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# **FACTORS AFFECTING CUSTOMERS' INTENTION TO USE SM GREEN SERVICES IN HANOI**

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## **ABSTRACT:**

Research and development of startups is increasingly becoming an important topic, especially in the context of green businesses. Green entrepreneurship is a type of entrepreneurship that focuses on developing and implementing business ideas that have a positive impact on the environment. The study used 150 surveys to collect information about: users' understanding and feelings about SM Green service. The results will be processed based on SPSS software: statistical analysis of the data, checking the reliability of the scale using Cronbach's Alpha, calculating the average value to evaluate the importance of the factors. when deciding to use SM Green service.

Keywords: Green startup, intention to use

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## **Introduction :**

Today, with the explosion of the digital technology age, traveling has become easier and more convenient. Technology ride-hailing applications such as Grab, Be, Gojek,... are no longer strange to Vietnamese people. In particular, in big cities (Hanoi, Ho Chi Minh, Da Nang, Hai Phong,...), the number of people using technology vehicles is increasing rapidly, thanks to convenience and affordable prices. and suitable for usage needs. According to a report by Google Temasek Bain & Company, the scale of the ride-hailing technology sector (including transportation and food delivery) in Vietnam is estimated to reach 3 billion USD by 2022 and could reach 5 billion USD by 2025. The compound annual growth rate for the period 2022-2025 is about 21%. This is considered a potential market and has a strong growth trend in the next 5 years.

Besides, urbanization development leads to consequences of environmental pollution. Vietnam is one of the countries most seriously affected by climate change, is actively facing this challenge and at the same time setting economic development goals, ensuring an increasingly better life for people. community. According to information from the Ministry of Natural Resources and Environment, our country emitted about 240 million tons of carbon dioxide into the air in 2020, of which the majority came from the transportation industry, accounting for about 12%. Therefore, reducing emissions from the transport sector is one of the top priorities of sustainable development policy in Vietnam.

In April 2023, Vingroup invested capital to establish GSM (Green and Smart Mobility - Green and Smart Mobility Joint Stock Company), specializing in providing delivery services, motorbike taxis and taxis powered by VinFast electric vehicles, generating no revenue. biological emissions and environmentally friendly. Green SM is one of the first purely electric taxi units in Vietnam. Entering the market late, GSM has made rapid steps in expanding its market share. GSM announced that it had reached 1 million trips by the end of June 2023, expanded its scale to 5 cities, and joined hands with 14 partners to begin the transition to using electric taxis. Not only that, GSM's goal is not only to operate in the Vietnamese market but also expand to neighboring countries such as Singapore, Malaysia, Laos, Cambodia and the Philippines. After half a year of operation, GSM has achieved record growth in scale and speed, carrying out more than 6 million passenger transports, highly appreciated by both consumers and transport units. On October 13, 2023, GSM entered the Lao market, setting a milestone for the development of Vietnam's "green" technology vehicles to reach the international level.

Facing the strong development of GSM and the rapidly increasing demand for technology vehicles, the research team chose the topic "STUDY ON FACTORS AFFECTING CUSTOMERS' INTENTION TO USE GREEN SM SERVICES IN HANOI". The research topic is quite new and has never been studied before, so the team researched and took a representative sample of users in Hanoi. From there, the causes, limitations and solutions are developed to develop electric vehicle services in Hanoi in particular and Vietnam in general.

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## **2. Research objectives and methods :**

Objectives of the study

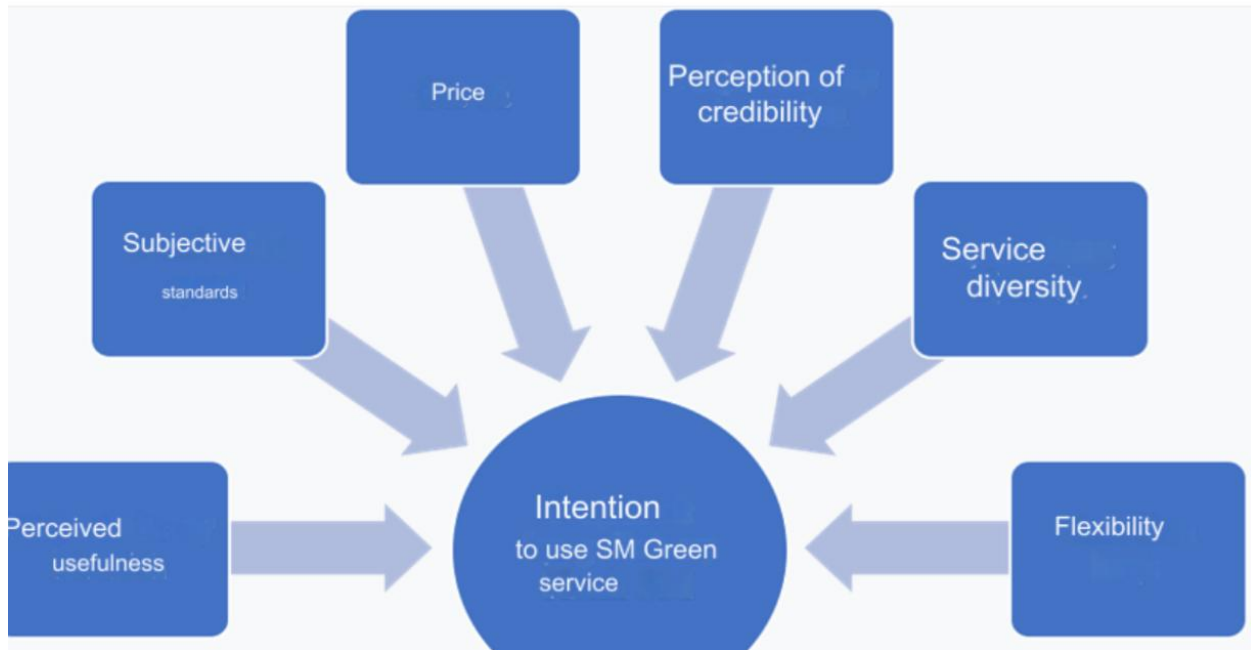
The goal of the research is to determine the factors that affect customers' intention to use Green SM service in Hanoi, or in other words, to learn about

the intention to use electric vehicles of people living in Thua Thien Hue. Hanoi capital based on data collected from survey method; Descriptive statistical analysis of data, reliability testing using Cronbach's Alpha and exploratory factor analysis, linear regression to evaluate factors affecting the decision to use SM Green service. From there, propose and recommend solutions to develop this service.

**Research Methods**

The data uses 150 survey forms to collect information about: users' understanding and feelings about SM Green service. The results will be processed based on SPSS software: statistical analysis of the data, checking the reliability of the scale using Cronbach's Alpha, calculating the average value to evaluate the importance of the factors. when deciding to use SM Green service.

**3. Research model :**



Proposed research model

*(Source: author's suggestion)*

Scale table of research variables

The scale	Scale coding
Service quality	
The service attitude of the driver Green SM is enthusiastic and friendly	CL1
The working style of driver Green SM is polite and professional	CL2
The quality of Green SM vehicles is new, modern, and environmentally friendly	CL3
Using Green SM's services contributes to improving the environment and fulfilling social responsibilities	CL4
Easily connect, evaluate, and reflect service quality	CL5
Price	
Green SM's prices are competitive compared to other competitors	GC1
Green SM has many incentive programs for customers	GC2
Green SM's prices are consistent with the quality of services provided	GC3

Green SM's fish prices are announced clearly and transparently through the application	GC4
Convenience	
Easily book a car on the SM Green application and other applications	STT1
SM Green vehicle services are diverse	STT2
SM Green Service is suitable for personal and business use	STT3
Green SM's service quality during holidays and New Year	STT4
The time to book the Green SM bus is quick	STT5
Easy payment, diverse payment methods	STT6
Perception of credibility	
Preference for using Green SM electric vehicles over traditional gasoline vehicles	TN1
Reliability of itinerary information provided by the service	TN2
Safety assurance when traveling for the trip	TN3
Security of customer information when using SM Green service	TN4
Subjective standards	
Trust in VinGroup's brand	CQ1
The SM Green brand is easily recognizable	CQ2
Wide coverage, operating in many areas	CQ3
Green SM became known through introductions from friends and relatives	CQ4
Blue SM is known through the media	CQ5
Intention to use Green SM service of customers in Hanoi	
When conditions permit (financial ability, service price, need,...) I will use Green SM's services.	YD1
I believe that I will use/continue to use Green SM's services	YD2
I will use Green SM's services more in the future	YD3
I will introduce to others about Green SM's services	YD4

*Tác giả tổng hợp và hiệu chỉnh*

### 3. Research results :

#### 3.1. Sample statistics

Criteria	The components	Amount of people	Ratio
Sex	Male	61	40.7%
	Female	89	59.3%
Year old	Under 18	36	24%
	From 18 to 22	57	38%
	From 23 to 35	44	29.3%

	From 36 to 60	11	7.3%
	Over 60	2	1.3%
Incom	Under 6 million	39	26%
	From 6 to 12 million	44	29.3%
	From 12 to 20 million	38	25.3%
	Over 0 million	29	19.3%

So, according to the results of running SPSS with 150 statistical samples that meet the requirements, the results are as follows:

Gender: 61 men, equivalent to 40.7%; 89 women, equivalent to 59.3%.

Age: Under 18 years old: 36 people, equivalent to 24%

From 18 to 22 years old: 57 people, equivalent to 38% of the total sample.

From 23 to 35 years old: 44 people, equivalent to 29.3% of the total sample.

From 35 to 60 years old: 11 people, equivalent to 7.3% of the total sample.

Over 60 years old: 2 people, equivalent to 1.3% of the total sample.

Income: Under 6 million: 39 people, equivalent to 26% of the total sample.

From 6 to 12 million: 44 people, equivalent to 29.3% of the total sample.

From 12 to 20 million: 38 people, equivalent to 25.3% of the total sample.

Over 20 million: 29 people, equivalent to 19.3% of the total sample

### 3.2. Scale statistics

#### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CL1	150	1	5	4.00	.786
CL2	150	1	5	3.98	.847
CL3	150	1	5	4.06	.788
CL4	150	1	5	4.16	.860
CL5	150	1	5	3.95	.846
GC1	150	1	5	3.79	.854
GC2	150	1	5	3.86	.852
GC3	150	1	5	3.87	.857
GC4	150	1	5	3.97	.897
STT1	150	1	5	4.05	.792
STT2	150	1	5	4.05	.789
STT3	150	1	5	3.93	.902
STT4	150	1	5	3.94	.907
STT5	150	1	5	3.85	.922
STT6	150	1	5	3.98	.878
TN1	150	1	5	3.85	.880
TN2	150	1	5	4.01	.768
TN3	150	1	5	3.96	.793
TN4	150	1	5	3.90	.880
CQ1	150	1	5	3.89	.837
CQ2	150	1	5	4.06	.821
CQ3	150	1	5	3.99	.755
CQ4	150	1	5	3.81	.951
CQ5	150	1	5	4.01	.807
YD1	150	1	5	3.93	.875
YD2	150	1	5	3.91	.870
YD3	150	1	5	3.94	.813
YD4	150	1	5	4.01	.803
Valid N (listwise)	150				

### 3.3. Check the reliability of the scale

#### 3.3.1. Variables on service quality (CL)

##### Reliability Statistics

Cronbach's Alpha	N of Items
.940	5

##### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
CL1	16.15	8.990	.880	.919
CL2	16.17	8.829	.836	.927
CL3	16.09	9.038	.865	.922
CL4	15.99	8.946	.791	.935
CL5	16.20	8.872	.827	.928

#### 3.3.2. Price variation (GC)

##### Reliability Statistics

Cronbach's Alpha	N of Items
.913	4

##### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
GC1	11.70	5.674	.761	.902
GC2	11.63	5.536	.808	.886
GC3	11.63	5.363	.858	.868
GC4	11.52	5.419	.784	.894

#### 3.3.3. Convenience variables (STT)

##### Reliability Statistics

Cronbach's Alpha	N of Items
.944	6

##### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
STT1	19.75	15.556	.786	.938
STT2	19.76	15.633	.776	.939
STT3	19.87	14.407	.858	.929
STT4	19.87	14.371	.859	.929
STT5	19.95	14.300	.852	.930
STT6	19.83	14.627	.848	.931

#### 3.3.4. Variables of perceived credibility (TN)

**Reliability Statistics**

Cronbach's Alpha	N of Items
.882	4

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
TN1	11.87	4.823	.670	.880
TN2	11.71	4.974	.766	.843
TN3	11.76	4.667	.844	.812
TN4	11.82	4.686	.716	.861

**e. Subjective norm variable (CQ)****Reliability Statistics**

Cronbach's Alpha	N of Items
.903	5

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
CQ1	15.87	8.098	.803	.872
CQ2	15.71	8.517	.716	.891
CQ3	15.77	8.619	.774	.880
CQ4	15.95	7.803	.737	.890
CQ5	15.76	8.331	.782	.877

**3.3.5. Variable on intention to use the service (YD)****Reliability Statistics**

Cronbach's Alpha	N of Items
.935	4

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
YD1	11.86	5.329	.835	.920
YD2	11.88	5.247	.870	.908
YD3	11.85	5.567	.845	.916
YD4	11.77	5.626	.841	.918

**Comment:**

After running a survey on the reliability of the variables CL, GC, STT, TN, CQ and YD, we can see that the Cronbach's Alpha coefficient of all variables is in the good reliability range of 0.8-0.95. In which the Corrected Item-Total Correlation coefficient of the analyzed variables is greater than 0.3. Thus, all survey variables have acceptable reliability and are suitable for further EFA testing

**3.4. Exploratory factor analysis**

After checking the reliability of observed variables, the EFA exploratory factor analysis method is used to test the scale value. EFA helps eliminate poor quality scales, forming a set of scales with better explanatory meaning. Testing standards (Anderson and Gerbing, 1988): Factor loading  $\geq 0.5$ ; KMO coefficient (Kaiser – Meyer – Olkin):  $0.5 < \text{KMO} < 1$ ; Bartlett's test:  $\text{Sig.} < 0.05$ ; total variance extracted  $\geq 50\%$ .

In the first analysis, 5 inappropriate variables were eliminated: GC3, GC4, STT1, STT2 and TN4.

**Rotated Component Matrix<sup>a</sup>**

	Component		
	1	2	3
CL1	.715		
CL2	.664		
CL3	.739		
CL4	.659		
CL5	.735		
GC1	.596		
GC2	.744		
GC3	.536		.646
GC4			.756
STT1	.761		
STT2	.795		
STT3			.736
STT4			.696
STT5			.708
STT6			.802
TN1		.659	
TN2		.730	
TN3		.686	
TN4		.607	.693
CQ1		.773	
CQ2		.630	
CQ3		.744	
CQ4		.730	
CQ5		.679	

In the second run after eliminating inappropriate variables, the coefficient KMO = 0.943 is obtained, satisfying the condition  $0.5 \leq \text{KMO} \leq 1$ . The Bartlett test is statistically significant (Sig. = 0.000 < 0.05), Therefore, the observed variables are correlated with each other in the whole.

**KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.943
Bartlett's Test of Sphericity	Approx. Chi-Square	2862.063
	df	171
	Sig.	.000

Regarding the rotation matrix, we obtain the following variables:

**Rotated Component Matrix<sup>a</sup>**

	Component	
	1	2
CL1	.769	
CL2	.755	
CL3	.793	
CL4	.664	
CL5	.764	
GC1	.662	
GC2	.724	
STT3	.833	
STT4	.810	
STT5	.774	
STT6	.807	
TN1		.698
TN2		.766
TN3		.711
CQ1		.807
CQ2		.700
CQ3		.788
CQ4		.742
CQ5		.713

The results show that the variables CL1 - CL5, GC1, GC2, STT3, STT4, STT5, STT6 converge into one column. This explains that these variables are related and together explain the factor of customer service responsiveness. Therefore, we combine these variables into a new variable SDU to continue with correlation and regression analysis

Besides, in the second column we see the variables TN1, TN2, TN3, CQ1- CQ5 concentrated. This explains that the above variables are also related and together explain the factor of customer trust in the service. Therefore, we combine these variables into a new variable STN to continue with correlation and regression analysis.

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.232	64.378	64.378	12.232	64.378	64.378	7.494	39.443	39.443
2	1.345	7.078	71.456	1.345	7.078	71.456	6.082	32.013	71.456
3	.778	4.094	75.550						
4	.677	3.562	79.112						
5	.592	3.118	82.230						
6	.487	2.562	84.792						
7	.443	2.330	87.121						
8	.365	1.923	89.045						
9	.352	1.853	90.897						
10	.292	1.539	92.436						
11	.266	1.400	93.836						
12	.230	1.212	95.048						
13	.177	.934	95.982						
14	.168	.886	96.868						
15	.148	.779	97.647						
16	.126	.662	98.310						
17	.116	.613	98.923						
18	.108	.570	99.492						
19	.096	.508	100.000						



Based on the Total Variance Explained table, we can see that the SDU variable explains 39.443% and the STN variable explains 71.456% of the test's significance.

### 3.5. Correlation analysis :

**Correlations**

		CL	GC	STT	TN	YD	CQ
CL	Pearson Correlation	1	.846**	.872**	.603**	.696**	.742**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	150	150	150	150	150	150
GC	Pearson Correlation	.846**	1	.903**	.524**	.664**	.735**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	150	150	150	150	150	150
STT	Pearson Correlation	.872**	.903**	1	.579**	.691**	.742**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	150	150	150	150	150	150
TN	Pearson Correlation	.603**	.524**	.579**	1	.691**	.656**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	150	150	150	150	150	150
YD	Pearson Correlation	.696**	.664**	.691**	.691**	1	.820**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	150	150	150	150	150	150
CQ	Pearson Correlation	.742**	.735**	.742**	.656**	.820**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	150	150	150	150	150	150

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Thus the variables are not correlated

### 3.6. Regression analysis :

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.854 <sup>a</sup>	.729	.725	.4034578

a. Predictors: (Constant), STN, SDU

b. Dependent Variable: YD

R square = 0.854 shows that the dependent variable has an impact on the independent variable by 85.4%.

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	64.270	2	32.135	197.416	.000 <sup>b</sup>
	Residual	23.928	147	.163		
	Total	88.198	149			

a. Dependent Variable: YD

b. Predictors: (Constant), STN, SDU

The Sig test value is 0.000 < 0.05, showing that the linear regression model built is suitable for the population, can be generalized and applied to the population.

The regression results show:

There is no multicollinearity phenomenon=

Sig of SDU=0.000 < 0.05 so the SDU variable has a low impact on the independent variable YD

Sig of STN=0.000 < 0.05 so the STN variable has a strong impact on the independent variable YD

The remaining variables have sig coefficients > 0.05, so it can be concluded that they do not affect YD.

Regression:

$YD = 0.108 + 0.304 SDU + 0.872 STN$

Thus, from regression analysis, we see that STN's trust from customers has the strongest impact on the intention to use Green SM's services..

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#### 4. Solutions and recommendations :

##### *The solution group aims to improve service responsiveness to customers*

As analyzed above, the responsiveness of Green SM's service does not have much impact on customers' intention to use the service. Factors such as promotions, reviews or current attitudes do not have much influence because customers still do not really have enough time or trust to decide to stick with the service long-term. Green SM's competitors have also been doing very well in this group of factors, making Green SM not yet able to attack strongly in the area of satisfying user satisfaction, as well as creating intention to continue using. Services for customers who regularly use taxi services today. Therefore, currently, Green SM should not focus too much on this group of factors.

##### *The solution group aims to enhance customer trust in SM Green services*

- Customer trust in the service is the most important factor influencing customers' intention to use the service of Green SM. Green SM is known as an electric taxi service provider established by VinGroup. The company's means of transportation are all electric vehicle models provided by VinFast itself. Therefore, most customers choosing Green SM's services believe in the position and influence that VinGroup brings. Based on that, we can offer a number of solutions to help the company attract more current customers through this high trust.
- Raise awareness about the importance of protecting the environment through the use of green services such as electric vehicles. Green SM's vehicle products all use 100% electricity to move, minimizing emissions that cause greenhouse effects and environmental pollution.
- Create a Green SM ecosystem linked to other VinGroup services such as providing additional patient transportation services to hospitals such as VinMec, VinSchool, VinUni, or chargeable charging stations for individuals. people use electric vehicles. Enhance the level of recognition and safety of SM Green service to capital customers.
- Focus on the performance and technical technology of the electric vehicle models that the company is using. Continuously improve product service quality to create trust for customers.
- Increase service coverage to many different areas.

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