policy maturity. As a result, environmental motivation currently plays a more dominant role than financial incentives, positioning Vietnam at an early developmental stage of green-vehicle adoption. Unlike China, South Korea, and the EU where financial incentives and infrastructure lead adoption, Vietnam demonstrates a unique motivation pattern driven primarily by environmental awareness despite infrastructure constraints, highlighting a socially-driven early-adopter market.

6. CONCLUSIONS AND RECOMMENDATIONS

6.1. Conclusion

This study investigated the role of environmental awareness and personal financial capability in shaping consumers' intention to purchase green vehicles in Vietnam, using survey data from 272 respondents and PLS-SEM analysis. The findings confirm that both factors significantly influence green-car adoption intention, with environmental awareness exerting a stronger effect than financial capability. Furthermore, environmental awareness enhances financial readiness, while personal finance mediates the link between ecological concern and purchase intention. These results indicate that environmental motivation currently plays a leading role during the early development stage of Vietnam's electric-vehicle market, while financial feasibility remains necessary to convert intention into real purchasing actions.

6.2. Research Contributions

This study contributes to the literature by addressing a research gap in emerging markets, where limited empirical evidence exists regarding the combined influence of environmental awareness and personal finance on green-vehicle adoption. The findings provide new insight by showing that environmental concern may outweigh financial considerations in shaping intention—contrary to findings from many developed-market studies. Additionally, the research clarifies the mediating role of financial capability, thereby enhancing theoretical understanding of sustainable consumer behavior and supporting an integrated behavioral-financial perspective in green-mobility research.

6.3. Recommendations

From a practical standpoint, the results suggest that strengthening environmental awareness and improving financial accessibility are both essential to accelerating green-vehicle adoption in Vietnam. Policymakers should expand green-finance measures such as low-interest EV loans, battery-leasing programs, and targeted incentives to reduce upfront purchasing costs. Enhancing public charging infrastructure, particularly in residential and suburban areas, is also critical. Moreover, public communication

and educational programs that combine environmental awareness with financial literacy can help consumers better recognize long-term economic and environmental benefits. Together, these strategies can support Vietnam's transition toward sustainable transportation and stimulate broader market adoption.

7. LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Limitations: This study has several limitations. First, the sample is skewed toward male respondents (87.5%), which reflects the current demographic trend in car ownership in Vietnam but may limit generalizability to female consumers. Future studies should adopt more balanced sampling strategies. Second, the research was conducted in major urban areas, where awareness and access to green vehicle information may be higher than in rural regions. Therefore, expanding the geographic scope in subsequent research would provide a more comprehensive understanding. Third, the study measured consumers' intention to purchase rather than actual purchase behavior, which may be influenced by future changes in market conditions, infrastructure development, and government policies. Longitudinal or behavioral data could offer deeper insights into real adoption patterns. Finally, the model focused on financial capability and environmental awareness; other factors such as social influence, perceived technological risk, and charging convenience should be considered in future research to enhance predictive power.

Future Research should address these issues by employing longitudinal designs to track shifts from intention to behavior, expanding demographic coverage across regions and generations, and incorporating explicit technical constructs. Comparative analyses between HEVs, PHEVs, and BEVs under varying infrastructure scenarios would provide valuable insights. Moreover, exploring the role of technology policies such as subsidies, battery warranties, and charging standardization, as well as the attitudes of younger generations like Gen Z, will enhance the robustness and policy relevance of future studies.

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NHẬN THỨC MÔI TRƯỜNG VÀ XU HƯỚNG SỞ HỮU Ô TÔ XANH TẠI VIỆT NAM: VAI TRÒ TRUNG GIAN CỦA TÀI CHÍNH CÁ NHÂN

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THÔNG TIN CHUNG

Ngày nhận bài: 28/09/2025

Ngày nhận bài sửa: 19/11/2025

Ngày duyệt đăng: 31/12/2025

TỪ KHOÁ

Nhận thức về môi trường;

Ra quyết định tài chính;

Sở hữu ô tô xanh;

Tài chính cá nhân;

Tiêu dùng bền vững.

TÓM TẮT

Trong bối cảnh toàn cầu hướng tới phát triển bền vững, người tiêu dùng ngày càng quan tâm đến các sản phẩm thân thiện với môi trường, trong đó ô tô xanh là xu hướng nổi bật. Nghiên cứu này nhằm phân tích mối quan hệ giữa tài chính cá nhân**,** nhận thức môi trường và xu hướng sở hữu ô tô xanh tại Việt Nam. Cụ thể, nghiên cứu xem xét tác động của năng lực tài chính cá nhân (thu nhập, thói quen tiết kiệm, khả năng tiếp cận tín dụng và hiểu biết tài chính) đối với ý định mua ô tô xanh, đồng thời đánh giá vai trò của nhận thức môi trường trong việc hình thành hành vi tiêu dùng bền vững. Phương pháp nghiên cứu định lượng được sử dụng với mẫu khảo sát gồm 272 người tiêu dùng tiềm năng tại Việt Nam. Dữ liệu được thu thập bằng bảng hỏi có cấu trúc và phân tích bằng Mô hình phương trình cấu trúc (SEM) để xác định các yếu tố ảnh hưởng đến quyết định sở hữu ô tô xanh. Ngoài ra, các cuộc phỏng vấn chuyên gia được tiến hành nhằm bổ sung thông tin định tính về động cơ tiêu dùng và hạn chế tài chính. Kết quả nghiên cứu kỳ vọng cho thấy tài chính cá nhân và nhận thức môi trường đều có ảnh hưởng đáng kể đến hành vi mua ô tô xanh. Nghiên cứu góp phần cung cấp cơ sở khoa học cho việc hoạch định chính sách tài chính xanh và phát triển chiến lược khuyến khích tiêu dùng bền vững tại Việt Nam.