

Project Dissertation Report on

**Impact of Lifestyle on the purchase of Electric
Scooters in Metro versus Non Metro Residents**

Submitted by

Nikunj Verma

2K20/DMBA/79

Under the Guidance of

Dr. Deep Shree

Assistant Professor



Delhi School of Management

Delhi Technological University

Bawana Road Delhi 110042

CERTIFICATE

This is to certify that Mr. Nikunj Verma (2K20/DMBA/79) has satisfactorily completed the project report titled **“Impact of Lifestyle on the purchase of Electric Scooters in Metro versus Non Metro Residents”** in partial fulfillment of the requirements for the award of the degree of Master of Business Administration (MBA) from Delhi School of Management, Delhi Technological University, New Delhi during the academic year 2020-22. The content of the report, in whole or part, is an original work carried out by Mr. Nikunj Verma (2K20/DMBA/79) under the guidance of Assistant Prof. Deep Shree and has not been submitted to any other university or institution for the award of the degree.

Project Guide
Dr. Deep Shree

Head of Department
Dr. Archana Singh

Date:

DECLARATION

I, Nikunj Verma, Roll No. 2K20/DMBA/79, student of MBA Batch 2020-22 of Delhi School of Management, Delhi Technological University, declare that the Project Report/ Dissertation titled “**Impact of Lifestyle on the purchase of Electric Scooters in Metro versus Non Metro Residents**” is submitted in partial fulfillment of the degree of Masters of Business Administration is the original work conducted by me. The information and data given in the report are authentic to my knowledge. This report has not been submitted to any other university for the award of any other degree, diploma, or fellowship.

Student Name: Nikunj Verma

Date of Submission:

ACKNOWLEDGEMENT

This report bears sincere thanks to several people who have contributed to the completion of this project. Without their dynamic direction, help, collaboration, and consolation, I would not have gained ground in the project.

I am also thankful to my faculty project mentor, Dr. Deep Shree (Assistant Professor) & Ms. Kanishka Sangwan (Research Scholar) at Delhi School of Management, DTU, for not only for giving excellent guidance, unabated inspiration but also for their never-ending willingness to deliver generous research methodologies, timely attention, and kind interest, since the beginning of my project.

Further, I would like to express my gratitude to the Delhi School of Management, DTU, for including the research project program as a course that has allowed me to gain practical working experience.

EXECUTIVE SUMMARY

With the surge in fuel prices, the Indian automobile industry is set to bring about a new in the two-wheeler business, one that is powered by electricity rather than gasoline or diesel. To reduce pollution caused by vehicles, the Indian government has implemented a number of initiatives, including tax exemptions, purchase rebates, and financial incentives for consumers of electric vehicles (EV). Despite all of the measures taken and the services supplied to the public, it was essential to understand how people would react to the adoption of e-scooters.

The objective of the report is to identify the impact of Lifestyle on the purchase of Electric (EV) Scooters in metro versus non-metro residents. This study investigates customers' lifestyle about electric scooters in metro and non-metro cities, as well as the factors impacting consumers' willingness and awareness of electric vehicles

To understand the nitty-gritty of the buying behavior, Secondary and primary research was conducted on a sample of 336, wherein, 204 were people residing in metro cities and 132 were those residing in non-metro cities. Pivot table and SPSS were used to analyze various parameters that directly or indirectly influence the buying behavior of the people.

Varied consumer groups have different product preferences. Consumer demographic parameters such as annual income, age, gender, marital status, and educational qualifications all play a role in these choices. These demographics give us a fair view about the lifestyle of consumers.

Table of Contents

Executive Summary	4
Introduction	6
Statement of objective.....	7
Review of Literature (this entire section is re written as asked).....	7
Research Methodology.....	10
Data Analyses and Findings.....	11
Interpretation and Analysis of the Survey.....	23
Conclusion.....	26
Limitations	28
References	28
Appendices	30

Introduction

In India, the two-wheeler segment accounts for the highest share of sales among all segments of the automobile industry, providing customers with a wide range of options and creating a competitive atmosphere in which firms must do a better job to satisfy customers (Karunakar B, 2017). The Indian two-wheeler sector has embraced e-bikes and geared bicycles as a new idea. Electric scooters are a common means of personal transportation in industrialized nations such as Japan, America, and China. In the two-wheeler business, the Indian automotive industry is likewise about to enter a new age; and It is electricity, not petrol, diesel, or any other type of fuel. In the two-wheeler category, it will usher in a revolution in the Indian market after the invention of fuel-efficient 4stroke engine technology; this new technology came into existence (Sunitha Anup, Ashok Deo and Anup Bandivadekar, 2021).

"Since 2014, the Indian market for electric scooters and motorcycles has been steadily growing. In comparison to 2014, there was a 20.6 percent yearly increase in 2019. Annual retail sales volume is expected to reach 1,080.5 thousand units by the end of 2025, with a CAGR of 57.9% from 2020 to 2025." – Prescient and Strategic Intelligence (2020). As the price of traditional fuels, such as gasoline and diesel, rises in the domestic and international markets, pollution and congestion levels rise as well, particularly in metropolitan areas, raising the maintenance and operating costs of gasoline and diesel cars. To reduce pollution caused by automobiles, the government has implemented a number of efforts for purchasers of EV's. This will act as a great base for electric vehicles to become the primary personal mode of transport.

Market analysts are optimistic about the e-bike industry, citing the fact that seven conventional two-wheelers were sold for every automobile sold in India, and the electric two-wheeler segment has significant growth potential. With the rapid rise of e-bikes, vehicle firms are also joining the e-bike manufacturing market in an attempt to get into the young electric two-wheeler segment.'

On one hand where government of India is taking preventive steps during the COVID-19 crisis, on the other hand, it has had a negative influence on the Indian electric two-wheeler business. Because electric vehicle manufacturers do rely heavily

on Chinese imports to assemble vehicles, and the lockdown in Wuhan, has resulted in a significant reduction in the number of imports of batteries, electronic components other electrical. Experts predict that the industry will rebound because people would avoid utilizing public transportation in the post-covid environment, which will be an excellent moment for e-bikes and e-scooters to establish themselves.

Statement of objective

- To study the impact of Lifestyle on the purchase of Electric Scooters in metro versus non-metro residents.
- To study the buying behaviour of customers towards E-scooters considering the defined factors.
- To understand Customer's purchase intention towards E-scooters on the basis of, Qualification, Annual Income, Marital status and Gender.
- To study the awareness about electric vehicles of residents of metro and non-metro cities.
- To understand the relationship between willingness to spend on E scooter on the basis of lifestyle defined by demographics like **Income, Age and Gender**.

Review of Literature (this entire section is re written as asked)

“Jui-Che Tu and Chun Yang (2019). KEY FACTORS INFLUENCING CONSUMERS' PURCHASE OF ELECTRIC VEHICLES.”

Although rapid worldwide economic and technological progress has benefited human civilization, it has also wreaked the global ecological environment. As a result, humans are seriously considering the environment and its long-term development. Among the new energy vehicles are potential answers to environmental issues. In the paper the authors performed in-depth thesis to understand the Key factors influencing consumers' Purchase of Electric Vehicles, wherein they studied literature

on Theory of Planned Behavior, Technology Acceptance Model and Innovation Diffusion Model, after doing hypothesis testing, they determined that consumers' attitude, subjective norms, self-control ability, convenience of use, compatibility, and external influence all had a substantial positive impact on purchase intention, however personal innovativeness and interpersonal influence do not.

“Dr. Padmakar I. Shahare (2020). CONSUMER BUYING BEHAVIOUR TOWARDS TWO-WHEELER SCOOTERS.”

This paper is the study and comprehension of the consumer decision-making process. It investigates features and characteristics of individual consumers, including demographic and behavioural variables, in order to comprehend their needs, wants, and desires. Over the last decade, India's two-wheeler sector has grown steadily. Any business has to understand the motivations and reasons why customers acquire products and services in different ways. The purpose of this study is to investigate the numerous elements that influence customer purchase behaviour of two-wheeler scooters. The survey for this study focuses on the reasons and criteria that consumers use to purchase two-wheeler scooters. The author has performed an in-depth study to identify various factors that influence the consumer's buying behaviour towards two-wheeler scooters. The study mainly focused on finding the reasons and criteria that consumers followed while purchasing the two-wheeler scooter; wherein, he conducted primary research and collected data through survey. After applying Percentage analysis for assessing demographic profile of the respondents, Likert's scaling technique for understanding the factors while purchasing two wheelers and the Garret Ranking method to understand the reasons for buying scooter; it was concluded that the factors influencing the consumer buying behaviour are - performance, quality & design, mileage, price and storage space.

“Mitali Das Gupta (2011). IMPACT OF LIFESTYLE PATTERN ON ENERGY CONSUMPTION AND CARBON EMISSIONS – A VIEW FROM INDIA”

There is a definite correlation between individual or household lifestyle behaviours and their impact on energy use and emissions. Historically, a lot of countries have been responsible for high levels of energy use. However, as the population and urbanisation of some developing nations grows, per capita emissions from the more crowded part of the nation or these developing countries are increasingly catching up

to those recorded in developed countries. The author has performed an in-depth study to understand the impact of lifestyle pattern on energy consumption and carbon emission in India. The study links the patterns of lifestyle of individuals and households and then relate its impact on energy consumption and emission. After 200 surveys were conducted across various income groups, it was discovered that a middle-class home emits carbon at the same rate as the global average, but a high-class household emits carbon at roughly half the rate of an ordinary US person and nearly equal to an average UK citizen. The report stated that unless the government sets an example by promoting a sustainable lifestyle via its policies and actions, it will be extremely difficult for the firm to overcome customer reluctance.

“Mr. Omkar Tupe, Prof. Shweta Kishore, Dr. Arloph Johnvieira (2020), Vol. 7. CONSUMER PERCEPTION OF ELECTRIC VEHICLES IN INDIA.”

With the current depletion of fossil resources and price increases, another energy source is required to power the car. Electric vehicles are being considered by the automobile industry in India as a solution to the industry and the environment. Despite countries enacting EV policies, the current market penetration of EVs is very low. The potential scope of electric vehicles in India is examined in this article, as well as consumer perceptions of them. The author has studied the potential scope of Electric vehicle in India and Consumer perception for same was analysed. Primary research was conducted through surveys and the respondents were well aware of global climate conditions and were also ready to change their practices to eco-friendly form conventional vehicles, while cost is also an important factor that impacts the decision to buy an EV. It was concluded that people are willing to shift to EV as their future purchase option only if proper infrastructure is available easily, as cost of purchase, less number of charging stations and the time required to recharge the battery is acting as barrier for the people to shift to EV.

“Daisy Lily Moscare-Balanquit Reann G. Asinas Alyssa de Veyra Consumers’ (2021) Sustainable Choice between Gas and Electric Scooter”

According to the Environmental Management Bureau's annual report, mobility sources such as vehicles, motorcycles, trucks, and buses accounted for 65 percent of all air pollutants in the country. Consumer social responsibility was used to

investigate consumers' sustainable consumption choices. Consumers' social responsibility refers to their deliberate decisions based on moral principles. This study presented empirical evidence on the utility of consumers' felt responsibility for sustainability as a predictor of sustainable choice behaviour, and it addressed to a need for more research to promote a better understanding of the concept of sustainability consumption. The findings have important implications for marketers and managers who can promote environmentally friendly commodities such as electric scooters and enhance sustainable consumption among buyers.

Research Methodology

Type of research: For this study, we have used

Descriptive Research - Descriptive research is a sort of study that is used to describe a population's characteristics. It gathers information that is used to answer a variety of what, when, and how inquiries about a certain population or group. Surveys are used in descriptive survey research to collect data on a variety of topics. This information seeks to determine the amount to which these subjects can be exposed to various situations. Hence, to understand the characteristics of the population whether they reside in metro or non metro cities or what is their spending capacities and their lifestyle is why we have chosen this method to go ahead with our research.

Casual Research - Causal research is a sort of conclusive study that tries to prove a cause-and-effect link between two or more variables. The whole point of this research project is to find correlation between multiple variables and their affect on the buying decision of electric scooters.

So, once we have the characteristics of the population, the next step is to find their relation with the buying behavior of electric scooters for the population and hence these two research methods are used.

SAMPLING DESIGN

Target population People falling the age bracket from 18 years to 70 years.

Sampling Technique For the purpose of this study “Convenience Sampling” (non-probability sampling) is used. Convenience sampling (also known as availability sampling) is a non-probability sampling strategy that collects data from members of the community who are readily available to take part in the study. So for this research paper the sample consist mostly of people who are friends, family and acquaintances and their families hence the population consists of people who were close to hand. This was used so that more number of responses can be generated with minimal follow-ups and higher accuracy towards the data analysis as these people are mostly the youth who understands the need for more sustainable travel options and the need to take care of the depleting environment.

Sample Size The data has been collected from 336 respondents residing in metro and non-metro cities.

Type of data Primary and secondary data both are synthesized for deriving insights. Primary data is collected from residents of metro and non-metro cities with the help of structured questionnaire. For the purpose of secondary data different sources like Internet, journals and research papers have been studied.

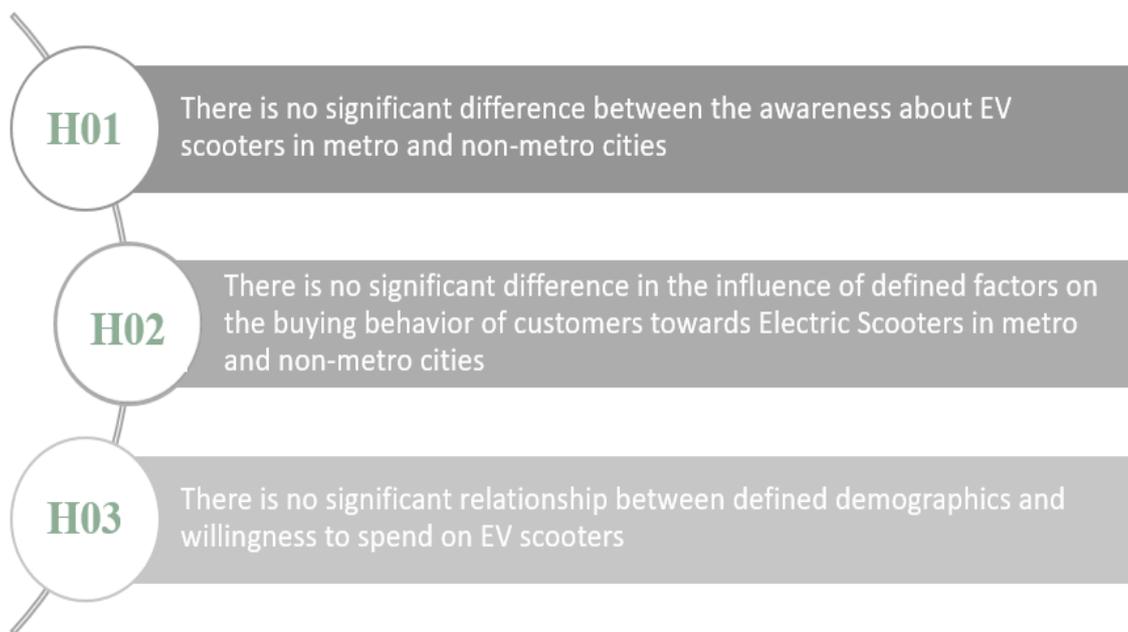
Tools used for analysis

- *Descriptive Statistics:* Demographic variables like Income, age, gender and qualification etc. are used to profile customers
- *ANOVA test:* To understand Customer’s purchase intention towards E-scooters on the basis of defined factors
- *t-Test:* To understand awareness of customers residing in metro and non-metro cities about E-scooters .
- *Regression:* To understand which demographics have a significant relationship with willingness to spend.

Data Analyses and Findings

The coded excel file of the responses has been imported into SPSS. After importing the file, labels have been assigned to the questions so as to categorize the coded numbers of responses again into their original form. For testing the various hypotheses, the factors affecting the buying behavior and demographics of respondents have been used. Output has been generated hypothesis-wise in SPSS (with relevant charts and tables)

These hypotheses have been formulated by keeping the survey and the characteristics of the population in mind. Also, after going through a lot of research paper the most important factors and their cause and effect on the buying decision of electric vehicles were understood. Factors like awareness about electric vehicles, demographics of the population, spending capacity of the population and a few others were used to formulate these hypothesis and hence these hypothesis were formulated keeping in mind the main objective of the research paper.



Descriptive Statistics: Cross-Tabulation

AnnualFamilyIncome * Next purchase * LocationCurrentResidence

Crosstab

Count

LocationCurrentResidence			Next purchase				Total
			as soon as possible	in next 5 year	in next 10 years	wont buy	
Non-Metro_city	AnnualFamilyIncome	5-10 Lakhs	12	12		0	24
		11-15 Lakhs	0	24		0	24
		16-20 Lakhs	0	24		0	24
		Above 20 Lakhs	12	24		24	60
	Total		24	84		24	132
Metro_city	AnnualFamilyIncome	5-10 Lakhs	6	36	6	6	54
		11-15 Lakhs	18	18	12	6	54
		16-20 Lakhs	6	6	0	0	12
		Above 20 Lakhs	6	48	18	12	84
	Total		36	108	36	24	204
Total	AnnualFamilyIncome	5-10 Lakhs	18	48	6	6	78
		11-15 Lakhs	18	42	12	6	78
		16-20 Lakhs	6	30	0	0	36
		Above 20 Lakhs	18	72	18	36	144
	Total		60	192	36	48	336

People belonging to all defined income groups shows higher propensity towards buying e-scooter in the next 5years in both metro and non-metro cities

Chi-Square Tests

LocationCurrentResidence		Value	df	Asymptotic Significance (2-sided)
Non-Metro_city	Pearson Chi-Square	66.943 ^b	6	.000
	Likelihood Ratio	79.728	6	.000
	Linear-by-Linear Association	24.483	1	.000
	N of Valid Cases	132		
Metro_city	Pearson Chi-Square	34.000 ^c	9	.000
	Likelihood Ratio	35.836	9	.000
	Linear-by-Linear Association	2.370	1	.124
	N of Valid Cases	204		
Total	Pearson Chi-Square	38.742 ^a	9	.000
	Likelihood Ratio	46.018	9	.000
	Linear-by-Linear Association	17.532	1	.000
	N of Valid Cases	336		

From the Chi square output we observe that the Pearson Chi-Square significance or p value is 0.000 which is significantly less than Alpha value of 0.05, (taking 95% confidence interval) in all three cases (metro cities, non-metro cities and combined) meaning there is a significant impact of annual family income on purchase intention towards EV scooters.

Age * Next purchase * LocationCurrentResidence

Crosstab

Count			Next purchase				Total
			as soon as possible	in next 5 year	in next 10 years	wont buy	
LocationCurrentResidence	Age						
Non-Metro_city	Age	18-25 yrs	24	36		12	72
		26-35 yrs	0	24		12	36
		36-45 yrs	0	12		0	12
		Above 45	0	12		0	12
		Total		24	84		24
Metro_city	Age	Less Than 18	0	0	6	0	6
		18-25 yrs	24	78	18	18	138
		26-35 yrs	12	18	0	0	30
		36-45 yrs	0	0	0	6	6
		Above 45	0	12	12	0	24
	Total		36	108	36	24	204
Total	Age	Less Than 18	0	0	6	0	6
		18-25 yrs	48	114	18	30	210
		26-35 yrs	12	42	0	12	66
		36-45 yrs	0	12	0	6	18
		Above 45	0	24	12	0	36
	Total		60	192	36	48	336

People falling in the age bracket 18-25 years are more willing to purchase e-scooters in next 5 years in both metro and non-metro cities.

People falling in age bracket 26-35 years in non-metro cities are comparatively more willing to buy e scooters than people of the same age bracket in metro cities

Chi-Square Tests

LocationCurrentResidence		Value	df	Asymptotic Significance (2-sided)
Non-Metro_city	Pearson Chi-Square	36.143 ^b	6	.000
	Likelihood Ratio	48.118	6	.000
	Linear-by-Linear Association	.397	1	.529
	N of Valid Cases	132		
Metro_city	Pearson Chi-Square	114.122 ^c	12	.000
	Likelihood Ratio	96.605	12	.000
	Linear-by-Linear Association	1.629	1	.202
	N of Valid Cases	204		
Total	Pearson Chi-Square	101.737 ^a	12	.000
	Likelihood Ratio	94.541	12	.000
	Linear-by-Linear Association	1.774	1	.183
	N of Valid Cases	336		

From the Chi square output we observe that the Pearson Chi-Square significance or p value is 0.000 which is significantly less than Alpha value of 0.05, (taking 95% confidence interval) in all three cases (metro cities, non-metro cities and combined) meaning there is a significant impact of age group on purchase intention towards EV scooters.

Gender * Next purchase * LocationCurrentResidence

Count			Crosstab				Total
			Next purchase				
LocationCurrentResidence			as soon as possible	in next 5 year	in next 10 years	wont buy	
Non-Metro_city	Gender	Female	12	24		0	36
		Male	12	60		24	96
	Total		24	84		24	132
Metro_city	Gender	Female	18	48	24	12	102
		Male	18	60	6	12	96
		Other	0	0	6	0	6
	Total		36	108	36	24	204
Total	Gender	Female	30	72	24	12	138
		Male	30	120	6	36	192
		Other	0	0	6	0	6
	Total		60	192	36	48	336

Irrespective of being from a particular gender, both males and females show higher propensity of buying an e-scooter in next 5 years in both metro and non-metro cities.

Chi-Square Tests

LocationCurrentResidence		Value	df	Asymptotic Significance (2-sided)
Non-Metro_city	Pearson Chi-Square	15.321 ^b	2	.000
	Likelihood Ratio	20.911	2	.000
	Linear-by-Linear Association	14.882	1	.000
	N of Valid Cases	132		
Metro_city	Pearson Chi-Square	39.500 ^c	6	.000
	Likelihood Ratio	34.417	6	.000
	Linear-by-Linear Association	.041	1	.839
	N of Valid Cases	204		
Total	Pearson Chi-Square	75.022 ^a	6	.000
	Likelihood Ratio	55.131	6	.000
	Linear-by-Linear Association	3.538	1	.060
	N of Valid Cases	336		

From the Chi square output we observe that the Pearson Chi-Square significance or p value is 0.000 which is significantly less than Alpha value of 0.05, (taking 95% confidence interval) in all three cases (metro cities, non-metro cities and combined) meaning there is a significant impact of gender on purchase intention towards EV scooters.

EducationalLevel * Next purchase * LocationCurrentResidence

Crosstab

Count

LocationCurrentResidence			Next purchase				Total
	EducationalLevel		as soon as possible	in next 5 year	in next 10 years	wont buy	
Non-Metro_city	Higher Education		12	0		0	12
	Bachelors_Degree		0	12		0	12
	Masters_Degree		12	72		24	108
	Total		24	84		24	132
Metro_city	Higher Education		6	0	6	6	18
	Bachelors_Degree		12	18	18	6	54
	Masters_Degree		18	90	6	12	126
	PhD		0	0	6	0	6
Total		36	108	36	24	204	
Total	Higher Education		18	0	6	6	30
	Bachelors_Degree		12	30	18	6	66
	Masters_Degree		30	162	6	36	234
	PhD		0	0	6	0	6
Total		60	192	36	48	336	

According to the table, those with higher qualifications are more likely to purchase electric scooters.

Chi-Square Tests

LocationCurrentResidence		Value	df	Asymptotic Significance (2-sided)
Non-Metro_city	Pearson Chi-Square	64.952 ^b	4	.000
	Likelihood Ratio	56.273	4	.000
	Linear-by-Linear Association	21.063	1	.000
	N of Valid Cases	132		
Metro_city	Pearson Chi-Square	83.111 ^c	9	.000
	Likelihood Ratio	85.180	9	.000
	Linear-by-Linear Association	3.505	1	.061
	N of Valid Cases	204		
Total	Pearson Chi-Square	143.811 ^a	9	.000
	Likelihood Ratio	127.341	9	.000
	Linear-by-Linear Association	1.550	1	.213
	N of Valid Cases	336		

MaritalStatus * Next purchase * LocationCurrentResidence

Crosstab

Count			Next purchase				Total
			as soon as possible	in next 5 year	in next 10 years	wont buy	
LocationCurrentResidence		MaritalStatus					
Non-Metro_city	MaritalStatus	Married with kids	0	24		0	24
		Married without kids	0	12		0	12
		Single with kids	24	48		24	96
	Total		24	84		24	132
Metro_city	MaritalStatus	Married with kids	0	18	12	6	36
		Married without kids	0	6	0	0	6
		Single with kids	36	84	24	18	162
	Total		36	108	36	24	204
Total	MaritalStatus	Married with kids	0	42	12	6	60
		Married without kids	0	18	0	0	18
		Single with kids	60	132	24	42	258
	Total		60	192	36	48	336

It can be inferred from table that single people with no children have more positive intension towards purchasing electric scooters.

Chi-Square Tests

Location	Current Residence	Value	df	Asymptotic Significance (2-sided)
Non-Metro_city	Pearson Chi-Square	28.286 ^b	4	.000
	Likelihood Ratio	39.963	4	.000
	Linear-by-Linear Association	1.670	1	.196
	N of Valid Cases	132		
Metro_city	Pearson Chi-Square	20.253 ^c	6	.002
	Likelihood Ratio	27.668	6	.000
	Linear-by-Linear Association	9.474	1	.002
	N of Valid Cases	204		
Total	Pearson Chi-Square	38.573 ^a	6	.000
	Likelihood Ratio	54.597	6	.000
	Linear-by-Linear Association	2.073	1	.150
	N of Valid Cases	336		

One way Anova

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
Price	Between Groups	.037	1	.037	.029	.866
	Within Groups	428.535	334	1.283		
	Total	428.571	335			
Positive Environment Campaign	Between Groups	.112	1	.112	.078	.781
	Within Groups	482.888	334	1.446		
	Total	483.000	335			
Adv Campaign	Between Groups	18.979	1	18.979	18.426	.000
	Within Groups	344.021	334	1.030		
	Total	363.000	335			
Word of Mouth	Between Groups	20.036	1	20.036	12.894	.000
	Within Groups	519.000	334	1.554		
	Total	539.036	335			
Adapting to new trends	Between Groups	17.148	1	17.148	14.251	.000
	Within Groups	401.888	334	1.203		
	Total	419.036	335			
test drives	Between Groups	6.560	1	6.560	4.522	.034
	Within Groups	484.476	334	1.451		
	Total	491.036	335			
Cheaper in Operation	Between Groups	2.421	1	2.421	2.158	.143
	Within Groups	374.615	334	1.122		
	Total	377.036	335			

The survey results show that the factors: price, positive environment campaign, and cheaper operation have sig. value more than 0.05. So, Null hypothesis for these variables is not rejected which depicts that they have similar effect on buying behavior of customers of metro and non-metro cities.

On the other hand, Advertisement campaign, word of mouth, adoption of new trends, test drives have sig. value less than 0.05 thus Null Hypothesis for these variables is rejected which signifies that these factors have significantly different effect on the buying behavior of customers living in metro and non metro cities towards Electric Scooters across.

Regression

Regression analysis is a powerful statistical method that allows you to examine the relationship between two or more variables of interest. This tool helps you to study dependency of the independent variable on the dependent variable. So for the characteristics of the population that we have derived, how do they impact the willingness to spend on Electric Scooters or if they do even impact it at all. This is what we will be analyzing next for both metro and not metro residents individually.

For metro cities

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.464 ^a	.215	.195	.624	1.428

a. Predictors: (Constant), MaritalStatus, EducationalLevel, Gender, AnnualFamilyIncome, Age

b. Dependent Variable: Spending Willingness

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.156	5	4.231	10.860	.000 ^b
	Residual	77.138	198	.390		
	Total	98.294	203			

a. Dependent Variable: Spending Willingness

b. Predictors: (Constant), MaritalStatus, EducationalLevel, Gender, AnnualFamilyIncome, Age

According to the Model Summary Statistics, the R value represents the simple correlation which is 0.464, indicating a low degree of correlation. The R^2 value indicates the percentage of the total variation in dependent variable which can be explained by the independent variable. In this case, 21.5% can be explained, which is very low.

The table indicates the statistical significance of the regression model that was run. Here, p value-0.000 is less than Alpha-0.05, and indicates that, overall, the regression model statistically significantly predicts the outcome variable (i.e., it is a good fit for the data)

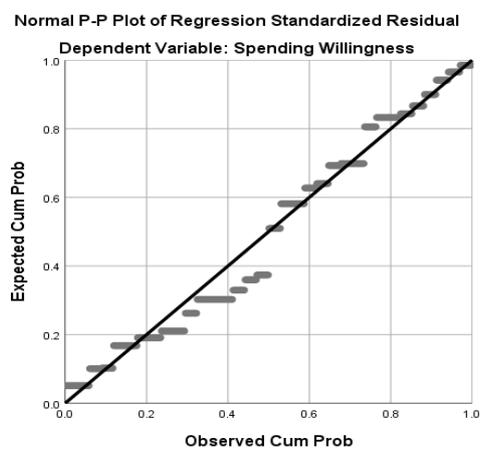
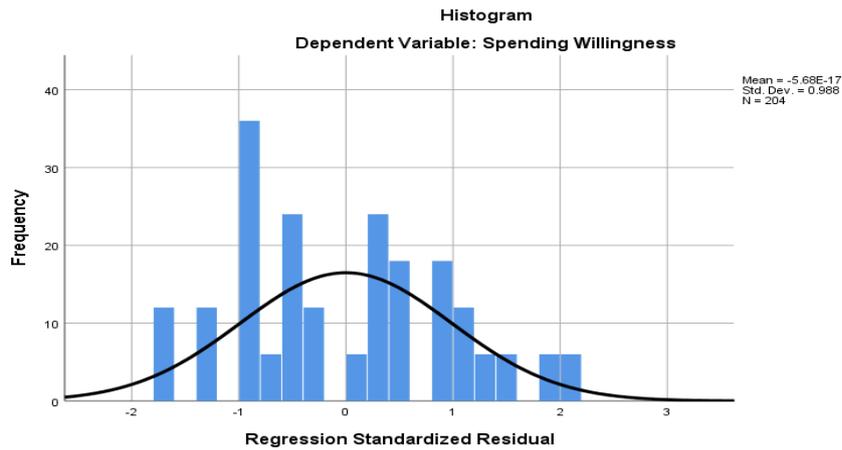
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.223	.318		.702	.484
	Age	-.154	.080	-.229	-1.929	.055
	Gender	.474	.088	.379	5.378	.000
	EducationalLevel	.197	.066	.196	2.980	.003
	AnnualFamilyIncome	.074	.042	.135	1.781	.076
	MaritalStatus	-.070	.113	-.077	-.617	.538

a. Dependent Variable: Spending Willingness

From this table we observe that significance value or p value of gender and education level is 0.000 and 0.003 respectively which is significantly less than Alpha value of 0.05, taking 95% confidence interval, whereas for all other demographic variables it is not significant.

This shows that there is a direct impact of gender and educational level on willingness to spend.



For non-metro cities

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.702 ^a	.493	.473	.351	2.391

a. Predictors: (Constant), MaritalStatus, EducationalLevel, Gender, AnnualFamilyIncome, Age

b. Dependent Variable: Spending Willingness

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.061	5	3.012	24.510	.000 ^b
	Residual	15.485	126	.123		
	Total	30.545	131			

a. Dependent Variable: Spending Willingness

b. Predictors: (Constant), MaritalStatus, EducationalLevel, Gender, AnnualFamilyIncome, Age

According to the Model Summary Statistics, the R value represents the simple correlation and is 0.702, which indicates a high degree of correlation. The R^2 value indicates percentage of the variation in the dependent variable, can be explained by the independent variable. In this case, 49.3% can be explained.

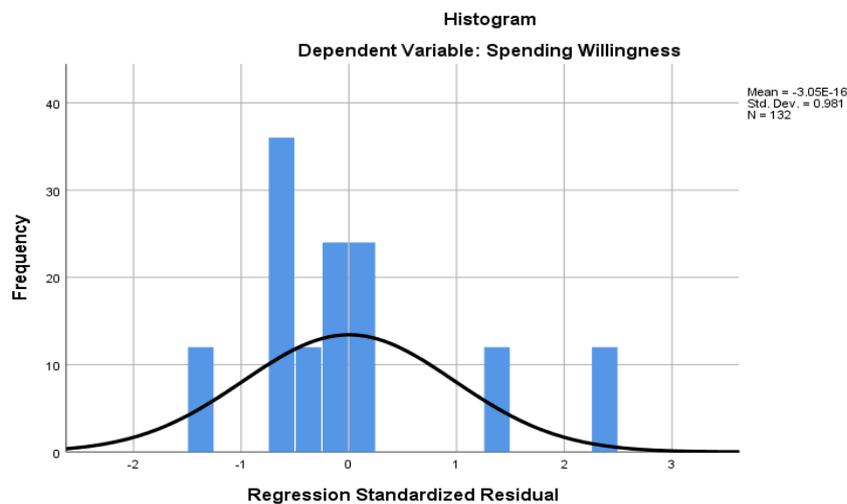
Coefficients^a

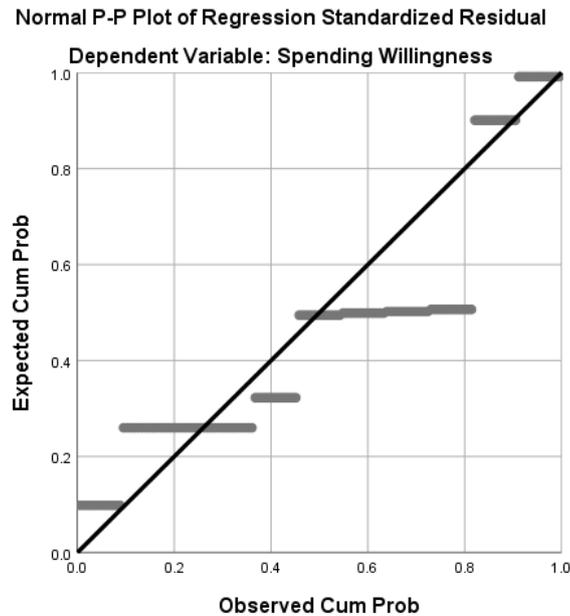
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.013	.332		-3.054	.003
	Age	.323	.087	.647	3.709	.000
	Gender	-.822	.101	-.761	-8.117	.000
	EducationalLevel	.475	.062	.609	7.711	.000
	AnnualFamilyIncome	.032	.033	.078	.969	.334
	MaritalStatus	.345	.121	.561	2.841	.005

a. Dependent Variable: Spending Willingness

From this table we observe that significance value or p value of age, gender, education level and marital status are significantly less than Alpha value of 0.05, taking 95% confidence interval, whereas annual income group is not significant.

This shows that there is a direct impact of age, gender, educational level and marital status on willingness to spend.





T Test

Group Statistics					
	Location	CurrentResidence			
	N	Mean	Std. Deviation	Std. Error Mean	
Brand Awareness	Non-Metro_city	132	1.00	.741	.065
	Metro_city	204	1.03	.383	.027

Independent Samples Test										
		Levene's Test for Equality of Variances				t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Brand Awareness	Equal variances assumed	12.636	.000	-.477	334	.634	-.029	.062	-.151	.092
	Equal variances not assumed			-.421	176.821	.674	-.029	.070	-.167	.109

From the independent sample t test output we observe that as per to Levene's test the significance value or p value is 0.000 is significantly less than Alpha value of 0.05, taking 95% confidence interval, therefore we conclude that equal variances are not assumed. Therefore reject the null hypothesis. From this we can conclude that there is a significant difference between the awareness about EV scooters in metro and non-metro cities.

Interpretation and Analysis of the Survey

- The most potential target group comes out to be the age group of 18 to 25 years, where people are willing to adapt to new trends and have higher risk

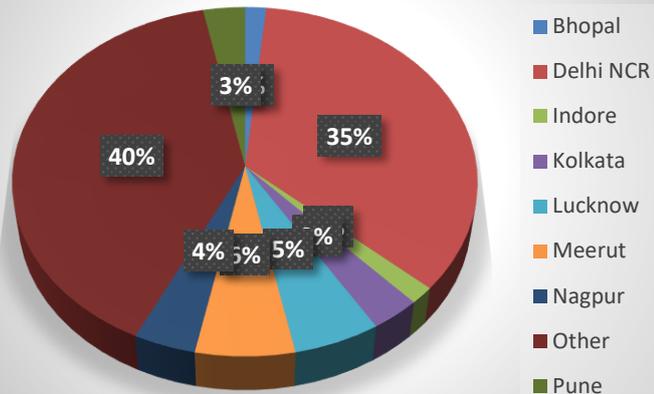
appetite. Hence, the acceptance of e-scooters is stronger in the younger age group.

- Factors like price, positive environment campaign, and cheaper operation have similar influence on consumer's buying behavior living in metro and non-metro cities.
- On the other hand, Advertisement campaign, word of mouth, adoption of new trends, test drives have significantly different effect on the buying behavior of customers living in metro and non-metro cities towards Electric Scooters.
- People with higher annual income showed more inclination towards e bikes.
- People who are more qualified are more willing towards purchasing electric scooters
- It was found out that on the basis of location i.e. metro and non-metro cities there is a significant difference between the awareness about Electric scooters
- After studying the output of regression, there is a direct impact of gender and educational level on willingness to spend in metro cities and there is a direct impact of age, gender, educational level and marital status on willingness to spend in non-metro cities.

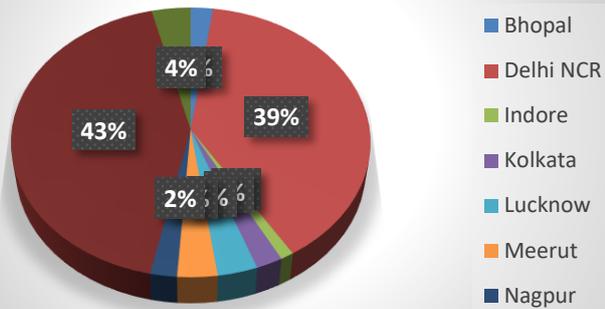
Varied consumer groups have different product preferences. Consumer demographic parameters such as annual income, age, gender, marital status, and educational qualifications all play a role in these choices.. These demographics give us a fair view about the lifestyle of consumers.



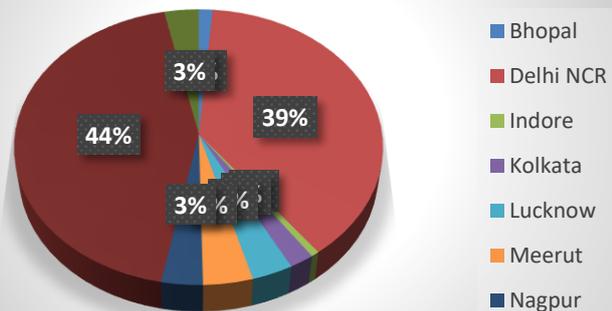
Environment Friendly

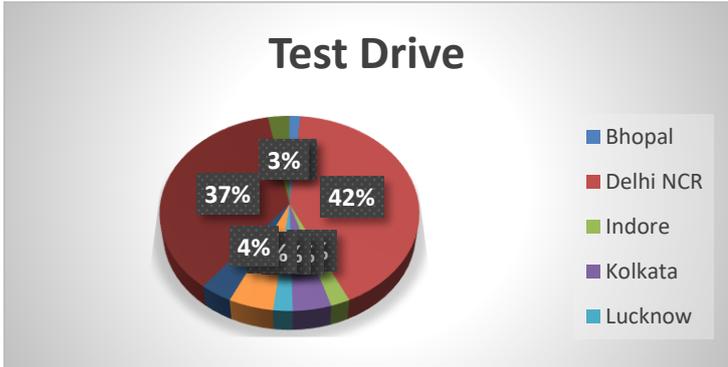
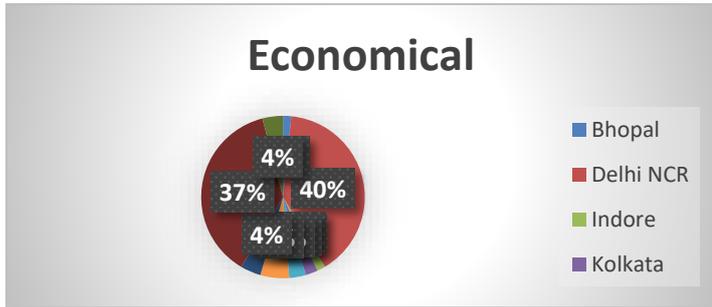
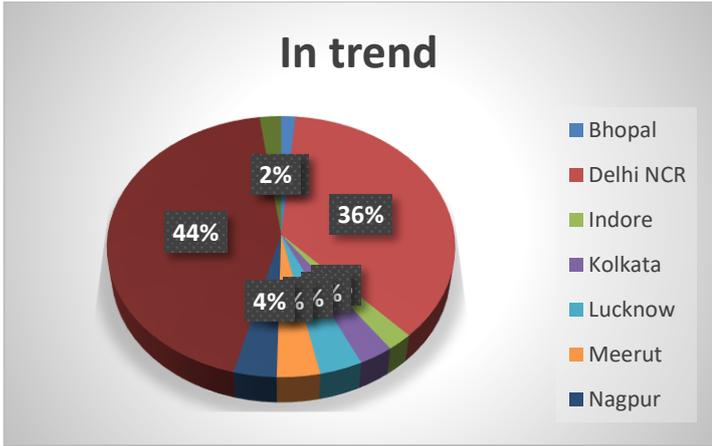


Ad Campaign



Word of mouth





CONCLUSION

This study investigates customers' lifestyle about electric scooters in metro and non-metro cities, as well as the factors impacting consumers' willingness and awareness of electric vehicles, in order to increase the market proliferation of electric vehicles with help of demographics and different defined factors. After doing a rigorous data

analysis of the research data and going through the research papers it is very clear that:

- In metro areas, gender and educational level have a direct impact on willingness to spend, while in non-metro cities, age, gender, educational level, and marital status have a direct impact on readiness to spend.
- On the other hand, advertising campaigns, word of mouth, the adoption of new trends, and test drives have a dramatically different impact on the purchasing behaviour of customers in metro and non-metro cities when it comes to electric scooters.

So for a company who is entering into the 2 wheeler electric vehicle space, at the time of this research paper it is very important for them to make sure that people residing in either metro or non metro cities are completely aware about the new sustainable technology and more than that about the benefit of electric vehicles and to their overall cost to a consumer and environment friendly practices of the technology. More than selling the product at this moment it is about selling the idea of the future as to how electric vehicles are the vehicles of the future in terms of the overall built, fuel and technology being used which can only come via proper advertisement and educating the new or ignorant user which is the biggest hurdle, more than making the vehicle itself. Companies like ZYPP have already started renting out 2 wheeler electric vehicles, delivering these directly to the users home for easy adoption of the technology and hassle free renting of vehicle. A company like this will not only benefit itself but also the other players in the EV sector because more the people try to drive these vehicle and understand the beneficial use cases of the vehicle and realize them to be a cheaper alternative higher will be the acceptance and adoption rate of such vehicles.

Recommendations

- The brands should focus more on their 5year plan as, these will be the most crucial years for the brands that are planning to launch their e-scooters. The brands who will be able to make best of the situation will be the one having

bigger market share in the near future. As major target segment will be the ones purchasing the technology in the next five years

- The companies should have a very clear targeting and positioning before entering the market, as people from all the income groups are willing to shift to e-scooters. So, it is wise for the companies to have a clear target and a strong brand positioning
- The companies should also ensure a strong digital media presence. As per our study, online platform is considered as one of the most reliable sources of information in the present times, and having a strong control on the digital platform will help companies being able to cater to a large market share

LIMITATIONS

- Since electric scooters are not widely accepted in India, locating respondents who are real electric scooters users proved difficult.
- Though the majority of the respondents in the survey were aware of E-scooters, they lacked conceptual and literal knowledge about the options available in the market, as well as the benefits and drawbacks of their use
- As a result, their impressions of e-scooters may not be accurate enough

References

- Consumer Buying Behavior towards Two-Wheeler Scooters_Padmakar Shahare-2020.pdf - ISSN 2320-0693 Vol-19-Issue-21-May-2020 Tathapi(UGC Care Journal
- Kopplin, C.S., Brand, B.M. and Reichenberger, Y. (2021). Consumer acceptance of shared e-scooters for urban and short-distance mobility. *Transportation Research Part D: Transport and Environment*, 91, p.102680.
- Johnvieira, D.A., Tupe, M.O. and Kishore, P.S. (2021). CONSUMER PERCEPTION OF ELECTRIC VEHICLES IN INDIA. *European Journal of Molecular & Clinical Medicine*, [online] 7(8), pp.4861–4869. Available at: https://ejmcm.com/article_7216.html [Accessed 23 Jun. 2021].

- Chanchai Petchprapunkal. (2011). Applying SEM and AMOS Software to Extend the Application of Buyer Behaviour Theory. International Journal of Contemporary Business Studies.
- Jui-Che Tu and Chun Yang (2019). KEY FACTORS INFLUENCING CONSUMERS' PURCHASE OF ELECTRIC VEHICLES.”
- Cherry, C. (2007). Electric Bike in China and their impacts on environment safety mobility and accessibility. Berkeley: UC Berkeley Center for Future Urban Transport, 1-23
- Christoph Loch, V. K. (2011). Evaluating the Potential of New Products with their potential market Size, 3-21
- Gan, L. (2003). Globalization of automobile industry in China: Dynamics and barriers in greening of road transportation. Oslo: Center for International Climate and Environmental Research,537-551
- Jacob Cherian, Jolly Jacob. (2012). Green Marketing: A study of Consumers attitude towards Environment Friendly Products. Abu Dhabi, UAE: Canadian centre of Science and Education,117-132
- “Dr. Padmakar I. Shahare (2020). CONSUMER BUYING BEHAVIOUR TOWARDS TWO-WHEELER SCOOTERS.”
- M. S. (18th Nov. 2009). Voltwagon: Getting people out of cars and onto bikes with. Ecological and Macro Economics
- KARUNAKAR B. (2017) Indian Passenger Vehicle Industry: Strategic Analysis with Focus on the Big Four Firms.
- Marian Beise, Thomus Cleft. (2008). Assessing the Lead Market Potential of Countries for Innovation Projects. Germany: Research Institute of Economic and Business,163-184
- Martin, S. A. (2006). Assessing early market potential for car sharing in China,1-23
- Maya Chaudhari, L. F. (September 2004). PV Grid Connected Market Potential under a cost breakthrough scenario,442-456
- Mrinal Kranti Das, Swati Pal. (2011). E-Bike- Tomorrow's Choice. India: JIS Collage of Engineering ,113-137

Appendices

Questionnaire for data collection:

1. Location (Current Residence) *

Mark only one oval.

- Mumbai
- Bengaluru
- Ahemdabad
- Delhi NCR
- Chennai
- Hyderabad
- Kolkata
- Pune
- Jaipur
- Luchnow
- Surat
- Kanpur
- Kochi
- Patna
- Varanasi
- Agra
- Bhopal
- Coimbatore
- Prayagraj
- Meerut
- Indore
- Vishakhapatnam
- Nagpur
- Varodara
- Other

2. Age *

Mark only one oval.

- Less than 18 years
- 18-25 years
- 26-35 years
- 36-45 years
- Above 45 years

3. Gender *

Mark only one oval.

- Female
- Male
- Others

4. Educational Level *

Mark only one oval.

- Higher Education
- Bachelor's Degree
- Master's Degree
- PhD

5. Annual Family Income *

Mark only one oval.

- 5 Lakhs-10 Lakhs
- 11 Lakhs- 15 Lakhs
- 16 Lakhs- 20 Lakhs
- Above 20 Lakhs

6. Marital Status *

Mark only one oval.

- Married with Kids
- Married without Kids
- Single with Kids
- Single without kids

7. What do you think about the following statements? *

Mark only one oval per row.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Electric Scooters can protect from Global warming	<input type="radio"/>				
2. Electric Scooters can replace regular cars in terms of satisfying consumer needs	<input type="radio"/>				
3. Electric Scooters can save a lot of money to the owner	<input type="radio"/>				
4. Electric Scooters are very expensive	<input type="radio"/>				
5. Purchasing an electric scooter is easy in my area	<input type="radio"/>				
6. Charging stations and maintenance services are easily available	<input type="radio"/>				

8. What factors encourage you to consider buying EV Scooter? How Important are the following factors for purchase (1 being most important, 5 being least important) *

Mark only one oval per row.

	1	2	3	4	5
Price	<input type="radio"/>				
Positive environmental effect	<input type="radio"/>				
Advertisement Campaign	<input type="radio"/>				
Word of Mouth	<input type="radio"/>				
Adapting to New trends	<input type="radio"/>				
Test drives	<input type="radio"/>				
Cheaper in operation	<input type="radio"/>				

9. How much are you willing to spend for an EV Scooter? *

Mark only one oval.

- Between Rs.50,000- Rs.75,000
- Between Rs.76,000- Rs. 1,00,000
- Between Rs.1,00,001- Rs. 1,25,000
- Between Rs.1,26,000- Rs. 1,50,000
- Above Rs.1,50,000

10. How much distance are you willing to travel by an EV Scooter? *

Mark only one oval.

- Less than 20 kms
- 20 kms to 50 kms
- 50 kms to 100 kms
- Above 100 kms

11. How many EV scooter brands are you aware of? *

Mark only one oval.

- None
- 1-3
- 3-5
- More than 5

12. What is/are your source/s of information for new market trends? *

Check all that apply.

- Newspaper
- Magazines
- Television
- Internet Sources
- Outdoor Advertisement
- Personal Communication

Other: _____

13. How likely are you to buy EV Scooter as your next scooter? *

Check all that apply.

- I want to buy Electric Scooter as soon as possible
 - I want to buy Electric Scooter during next 5 years
 - I want to buy Electric Scooter during next 10 years
 - I don't want to buy Electric Scooter
-