



ISSN 2233-5382

JIDB website: <http://www.jidb.or.kr>doi:<http://dx.doi.org/10.13106/jidb.2024.vol15.no3.21>

# Promoting the Consumption of Electric Vehicles: an Empirical Study in Vietnam

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Received: February 17, 2024. Revised: March 20, 2024. Accepted: March 25, 2024.

## Abstract

**Purpose:** Electronic vehicles (EV) consumption become more prevalent among Vietnamese consumers. This paper aims to empirically assess the determinants of EV purchase intention among Vietnamese consumers. The research findings are expected to promote the consumption of electric vehicles in Vietnam. **Research design, data and methodology:** The quantitative research approach employed the Exploratory Factor Analysis (EFA). The sample size includes 301 respondents. Research design unified Theory of Acceptance and Use of Technology (UTAUT) and UTAUT2. The data collection process employ the non-probability sampling. Questionnaire survey consists of 24 questions given to respondents via Google Form link. Data is processed by SPSS version 20 software. **Results:** The results proposed 04 determinants of the intention to buy electric vehicles: Government Support, Environmental Concern, Price Value, and Performance. **Conclusions:** Theoretical implications and managerial implications are also discussed to promote the consumption of electronic vehicles in Vietnam. Besides, the findings show that Price value, Environmental Concern and Performance positively affect the purchase intention of EV among Vietnamese consumers. Remarkably, Government Support is proven to be an insignificant factor in EV purchase intention. The call for further research rely on the role of government support in order to promote EV consumption in Vietnam and other emerging markets worldwide.

**Keywords :** Purchase Intention, Performance, Price Value, Environmental Concern, Electric Vehicles, Electric Vehicles.

**JEL Classification Code:** E44, F31, F37, G15.

## 1. Introduction

Transportation powered by electricity, such as electric vehicles, makes life easier for people (Wolff, 2021). Currently, enterprises aim for products supporting a future that is not too dependent on fossil fuel and zero-emission.

Along with the global electric vehicle industry, Vietnam is also one of the potential countries to participate in producing electric vehicles (EV) (Tuan et al., 2022). The study will evaluate the consumption of EV in Vietnam which previous researchers have not done because of the lack of data and little analysis in the Vietnam market to have information for

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other businesses and provide information. The factors that show the impact on purchase intention in the Vietnam market.

Theoretically, through reference to the field of electric vehicles, researchers on consumer purchase intention often focus on the general field in large countries such as China (He et al., 2018), Japan (Okada et al., 2019), Poland (Sobiech-Grabka et al., 2022); California (Berliner et al., 2019) or Vietnam only revolves around Vinfast (Tuan et al., 2022) or roughly about electric vehicles (Jones et al., 2013) that companies like Tesla, a well-known business in the international is rarely mentioned in the country. In addition, studies on the topic in Vietnam have not yet applied the combination of TAM and UTAUT models to determine the influence on customers' purchase intention with electric cars. Because of the increasing number of cars, "green" car products are created to meet the demand without causing too much environmental pollution (Amjad et al., 2010).

Although there are still many shortcomings, it can be seen that EVs are increasingly improving the product in order to both enhance customers' acceptance of EVs and try to limit the damage to nature as much as possible (Schmidt et al., 2016). Hence, the study points out the influencing factors to people's buying intention for manufacturers that can improve and develop the system. For societal significance, this research can benefit that Automobile is actively developing with crucial factors influencing customers' purchases to improve and develop customer concerns and needs about electric cars. It will be necessary for EV manufacturing companies to utilize the findings in practical application and find an effective marketing campaign to understand the psychology of experience and gain more Vietnamese customers about electric automobiles.

Furthermore, with the research gap, the study indicates four variables of the purchase intention of the customer acceptance technology, which is built with a combination of models: the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT). Therefore, the report earned 301 Vietnamese interviewees interested in and using electric cars (ECs). The key participants in the survey have diverse ages, incomes, and knowledge of automatic cars to suit the exciting exploitation of the Vietnam market.

## 2. Literature Review

The research would illustrate factors that affect customer's purchase intention of buying an Electric car through various concepts, including the Technology Acceptance Model (TAM in short; Davis, 1989), Unified Theory of Acceptance and Use of Technology (UTAUT; Venkatesh et al., 2003) and the extent this theory 'UTAUT2'

(Venkatesh et al., 2012). Numerous research have expanded these ideas to include Theory of Reasoned Action (TRA) concepts (Ajzen & Fishbein, 1975) or other elements such as infrastructure attributes (Nguyen & Chung, 2022; Kester et al., 2018; Habich-Sobiegalla et al., 2019; Rietmann & Lieven, 2019) and 'Attitude & Subjective norm' (Ajzen, 1991) that are suitable for a corporation for the context of e-cars development and the demographics of drivers in an explicit community.

### 2.1. Technology Acceptance Model (TAM)

The model shows the theory of behaviour using computer technology, developed by Davis (1986) and adopted from another popular theory called the theory of rational action of the social domain. Explain a person's behaviour through their intentions (TRA; Fishbein and Ajzen, 1975). Two critical factors affecting the Intention to Use (IU) are Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). The TAM model is widely applied by many other studies with support to explain consumer acceptance of computer technology and other areas where new technologies are introduced, such as applied research for environmentally friendly technologies (Shanmugavel & Michael, 2022). Besides, it is also applied to demonstrate how ease of use and perceived usefulness influence behavioural intention (Davis, Bagozzi, & Warshaw, 1989).

It is widely used by many researchers studying consumer behaviour towards electronic media. The consumer Intention to Use e-vehicles is motivated by Perceived usefulness, perceived ease of use of e-vehicles, perceived risk, attitude to the environment and the technological knowledge of the consumer (Yankun, 2020; Huang et al., 2021). The model shows that the acceptability of automated electronic means reiterates the environmental concern besides perceived ease of use; perceived usefulness is instrumental in the intention to use automated e-vehicles (Wu et al., 2019).

### 2.2. Unified Theory of Acceptance and Use of Technology (UTAUT) and UTAUT2

A review and experimental study by Venkatesh et al. (2003) to assess consumer intent concerning technology adoption found up to 70% variance for intention. The UTAUT model postulated four constructs as an element of behavioural intention: Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC) and was expanded to include three more constructs, Hedonic Motivation (HM), Price Value (PV) & Habit and known as UTAUT2 (Abbasi et al. 2021).

The UTAUT theory from the variables fuel efficiency, technophiles, and perceived environmental knowledge is

combined, used, and expanded by researchers in the context of applying electric vehicles to consider factors that help improve consumer behaviour toward sustainable vehicles such as encouraging consumers to adopt these vehicles (Sovacool, 2017), explaining consumers' intention to buy electric vehicles (Riga, 2015), or with the extended UTAUT2 to consider the Factors that help enhance consumer behaviour toward these sustainable vehicles such as analyzing perceived risks for electric vehicle purchase intention (Karunanayake & Samarasinghe, 2018), examining the intention to use electric vehicles of consumers through individual innovation and price (Khazaei, 2019), the conditioning effects of willingness to use and driving experience to examine the factors of consumer acceptance of electric vehicles (Khazaei et al., 2016). It shows the effectiveness of the UTAUT & UTAUT2 model, which is suitable for analyzing the intention to buy electric vehicles in the Vietnam market.

## 2.3. Hypothesis Development

### 2.3.1. Purchase Intention (PI)

PI is a person's intention to act when they show a positive attitude towards owning that product or service (Tanwir & Hamzah, 2020; Nguyen et al., 2020). Tuan et al. (2022) state that attitudes influence Purchase intention more than subjective criteria and that the combination may extend the intention by combining variables. With an awareness of driver acceptance, research the use and utility of the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT, UTAUT2) tools to develop a for modelling driver acceptance in terms of Purchase Intention (Rahman et al., 2017).

Because of the growth of the global electric vehicle industry, there have been many studies on Purchasing Intention Toward Electric Vehicles, the prime example being EV, showing virtual factors that influence that decision. However, if placed in the balance with traditional cars, it is still tricky for EV to outweigh those traditional models (Pandita et al., 2024; Tuan et al., 2022; Singh et al., 2023; Degirmenci & Breitner, 2017). Therefore, the study will assess the dependent variable as the buyer's Purchase Intention (PI), which is affected by four independent variables named Government Support (GS), Environmental concern (EC), Price Value (PV), and Performance (P).

### 2.3.2. Government Support (GS)

Government support often includes financial and non-financial policies. Financial policies that support money and encourage people to use electric vehicles include tax incentives, free tolls and parking fees, reduced acquisition tax, value-added tax, electricity subsidies, exemption from

road tax and tax on fossil fuels. Non-financial policies include charging infrastructure incentives, lane bus driving privileges, EV license plates, and priority for electric vehicles in heavy traffic.

Currently, many governments promote using electric vehicles in their countries differently. Various statistical methods also confirm the link between financial incentives and the intention to use EV (Sierchula et al., 2014). Li and Shang (2020) demonstrated the existence of a positive relationship between government subsidies and purchase intention. However, Brinkmann and Bhatiasevi (2023) report that governmental subsidies and insufficient charging infrastructure do not have a significant relationship with willingness to buy EVs. Therefore, the following hypothesis was proposed:

**H1:** Government Support positively affects the Purchasing Intention of Electric Vehicles in

### 2.3.3. Environmental Concern (EC)

Environmental awareness is an understanding and concern for environmental issues (Higuera-Castillo et al., 2024; Ozaki & Sevastyanova, 2021). Furthermore, the increasing number of individuals' demand for cars has become one of the causes of environmental pollution, thus showing that consumers' environmental concerns affect their behaviour. vi buying green products (Tuan et al., 2022). Krupa et al. (2014) illustrate that people concerned about climate change have a positive attitude toward using electric vehicles.

The relationship between environmental awareness and electric vehicle buying behaviour has been further studied, and concluded that environmental awareness is a factor that positively affects customers' buying behaviour of electric vehicles (NT, 2021; Mohamed, 2016). Brinkmann and Bhatiasevi (2023) insist that environmental consciousness are crucial factors that influence consumers' purchasing intention of EVs. Moreover, Sharma et al. (2024) confirm that ecological consciousness significantly influence customers' intention to purchase electric vehicles. Hence, the second hypothesis is stated as follows:

**H2:** Environmental concerns positively affect the Purchasing Intention of Electric Vehicles in Vietnam.

### 2.3.4. Price Value (PV)

Price Value is the pricing of a product or service that is assessed according to the value perceived by the customer (Kim et al., 2018). EVs' costs include owning and operating the car (including taxes payable, registration costs, vehicle insurance, and home and on-site charging stations). PV is considered an essential factor in customers' decision-making about electric vehicles (He et al., 2024; Asadi et al., 2021;

Kim et al., 2018).

Klabi and Binzafrah (2023) report that PV significantly affects the intention to purchase EV. This is also demonstrated in Zhou et al. (2021) report that PV has positively influenced attitudes toward the intention to purchase EV among taxi drivers. In addition, the study by Han et al. (2017) also shows that PV positively affects purchase intention, which is consistent with previous studies (Tuan et al., 2022; Brinkmann & Bhatiasevi, 2023). Besides, Pamidimukkala et al. (2024) report that price is the barriers to the adoption of electric vehicles form a global review. Hence, the third hypothesis is proposed as follows:

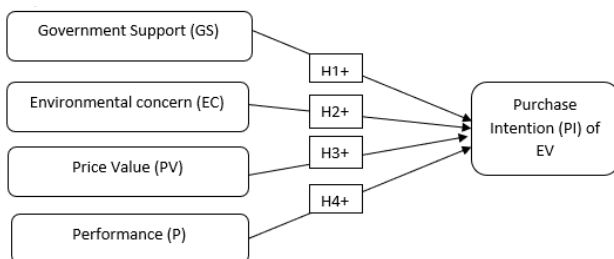
**H3:** Price Value positively affects the Purchasing Intention of Electric Vehicles in Vietnam.

### 2.3.5. Performance (P)

Convenience factors such as high-quality vehicle performance, low noise, automatic transmission and easy operation, driving comfort, safety, ease of use, charging time and performance were shown to have a positive effect on the acceptability of a new energy vehicle in a study of Chinese customers (Dat & Huy, 2021). Previous studies have demonstrated that vehicle performance significantly impacts purchasing decisions (Adamson, 2005; Rietmann & Lieven, 2019). In many surveys, buyers are interested in convenience in both the quality and service that electric vehicles can bring (Degirmenci & Breitner, 2017; Egbue & Long, 2012; Lieven et al., 2011; Lim et al., 2015). Recently, Sutopo et al. (2024) insist that performance expectancy of EV significantly affected purchase intention. Therefore, the above studies show:

**H4:** The Performance of EVs positively affects the Purchasing Intention of Electric Vehicles in Vietnam.

### Proposal Research Framework



**Figure 1:** The Proposed Research Framework

## 3. Research Methods and Materials

In this research, the quantitative research method is

conducted through 3 stages:

**Stage 1:** Based on the theoretical background and the application of models and economic theories, the author has conducted qualitative research to select the observed variables and factors, designing a draft scale and doing quantitative research at the preliminary stage. Refer to the relevant previous studies to develop the draft scale. From there, a preliminary study of respondents living in Vietnam with a sample size of  $n = 50$  to test the reliability through Cronbach's Alpha. After the results are available at this stage, the official scale and questionnaire will be issued.

**Stage 2:** Conduct formal quantitative research by surveying users who know or use EVs to evaluate the scale and test the proposed model.

**Stage 3:** Conducting data entry, processing data, and then making conclusions and recommendations. This stage is conducted through a survey using SPSS 20 software to perform descriptive statistical analysis, test Cronbach's Alpha scale, and exploratory factor analysis (EFA) to test and identify appropriate factors. Also, using the multivariate linear regression analysis to investigate the level of impact of each factor on the purchase intention of EV users in Vietnam.

Finally, the author conducts general analysis and statistical data using the deductive-inductive method to conclude and give administrative implications. The author shared the survey samples on the social networking community and approached the surrounding people through the online survey via Google form with 24 questions. The author assessed the respondents by sharing it on Facebook and Instagram with groups related to EVs. According to Hair et al. (1998), in order to be able to analyse exploratory factors (EFA), it is necessary to collect data sets with at least five samples per observed variable. Accordingly, with 29 observed variables, we have the minimum sample size:  $n = 5 * 24 = 120$ . To ensure the sample size for the exploratory factor analysis and the regression analysis, according to Tuan et al. (2022), if the limited sample size is greater than 150, the sample size for the research can be acceptable enough to get the needed data for examination.

Consequently, the author chose a respondent's list of 386 respondents to ensure representativeness and contingency for those who did not answer or did not answer fully. Although the study has reached 386 respondents, 85 people do not know or use EVs, so the remaining 301 valid responses have been used as sample size. This study used SPSS 20.0 to provide more adequate and suitable indicators for the model structure, thus providing superior empirical results. All variables were measured by using a five-point Likert scale where (1) Strongly disagree, (2) Disagree, (3)

Neutral, (4) Agree, and (5) Strongly agree.

## 4. Results

In order to conduct Exploratory Factor Analysis (EFA), firstly, it is necessary to analyse the scale's reliability by a statistical test, namely Cronbach's Alpha analysis. The reliability test result (Table 1) shows that the scales with Cronbach's Alpha coefficient reliability are more than 0.6. Therefore, all 6 scales are reliable and qualified to run EFA.

**Table 1:** Cronbach's Alpha Result

Variables	Number of items	Cronbach's Alpha results
Government support (GS)	4	0.868
Environmental concern (EC)	4	0.819
Price Value (PV)	4	0.782
Performance (P)	4	0.802
Purchase Intention (PI)	3	0.802

(Source: SPSS processing results)

### 4.1. Exploratory Factor Analysis (EFA)

The EFA analysis method was used to minimise the number of observed variables for evaluating the scale's convergent and discriminant validity values (Underwood & Teresi, 2002). Because many variables need to be obtained in research, most variables are connected, and their numbers must be reduced to an applicable amount. After conducting the first exploratory factor analysis, the observed variable EC4 did not meet the requirements because the EC4 variable appeared in components 1 and 4 with 0.640 and 0.657, respectively. Hence, the variable EC4 was removed, and the second EFA exploratory factor analysis was conducted. The analysis results were as follows:

Factor loading > 0.5 ensures significance, so observed variables are essential in factors, and no variables are excluded. Consequently, five factors are created, which meet all requirements for the analysis of Linear Regression. Moreover, the result indicates that the KMO measure (Kaiser-Meyer-Olkin) has a value of 0.804 for independent variables, satisfying the conditions of  $0.5 \leq \text{KMO} \leq 1$ . Therefore, we can conclude that the result of Factor Analysis is compatible with the statistical data. The test result of the Correlation Analysis in each factor group shows that Bartlett's Test has Sig value. = 0.000 < 0.05, so we can conclude that the observed variables are correlated with each other in each factor group (Chu Nguyen Mong Ngoc and Hoang Trong, 2004). This shows that the EFA analysis method is appropriate. The EFA analysis method extracted

four factors with a Total Variance Explained has a cumulative variance of factors (from factor 1 to factor 6) of 66%, greater than 50%. Therefore, it meets the standard application. It is concluded that the observed variables in the model explain 66% of the change of factors.

**Table 2:** KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.804
Bartlett's Test of Sphericity	Approx. Chi-Square df Sig.	1643.358 105 .000

(Source: SPSS processing results)

**Table 3:** Exploratory Factor Analysis (EFA)

	Rotated Component Matrix			
	1	2	3	4
GS1	.882			
GS2	.859			
GS4	.835			
GS3	.824			
P1		.820		
P2		.790		
P4		.749		
P3		.726		
PV1			.811	
Pv4			.754	
Pv3			.736	
PV2			.727	
EC3				.817
EC1				.809
EC2				.760

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

The result of Factor Analysis shows that there are 15 observed variables grouped into 4 factors after the author conducted the EFA analysis (Table 3).

### 4.2. Linear Regression Analysis

Table 4 shows that at the significance level of 5%, the results of linear regression analysis showed the adjusted R<sup>2</sup> = 0.536, which indicates that the relevance of the model is 53.6%. It means that independent variables explain 53.6% of the variation of the dependent variable. Sig = 0.000 ≤ 0.05 shows a Linear Regression Model between the 4 independent variables and Purchase Intention in the model.

The Durbin-Watson test result 1,987 indicates a considerable difference between independent and dependent variables or no autocorrelation.

The Test condition Regression's p-value in the ANOVA table (Sig.) = 0.000 < 0.05 (Table 14). However, the Coefficients table (Table 4) illustrates that three variables,

EC, PV, and P have Sig. = 0.000 < 0.05, and Beta scores positively affect the dependent variable PI. There is one variable that does not satisfy GS's Sig condition. = 0.65 > 0.05. In the VIF term, all independent variables are < 2, indicating that the data does not violate the assumption of multicollinearity (Hair et al., 2009 & Tho, 2010). However, the GS variable did not satisfy the test condition p-value (Sig.). Therefore, three proposed hypotheses H2, H3, and H4, are accepted, and H1 is unaccepted.

**Table 4:** Linear Regression Analysis

Model Summary (b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.737 (a)	.543	.536	.5266777	1.987

(a) Predictors: (Constant), P, GS, PV, EC  
 (b) Dependent Variable: PI

ANOVA (a)

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	97.383	4	24.346	87.768	.000
Residual	82.107	.296	.277		(b)
Total	179.491	300			

(a) Dependent Variable: PI  
 (b) Predictors: (Constant), P, GS, PV, EC

Coefficients (a)

Model	Unstandardized C		Standardized Beta	t	Sig.	Collinearity Statistics	
	β	S.E				Tolerance	VIF
Constant	.465	.331		-1.406	.161		
GS	.113	.061	.073	1.853	.065	.997	1.003
EC	.356	.047	.339	7.631	.000	.783	1.277
PV	.403	.046	.378	8.739	.000	.826	1.210
P	.254	.049	.235	5.171	.000	.747	1.339

(a) Dependent Variable: PI

The most positive influence on the intention to buy is the figures stand for EC and PV, which account for 0.378 and 0.339, respectively, and the lower is P = 0.235. Accordingly, a regression equation reflecting the effect of three determinants on purchasing intention for electric vehicles is:

$$PI = 0.378 PV + 0.339 EC + 0.235 P + e_i$$

It is shown that the PI rises by 0.378 units under the unchanged condition of the remaining factors as the value of PV rises by 1 unit. Similarly, any remaining factor EC, P added by each unit in turn under the constant condition, PI increases by 0.339, 0.235 units accordingly.

## 5. Conclusions

Firstly, it can be seen that Price Value is the factor that

has the most decisive and most positive impact on the intention to buy electric vehicles to Vietnamese consumers (H3). The result is consistent with earlier research (Zhou et al., 2021; Tuan et al. 2022; Asadi et al., 2021; Kim et al., 2018), who agree that PV positively influences the intention to buy EVS. Environmental Concerns also positively and strongly impact Vietnamese consumers' intention to buy electric vehicles (H2). Distributors, consumers, and the government encourage people to apply electric vehicle technology more than traditional cars. Previous studies proved that EC has a positive impact on people's decision to buy EV (Higueras-Castillo et al., 2024; Balasubramanian et al., 2024; Tuan et al., 2022; Bhat et al., 2022; Gunawan et al., 2022; Khazaei & Tareq, 2021; Zhou et al., 2021; Wahl et al., 2020).

Third, Performance positively and significantly impacts Vietnamese consumers' intention to buy electric vehicles (H3). The result is consistent with previous research (Thananusak, 2017; Degirmenci & Breitner, 2017; Nayum et al., 2016) and demonstrates Performance's positive effect on the intention to buy Evs. However, Government Support positively impacts studies (Tuan et al., 2022; Ramanathan et al., 2014; Kim et al., 2018). Many people also say that government support's impact on attitudes toward electric vehicles is still lacking and that the statistical results are inconsistent (Zhang et al., 2013; Jang, 2016). The Vietnamese government's support for electric vehicle products is still small and not as strong as in other developed countries, making rejecting research results unstable (Nguyen et al., 2020).

## 6. Implications

### 6.1. Theoretical Implications

Firstly, it can be seen that Price Value is the factor that has the strongest and most positive impact on the intention to buy electric vehicles to Vietnamese consumers (H3). The result is consistent with earlier research by (Balasubramanian et al., 2024; Zhou et al., 2021; Tuan et al., 2022; Asadi et al., 2021; Kim et al., 2018), who agree that PV positively influences the intention to buy EVS. Next, Environmental Concerns also positively and robustly impact Vietnamese consumers' intention to buy electric vehicles (H2). Distributors, consumers, and the government encourage people to apply electric vehicle technology more than traditional cars. Previous studies (Tuan et al., 2022; Bhat et al., 2022; Gunawan et al., 2022; Khazaei and Tareq, 2021; Zhou et al., 2021; Wahl et al. 2020) prove that EC has a positive impact on people's decision to buy EV. Third, Performance positively and significantly impacts Vietnamese consumers' intention to buy electric vehicles

(H3).

The result is consistent with previous research (Klabi & Binzafrah, 2023; Thananusak, 2017; Nguyen et al., 2018; Degirmenci & Breitner, 2017; Nayum et al., 2016) demonstrates a positive performance effect on the intention to buy EVs. However, Government Support positively impacts studies (Tuan et al., 2022; Ramanathan et al., 2014; Kim et al., 2018). Many people also say that government support's impact on attitudes toward electric vehicles is still lacking and that the statistical results are inconsistent (Zhang et al., 2013; Jang, 2016). The Vietnamese government's support for electric vehicle products is still limited and not as strong as in other developed countries, making rejecting research results unstable (Nguyen et al., 2020).

## 6.2. Practical Implications

From a practical perspective, the empirical implication is applied to a crucial issue so electric vehicle manufacturing organizations, especially foreign electric vehicle manufacturers like Tesla, will understand more about the market and demand for electric vehicles in Vietnam. The strongest determinant of Vietnamese's intention to purchase EVs is Price Value ( $B=0.378$ ). Vietnamese people are also quite sensitive to price (Singh et al., 2020). They believe that the price of an electric vehicle and the monetary value they pay for the rest of the vehicle's life is relatively high. The cost of electric vehicles is affected by the battery, which accounts for 43% of the vehicle's cost, and taxes (especially for imported models like Tesla) are pretty high compared to traditional models. Thus, a battery maintenance strategy such as battery rental while promoting research and development of battery technologies with new convenience features and tax incentives such as reduced electric vehicle registration fees, as well as road taxes, electricity discounts, price incentives for customers, and subsidies for distributors, will further enhance the optimistic view of users.

Next, Environmental Concern ( $B= 0.339$ ) is the second most vital factor in purchase decisions. However, this concern is not only for manufacturers and users but also for the world regarding the general effects of climate change when one of its impacts is emissions. The development of electric vehicles is also aimed at limiting emissions. Therefore, distributors for the electric vehicle sector in general and foreign businesses can develop more features and features to limit pollution, as Vietnam has a controversy about environmental protection. Are electric vehicles fully serviceable when the batteries used by electric vehicles are Lithium-ion batteries? This is a problematic battery to recycle, burning can harm the air, or disposal into the river can harm the marine ecosystem. Therefore, this will help Vietnamese users feel more secure if investors invest in new

protection studies for vehicles and batteries. In addition, environmental protection and green living need to be brought closer to the Vietnamese people through the mass media, manufacturers, and the government to raise their awareness and preference for EVs as green products. In addition, environmental concerns can be combined with other factors, such as charging station coverage and reasonable prices, to attract more customers who can use EVs efficiently.

Performance significantly impacts Vietnamese buyers' intention to buy EV ( $B= 0.235$ ). It can be said that because it is a newly researched car, the features and performance of the car have played a good role in impressing drivers. The preminent feature of Tesla can be mentioned as the steering modern system with new features such as artificial intelligence voice assistant, automatic parking, and hands-free driving. Therefore, they need more marketing campaigns to increase consumers' chances of direct interaction with electric vehicles.

## 6.3 Limitations

The first limitation that could be considered is the research topic influencing purchasing decisions in Vietnam. However, the number studied is only in a small part of Vietnam, unable to completely represent the total number of people in the country and make a complete criteria research. Factors affecting purchase effect do not stop at these four independent variables and only in two models, TAM and UTAUT. The impact of the government's support on buying electric vehicles is still considered small compared to other countries. Still, it has not been entirely preferential and paying attention to improving environmental awareness, which makes it difficult to confirm the results in the research process. In addition, the previous studies and resources on the topic are limited and the electric vehicle market in Vietnam still needs to be developed, especially when it is a foreign car market like Tesla, to get more related information from locals to reach the deductions.

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