

A STUDY ON CONSUMER PERCEPTION AND AWARENESS TOWARDS E-BIKES WITH SPECIAL REFERENCE TO CHENNAI CITY

Submitted in partial fulfilment of the requirement of the reward of

Bachelor of commerce

By

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(DEEMED TO BE UNIVERSITY)

Accredited with Grade "A" by NAAC I12B Status by UGC Approved by AICTE
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DATE:

PLACE: CHENNAI

RAJESH KUMAR B P

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ABSTRACT

Global warming has become the primary concern all around, and so there is a necessity to adopt regulations to contain the ever-increasing emission of greenhouse gases. With the contemporary technology in place, transportation and communication have undergone an exemplar change. The automobile companies have felt the need to innovate vehicles that will not depend on fossil fuels. As a result, many companies have invested in R&D to bring forth electric bikes. The study focuses on understanding the customer perception towards the electric two-wheelers across Chennai city. Responses' were collected from around 120 bike users to analyze the essential factors relevant to the purchase of electric bikes. The data was analyzed using Univariate and bivariate tools such as chi-square and one-way ANOVA.

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CHAPTER-1

1.1 INTRODUCTION:

In today's competitive and fast paced world, automobiles plays a very pivotal role in any individuals overall life. Be it the productivity, performance or coping with livelihood issues, vehicles saves a significant amount of time and efforts aiding as a bridge between different commuting points. Majority of Indians depend on twowheelers to cater their mobility needs.

Travelling has come long way from the days of the walking to various forms of modern transportation of the globalised world. The people use to travel by walking in the ancient times. Those were the days when people use to travel with the help of natural resources and without affecting the nature. The pace of time has totally transverse mode of transports in the world. The evolution of the transportation has made giant leaps to the current stature. The travelling time of the ancient times has been reduced drastically with the innovation of the science. The journey of the development of the transports has drastically decreased the travel time. The scientific inventions in the field of transport are still evolving. The days of animal transportation for travelling are completely extinct in the modern world. The high power cars, bullet trains and air transport has made the transport sector as one of the prime sector that indulges in the manufacturing. The manufacturing base of the transport sector has high use of research and development in enhancing the performance of the vehicle. There are large number of vehicles and brands that has been used in the country for the transportation

The usage of the engine in the vehicles has been largely developed with the help of the research and development wing based on the feedback and intention of the consumers of the market. The steam engine stood the primary in the beginning rather evolved and has come to the usage of electric engine in the

polluted world. The classical evolution of the engines has put forward lot of environmental problems in the society. This environmental friendliness has been the need of the hour in the 21st century. The flow of the vehicles at the world level has been constantly and geometrically increasing to absorb the emitted pollutants. The research is looking forward to evaluate the potential degrading effects of the petrol and diesel engine on the environment. The mode of transport has also been changing the preferences towards the electric engines.

The growth of the electric engines can be traced back to the 17th century. The strong foundation and need for the electric engine is not realized in that century. The globalised and modern world is realizing the importance of the electric engines in all ways of the life to minimize the effect of other modes of transport on the environmental degradation. The consumers preferences and attitudes is deviating to a certain extent towards the usage of the electric engines. These preferences of the consumers will be added advantage to the manufacturers who are willing to adapt to the change. The probable flexible manufacturer can become the market mover of the automobile segment in the future.

1.2 STATEMENT OF PROBLEM:

The electric engines have been used in all modes of transports now-a-days. The much needed segment is the passenger segment of the automobile sector. The two-wheelers of the modern world has the sounds to attract the consumers but at the cost of degrading the environment. There are lot of research and development that is going on to create the sports and ultra modern bikes to attract the most potential younger generation of the society. The societal changes will have an strong impact on the Nature's environment. The cost of using the modern bikes might affect the survival of the environment. The number of the vehicles on the roads has been increasing which is due to the customer's needs and wants. The safety and convenience has been the prime motives behind such drastic increase in the number of two wheelers in the country.

The developing economy of India is having a large fleet of passenger vehicles. The passenger vehicle segment is seeing lot of new vehicles riding down the streets each and every month. The problem of using the conventional engines is causing considerable damage to the environment. The regulating authorities are having lot of problems with the emissions created by the conventional engines. The consumers choose preferably the conventional bikes to that of the innovative eco-friendly bikes. The consumers' perception towards the conventional bikes to that of the conventional system of passenger vehicles has vital role in the transitional phase to eco-friendly bikes. The emissions caused by the conventional bikes are making the government and consumers think towards the alternatives. But the comfort and economy of the bikes using conventional engines is being the Hurdle in the change of the consumers' preference.

The consumers have lot of choices, when it comes to two wheeler segment. The Electric Bike has been the innovation of the 21st century to mitigate the environmental problems of the society. The evolution of the Electric Bike has proved to be a great challenge for the conventional engines in the automobiles segment. The perception of the consumers plays a vital role in the development of the Electric Bike in the Indian economy. The perception acts as the mediation of the consumer preferences towards the product. The Electric Bike on that note has to oblige the consumers with reasonable price, comfort and other consumer friendly features. The perception of the consumers might change with the above features of the Electric Bike. The problems of adapting to new standards, the cost involved in it and transition to new technology will take time based on the consumers perception towards the Electric Bike which will be focus of the study.

1.3 IMPORTANCE OF THE STUDY

The two-wheeler segment of the Indian automobile sector acts as the major contributor towards the Gross Domestic Product (GDP) of the country. The automobile industry has the contribution of more than 7 percent of the GDP. The two wheeler is the backbone of the automobile industry in India. The two wheeler segment has the market share of more than 75 percent. The automobiles sector is

constantly depending on the conventional sources of transportation. The need for alternative sources of transportation has arisen due to the pollutants arising from the conventional engines. There is a structural change that has been introduced to overcome the environmental problems. The two-wheeler segment is going through transitional phase in our country.

The two-wheelers segment of the automobiles sector is having the necessity to re-model themselves to exist in the economy. The companies that adapt to the changes will be having the marker-mover advantage when it comes to the Electric Bike. The Electric Bike are having lot of features that has to be disseminated to the consumers to make this transitional phase successful. The perception of Electric Bike has to be assessed to know the minds of the consumers. The Electric Bike have to be made popular to solve the problem of environmental degradation. The Electric Bike on that note has to be consumer friendly. The assessment on this note will enable to predict the future of the Electric Bike in our country.

The perception of the consumer becomes the prime importance for the growth of the Electric Bike. The Electric Bike have to meet the perception of the consumers in the selection over the conventional bikes. The study assumes significance on that note that the perception of the Electric Bike has to be assessed to know the validation in the automobile market. The consumer preferences will be the main factor in the future of Electric Bike.

The electric vehicle industry is in the early growth phase in our country. The general public needs to be made aware of these developments, to make this successful. The electric vehicle will be emerging as a critical component in making an emission-free environment. The purpose of the study is to understand the awareness about electric bikes; the preference of the customers.

1.4 OBJECTIVES OF THE STUDY

1. To understand the awareness level of consumers about the electric bike in select area of the study
2. To analysis the benefits and barriers about the use of Electric Bike for the consumers in chennai district.
3. To study the factors influencing the buying behaviour of consumers perception towards Electric bike.

1.5 SCOPE OF THE STUDY

The study which is titled as the study on consumer perception and awarness towards the Electric Bike in chennai district aims at assessing the buying behavior of the people. The study mainly aims to identify the buying behavior of the consumers in purchasing the Electric Bike and various factors that influence the customers to support the same. The customers cost and benefit that are to arise in the using of the Electric Bike is also analysed. The study is conducted at the one of the industrially supported area of chennai district in Tamil Nadu. The study is based on the customers' perception towards the use of the electric bikes. The factors that influence them to opt for the Electric Bike reveals the buying attitude of the consumer. It also lays down the various driving forces that makes the consumers to purchase the Electric Bike

1.6 LIMITAITONS OF THE STUDY

The research study conducted use to have minor limitations based on the conceptions and practical implications. The various limitations of the study that were identified to have minimal impact are listed below:

a. The study has taken the total population of the district as the population for the study. The confidentiality of the information of the consumers made it impractical to collect the data regarding the owners of the e-bike. This has made the researcher to adopt the district population from which the sample was selected.

b. The results of the study are applicable only to the buying behavior of the Electric Bike and cannot be applicable to the other category of the bikes that are available in the automobiles market.

c. The lack of time can also be considered as a factor in maximizing the number of samples that are used in the study. The opinions must be biased on the variables of income and personal details which might have minimal impact on the outcome of the study results.

CHAPTER-2

2.1 REVIEW OF LITREATURE

“As per Census 2011, 37% people using motorized modes to commute to work relied on two-wheelers compared to 33% for buses and 8% for private cars” (Kumar & Prakash, 2020). The havoc created by pandemic Covid-19 since the onset of year 2020 and hence the new normal of WFH (work from home) was expected to impact the two wheeler segment heavily. However the latest data released by the Society of Indian Automobile Manufacturers (SIAM) as on October 2020, shows a clear spike of 16.88% in the total domestic sales of two-wheelers (Priya, 2020)

The above statistics are clear indicator to the increasing demand of two wheelers automobiles on one side, but there are various darker facet to it, which cannot be ignored. Owing to this increasing demand of vehicles, India is facing a mammoth issue of emission of fine carbon particles from vehicles, throwing is a serious threat to human health, ecological systems, and regional and global climate regimes (Kumar, et al., 2018). \

Moreover, (Howarth, 2019; Shafiee & Topal, 2009; Chedid, Kobrosly, & Ghajar, 2007) has argued that transport sector is the primary cause of increasing demand, exhausting oil reserves faster. It was predicted that the oil reservoir will become extinct by 2052.

Addressing to the Goals 7 & 13 of sustainable development goals (SDGs) to transform our world, even the Policy makers are forced to take action and Niti Ayog has worked out Zero Emission Vehicles (ZEVs) policy to promote and boost the usage of electric vehicles (NITI Aayog & World Energy Council, 2018).

Weinert et al. (2007) surveyed bike and e-bike users in Shijiazhuang, to identify differences in travel characteristics and attitudes. They concluded that owing to faster urbanization, e-bikes facilitates individuals to travel long distance with judicious use of energy. E-bikes were savior for those who were deprived of public transport. Women were found skeptical about the speed capability of e-bike; however in comparison to regular bikes they felt safe while crossing the traffic signals/intersections on e-bike.

Fu (2008) proposed the system of entire life cost/benefit parametric assessment from the user's perspective for the choice of the best refueling procedure for electric bikes. Analyst contended that exchanging batteries at the gas stations was one of their most chosen strategy. Be that as it may, all methods of electric bikes have shortfalls comparative with the fuel framework. The inadequacy was for the most part owing to the impediment of battery execution, and expected advantages towards environment protection were not understood by then.

Weinert et al. (2008) used the method of force field analysis to analyze China's future technical, and market growth of electric two-wheelers (E2W). The authors concluded that the main factors driving the growth of the E2W market were: technological advances in electric 2-wheeler and battery technology, strong local regulatory support in the form of banning of gasoline-powered motorcycle, loose implementation of electric 2-wheeler standards, and worsening public transit bus services.

Ranjan et. al. (2013) studied various factors influencing the buying behavior and purchase intentions towards electric scooter respectively. Key factors influencing customer purchasing behavior were identified. The factors emerged in the study were identified as trend & fashion, features & brand equity, added value, engine power and advertisement. Analysis of demographic profile of consumers revealed that the differences in the impact on customers' purchase behavior towards E2W were due to the factors viz. comfort, mileage, design, style, optimum speed, maintenance cost, reliability, brand image, advertising, spare parts availability, after-sale service and resale value. E-scooters were found to be

more appropriate in the younger age group of 15-25. High-income and higher education individuals showed more favorable intentions for purchasing e-bikes.

Alamelu et al. (2015) concluded that consumers' behavior can be shaped towards purchase of E2W by providing required infrastructure such as increased number of recharge stations, models with varied carrying capacity, and government incentives. Long term guaranties and warranties for the spare parts influences the customer preference towards e-bikes. The battery technology should meet the range requirements of the commuter, recharging and affordability can also be considered by the manufacturer to minimize ownership costs along with battery leasing choices.

Mendoza et al. (2016) contrasted two traditional slow charging facilities for E2Ws with the environmental characterization of the life cycle in order to determine the best solution addressing environmental concerns and to provide environmental improvement criteria. Research has found that if no life cycle environmental standards are implemented during planning, design, and management, the public urban charging network for E2Ws can lead to related environmental impacts. The deployment of EVs calls for the continuous provision and wide-ranging incorporation of supporting facilities and infrastructure.

Important long-term environmental savings can be accomplished by finding urban synergies through the implementation of eco-design concepts with an objective towards the development of sustainable urban ecosystems for electric vehicles. Through offering standards and guidance for the implementation of charging facilities in public and private areas, the participation of policy makers and government authorities can promote the convergence of environmental requirements between the technological and socio-economic perspectives.

Fishman & Cherry (2016) discovered numerous findings on different subjects. It was found that core motivation for the use of e-bikes is how the ability to maintain speed is achieved with minimum efforts while using e-bikes in hilly

areas and in hot conditions. In addition, veterans were attracted to e-bikes, as they find a standard bike too physically taxing. To minimize sedentary lifestyle illnesses, e-bikes have been used. Since e-bike users tend to ride more often and for longer durations than normal bicycle riders, e-bikes may contribute to increasing the overall levels of physical activities of riders. E-bike users were found to have higher perceived safety levels in most of the Chinese and North American studies. But higher levels of aberrant activity have been observed in Chinese studies of e-bike users at intersections. In China, the risk of e-bike accidents tends to be higher than for standard bicycles.

Many researchers have explained various factors that motivates and influences the automobile buying behavior. Ghasri et al. (2019) revealed that Millennials looked for better design in EVs, along with less impact of them on the environment; whereas generation Z perceived EVs to be superior in terms of safety. Consumers have put higher weights to the financial incentives available with EVs as compared to discounts offered on operating costs or parking expenses. The results infer that Gen Y were more inclined towards embracing electric vehicles compared to Gen X and Z. Gen Y were found to be the least sensitive cohort to purchase price against Gen X. Financial incentives to consumers in form of rebate or discount on the purchase price was found to be more effective than assigning the same incentive to manufacturers to reduce the purchase price.

Huang (2019) examined the variables, such as, influencing the satisfaction level of users, intention to recommend, and willingness of users to accommodate electric two-wheelers (E2Ws). Based on a sample of 315 Taiwanese, the findings of the hierarchical multiple regression analysis revealed that the variables of satisfaction, positive emotions, and riding experience predicted whether users expected to recommend a two-wheeler. The findings also show that the key factor that affected the desire of a rider to buy an E2W was external motivation. Study also posited that Hedonic and pragmatic experiences of consumers during two-wheeler usage may affect the satisfaction and intrinsic motivation of the users more positively.

Owing to growing number of electric vehicles in Vietnam and based on the Theory of Planned Behavior (TPB) Thuy & Hong (2019) studied the high school students in Hanoi city to identify the factors that influence their attitude and intention towards E2W usage and their affected level. They concluded that factors viz. “perceptions of economic benefit”, “usage convenience”, “friendly environmental awareness” and “stylish design” influenced the attitude towards E2W usage. Whereas the intention to use E2Ws was found to be influenced by “subjective norm”, “attitude toward E2W usage” and “the attraction of motorcycles”.

The psychological and demographic measures of the intention to purchase an e-bike were investigated by Simsekoglu & Klöckner (2019). It was found that age, perceived advantages, social norms and familiarity were positively influencing intention of buying an electric bike. It was found that perceived challenges related to usability and safety were negatively influencing the buying consideration of an electric bike. Perceived advantages were found to be low in non-users. They also perceived higher obstacles (as compared to the users of e-bikes) towards purchase of e-bikes. For both e-bike users and non-users, environmental factors have been the greatest obstacle to e-bike use.

CHAPTER-3

3.1 RESEARCH METHODOLOGY

The research design provides the path through which it is to be travelled for the solving the problems that are raised by the research study. It acts as the guiding light for the researcher to solve the problem. The research of consumer perception towards Electric Bike is empirical in nature. The study is based on the direct observation and collecting of facts from the consumers based on the opinions. The study of empirical nature will also make the study to explore the various factors that induce the consumers to react to the buying situations. The direct observation will also enable to collect secondary information from the

sample respondent through their gestures. The study on that note has to follow the research design of the empirical studies to identify the consumer perception towards the Electric Bike in chennai city.

3.2 RESEARCH DESIGN

The complete survey of the population involved in the study is adopted only where there is feasibility in the form of minimum number of population, complete list of the population and economical power to carry out the study. The above said factors are to be considered in going for survey method. The complete enumeration of the population is highly impossible in individualistic research studies unless the population frame is small. The research where the survey is not possible presents the options of going for sampling. The sampling is the process of selection of the representative part of the population for conducting the research. The sampling helps to save the unnecessary wastage of time and money. The sampling design gives the outline for the selection of most appropriate sampling method that is to be followed for the research. The research which aims to measure the consumer perceptions towards the Electric Bike has to select the

holders of the Electric Bike for the study. The details about the holders of Electric Bike cannot be obtained from the dealers as the details are classified information which cannot be issued to the outsiders. The seriousness is that in some cases it might bring legal battles to the dealers who provide those information to the third parties. This situation disables the researcher to collect the details of the e-bike holders in the chennai district. The unavailability of the details of the Electric Bike holders will make the research to adopt non-probability sampling method. The non-probability sampling can only be adopted for the study as the population involved in the study is finite but the collection of the details about the population frame is declared impractical.

3.3 SAMPLING TECHNIQUE

The sampling technique that is to be involved for the study is non-probability sampling techniques. There are various methods under the non-probability sampling methods. The study finds convenient sampling as the most appropriate sampling method for the current research. The other forms of the non-probability sampling methods are considered inappropriate due to the fact that the owners of the Electric Bike are very scarce among the general population. It is convenient for the researcher to collect the when and where it is possible to collect the data from the owners of the Electric Bike. Therefore the more appropriate sampling technique to be followed for the study is the convenient sampling. The population of the total chennai district is considered to be the population of the study from which the sampling is calculated. The chennai district has the population of 4646732 peoples. Based on the population the sample is calculated using the Z formula.

The online sample size calculator was used to assess the sample size. The sample size was based on the margin of error and confidence level of the population distribution. The margin of error was fixed at 5 percent and confidence level was ascertained to be 99 percent. The formula for the sample size has determined that the sample that is to be selected for the study is 108.

3.4 SOURCES OF DATA

Sources of Data begins with figuring out what sort of data is needed, followed by the collection of a sample from a certain section of the population. Next, you have to utilize a certain tool to gather the data from the chosen sample. The two types of sources of data are:

Primary data: The Primary data for this study was collected through questionnaire.

Secondary data: Secondary data was collected from external sources like Websites, Journals etc.

3.5 STRUCTURE OF QUESTIONNAIRE

The questionnaire follows a simple and basic layout. It is made easy for the participants to respond to the questionnaire without any delay or confusion. The set of question and the answer options present in the questionnaire are predetermined and are constructed by myself based on general questions regarding the main topic.

3.6 SAMPLE SIZE

The sample size for the project had a target of 70-100 participants. The fixed target of the sampling size has been achieved as the total number of respondents for the 15 survey questionnaire was 108. Total of 108 responses helped the project to analyze more response and it helped to derive a conclusion regarding customer perception and awareness towards E-bikes.

3.7 ANALYTICAL TOOLS:

CHI-SQUARE TEST:

A chi-square statistic is one way to show a relationship between two categorical variables. In statistics, there are two types of variables: numerical (countable) variables and non-numerical (categorical) variables.

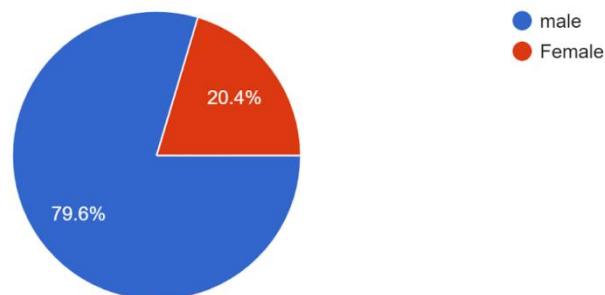
CHAPTER-4

4.1. TABLE:

GENDER	NO OF RESPONDENTS
MALE	86
FEMALE	22

4.1 CHART:

Gender
108 responses



INTERPRETATION:

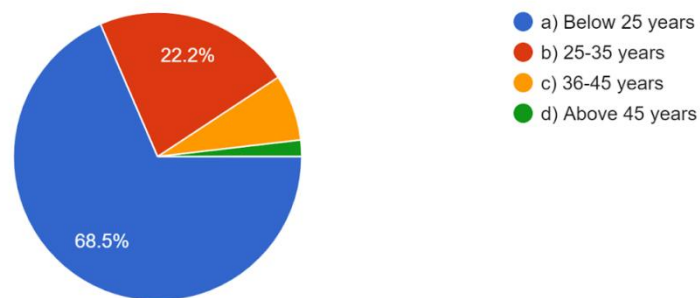
The Gender plays a vital role in the selection of the type of bike that has been used for travelling. The categories of male and female have the representation more or less equally where male has got 79.6% percent and female has got 20.4% percent respectively. The demographic variable of age does not have equal representation from both the categories which will help to infer when it comes to the usage of the Electric Bikes.

4.2 TABLE:

AGE OF RESPONDENTS	NO OF RESPONDENTS
Below 25	74
26-35	24
36-45	8
Above 45	2

4.2 CHART

Age
108 responses



INTERPRETATION:

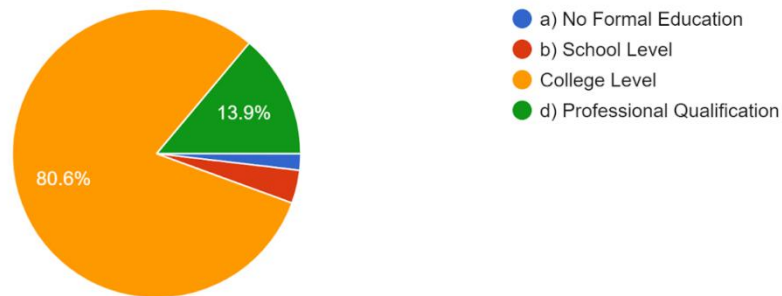
The age has been categories into five categories with the interval of 10 years except the first and last category. The majority of the respondents are in the category of below years which forms 68.5 percent of the sample involved in the study. There are 22.2 percent of the respondents who are in the category of 25-35 years followed by the category of 36-45years with the representation of 7.4%percent and lowest representation1.9% is from higher age category of above 45 years

4.3 TABLE

EDUCATION LEVEL	NO OF RESPONDENTS
No formal education	2
School level	4
College level	87
Professional qualification	15

4.3 CHART

Education:
108 responses



INTERPRETATION

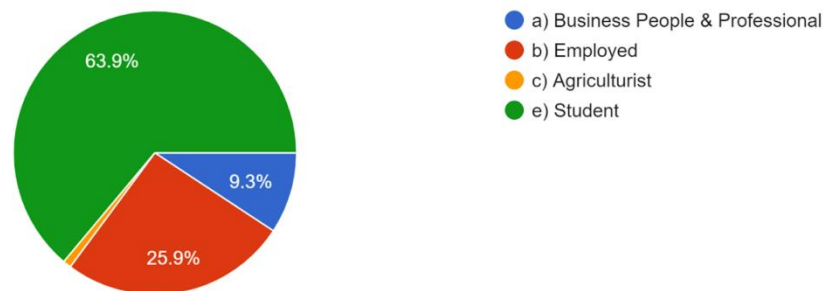
The education level of the respondents reveals the literacy level of the sample selected for the study. The education level has been categorized into four levels in which most of the respondents involved in the study are from the college level which accounts to 80.6 percent which is followed by 13.9 percent formed by the professional qualification. The least respondents are from the others category which forms 9.3%.

4.4 TABLE

OCCUPATION	NO OF RESPONDENTS
Business people	10
Employed	28
Agricultural	1
Student	69

4.4 CHART

Occupation:
108 responses



INTERPRETATION

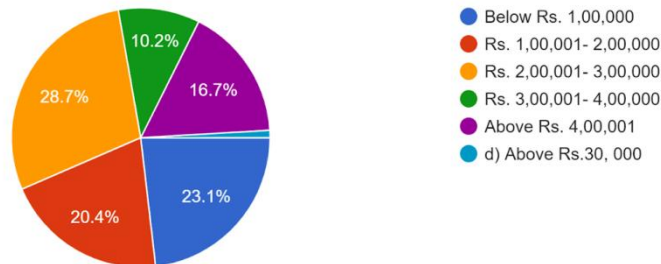
The occupation of the sample helps to determine the attitude of each class of groups towards the usage of the Electric Bikes. The students group that has the majority of the respondents with 63.9% percent which is followed by the employed category with the percent of 25.9% and followed with the category of Business people with the percentage of 9.3 and the least percent of 0.9 is agriculturalist.

4.5 TABLE

FAMILY INCOME	NO OF RESPONDENTS
Below 100000	25
Below 100001-200000	22
Below 200001-300000	31
Below 300001-400000	11
Above 400000	18

4.5 CHART:

Family Annual Income:
108 responses



INTERPRETATION

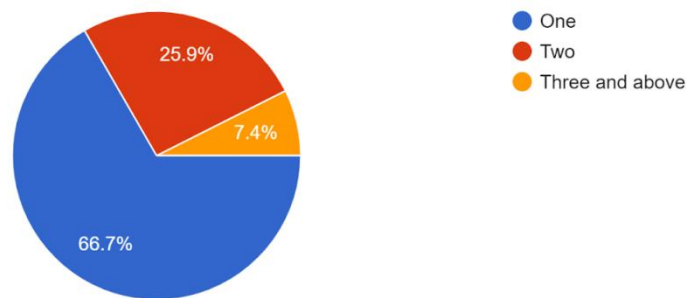
The family income of the respondents is main source of determinant in purchasing the bike. The Income is categorized into four groups with the interval of Rs. 1, 00,000. The most of the respondents are in the category of persons who are earning Below Rs. 1,00,000 with aggregate of 23.1 percent which is followed by the category of Rs. 1,00,001- 2,00,000 with 20.4 percent of the respondents. The category that is of lowest percent is the Rs. 3,00,001- 4,00,000 which has percent of 10.2. This clearly examines that majority of the respondents are having lower income levels.

4.6 TABLE

NO OF EARNINGS IN THE FAMILY	NO OF RESPONDENTS
One	72
Two	28
Three	8

4.6 CHART

No of earning members in the family other than you
108 responses



INTERPRETATION

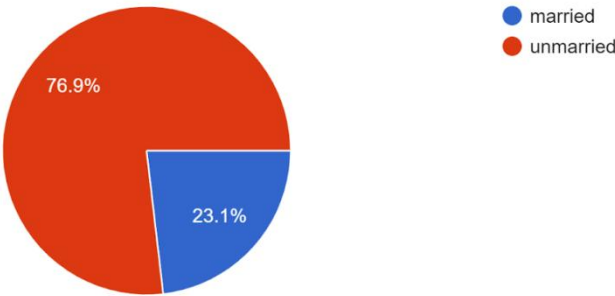
The number of members too affects the affect the choice of the bikes that is to be bought in the family. The options are classified into three categories. The highest of the respondents have replied that they have one memberis earning in the family. This has the support of 66.7 percent of the respondents and next level of no of members earning in the family is from 1-2 members with 25.9 percent. The least of the responses is received in the above 3 and above members which has a percent of 7.4 percent. This variable shows that the number of members earning in the family is less.

4.7 TABLE

MARRITAL STATUS	NO OF RESPONDENTS
Married	25
Unmarried	83

4.7 CHART

Marital Status
108 responses



INTERPRETATION

From the above table it is interrupted that majority 76.9 percentare unmarried and 23..1 percent are married.

Majority 76.9 percent are unmarried

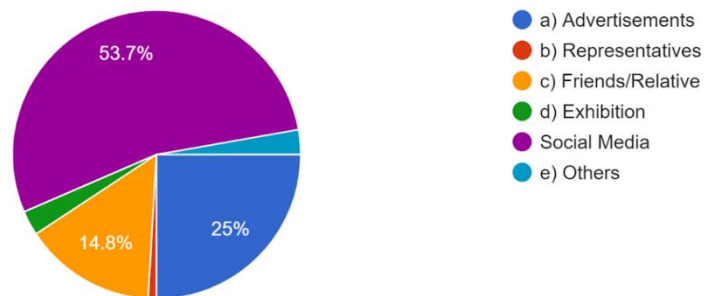
TABLE 4.8

SOURCE OF AWARENESS	NO OF RESPONDETNS	PERCENTAGE
Advertisement	27	25
Representative	1	0.9
Friends/Relatives	16	14.8
Exhibition	3	2.8
Social Media	58	53.7
Others	3	2.8

4.8 CHART

1. State the source of awareness about the E-bikes

108 responses



INTERPRETATION

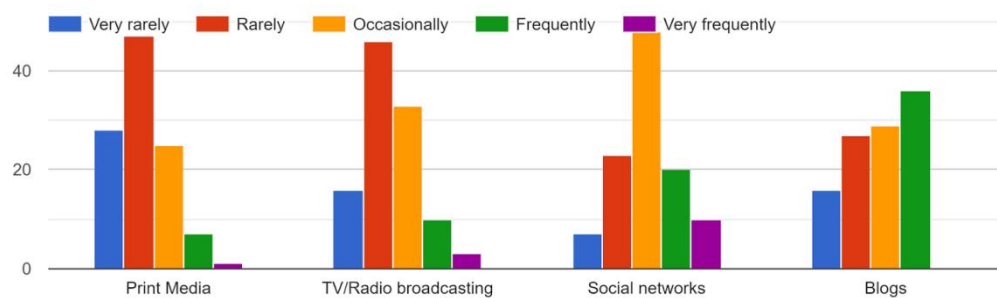
From the above table it is interrupted that majority 53.7% came aware of E-bikes through social media and 25% came aware through Representatives and 14.8% came aware by Friends and Relatives and 2.8% became aware of exhibitions and same that of 2.8% came aware through other sources and 0.9% came aware through representatives.

4.9 TABLE

COMMUNICA TION CHANNEL	Very Rarely	%	Rar ely	%	Occ asio nall y	%	Freq uentl y	%	Ver y Fre que ntly	%
Print media	28	26	47	43.5	25	23.1	7	6.4	1	0.9
T.v	16	15	46	43	33	30	10	9.2	3	2.7
Social Media	7	6.4	23	21.2	48	44.4	20	18.5	10	9.2
Blogs	16	14.8	27	25	29	26.8	36	33.3	0	0

4.9 CHART

2. How often do you notice on communication channels about the information on Electric bike in general?



Print Media

The print media has been playing a vital role in the passing of communication to the Electric Bikes users. The respondents reveal that 0.9 percent of them receive information about the Electric Bikes in print media very frequently followed by the frequently category with the 6.4 percent of the respondents. There are 23.1 percent of the respondents who have noticed the

advertisement occasionally. The rarely and very rarely categories has got the respondents response to the extent of 26 percent and 43.5 percent respectively.

TV/ Radio Broadcasting

The TV/ Radio Broadcasting of the information has been frequently giving the information to the consumers and it has the support of 9.2 percent of the respondents involved in the study. There are 2.7 percent of the respondents who are very frequently receiving the information and 30 percent who are remaining neutral to the broadcasting of TV/Radio Broadcasting. There are 43 percent of the respondents rarely see the information on the TV/ radio broadcasting and 15 percent of the respondents are very rarely having the information communicated in the TV/ Radio Broadcasting.

Social Networks

The social networks have been not able to communicate the information as effective as the previous channels of communication. The majority of respondents are neutral towards the view which is supported by 44.4 percent. There are 18.5 percent of the respondents who have frequently watched the advertisement and 9.2 percent of the respondents have watched the video very frequently. The advertisement in the social networks are rarely and very rarely watched with the respective percent of 21.2 and 6.4

Blogs

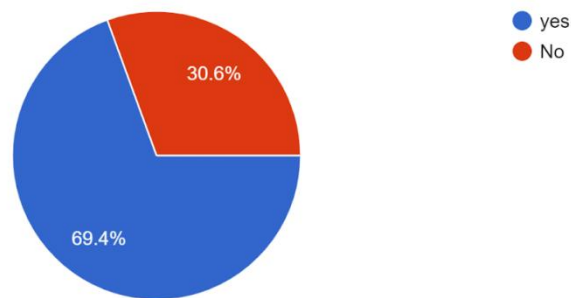
The blogs are rarely communicated the information to the users where 25 percent of the respondents are rarely watching the information on the blogs and very rarely watching to the extent of 14.8 percent. There are 0 percent watching very frequently the information on the blogs and 33.3 percent are frequently watching the advertisement on the blogs. The major view is that blog has not been able to communicate the information on the Electric Bikes very frequently when compared to the print media.

4.10 TABLE

DID ADVERTISEMENT INFLUENCE FOR THE PURCHASE OF E-BIKE	NO OF RESPONDENTS	PERCENTAGE
Yes	75	69.4
No	33	30.6

4.10 CHART

3. Did advertisement influence your buying decision for Electric bike?
108 responses



INTERPRETATION

The influence of the advertisement of the buying decision of the Electric Bikes is having lot of impact on the minds of the consumers. The consumers are having influence based on the attractiveness of the information they see on the advertisement. There are respondents involved in the study to the extent of 69.4 percent have accept that the advertisement is having significant influence for buying the Electric Bikes. There are 30.6 percent of the respondents involved in the study who think otherwise they don't have any influence based on the advertisements given given by the Electric Bikes manufacturers. This helps to ascertain that the advertisement is having significant impact on the buying decision of the Electric Bikes.

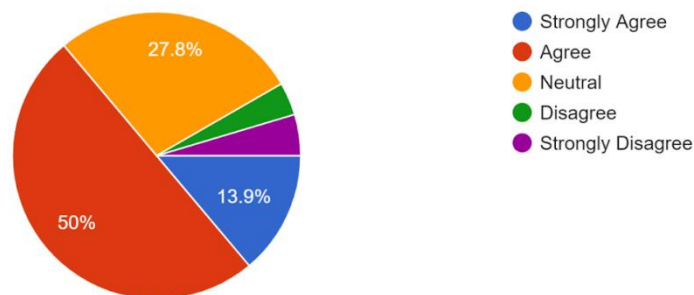
4.11 TABLE

opinion about the advertisement influence your decision for owning Electric bike	NO OF RESPONDENTS	PERCENTAGE
Strongly Agree	15	13.9
Agree	54	50
Neutral	30	27.8
Disagree	4	3.7
Strongly Disagree	5	4.6

4.11 CHART

4. If yes what is your opinion about the advertisement influence your decision for owning Electric bike?

108 responses



INTERPRETATION

The influencing capacity of the Electric Bikes due to the advertisement is also assessed based on likert's five point scale. The respondents involved in the study have agreed to the extent of 50 percent and have strongly agreed by 13.9 percent. There are 27.8 percent of the respondents who are neutral towards the view, 3.7 percent of the respondents disagree and 4.6 percent of the respondents who have strongly disagree towards the statement. The influence of advertisement on the purchase decision of the Electric Bikes is evident from the opinions of the respondents involved in the study.

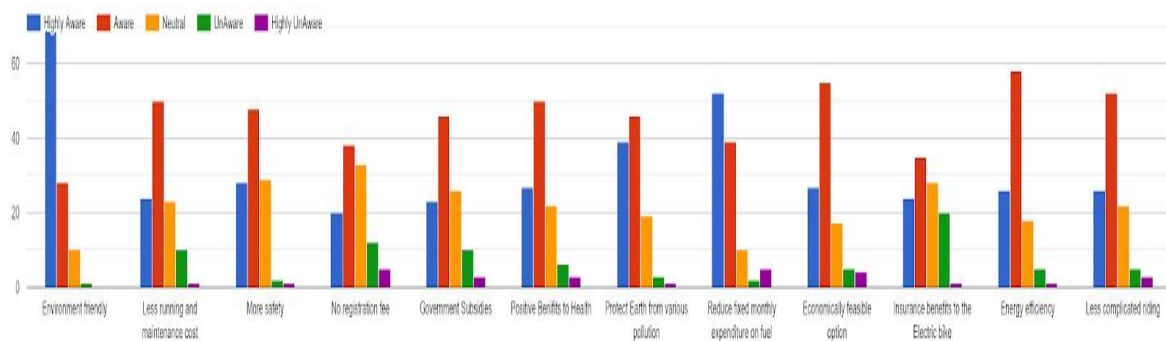
4.12 TABLE

S.no	Factors	Highly aware	%	Aware	%	Neutral	%	Unaware	%	Highly Unaware	%
1	Environment friendly	69	63.8	28	25.9	10	9.2	1	0.9	0	0
2	Less maintainance	24	22.2	50	46.2	23	21.2	10	9.2	1	0.9
3	More safety	28	25.9	48	44.4	29	26.8	2	1.8	1	0.9
4	No registration	20	18.5	38	35.1	33	30.5	12	11.1	5	4.6
5	Government subsidies	23	21.2	46	43	26	24	10	9.2	3	2.7
6	Positive Benefits to health	27	25	50	46.2	22	20.3	6	5.5	3	2.7
7	Protect earth from various pollution	39	36.1	46	43	19	17.5	3	2.7	1	0.9
8	Reduce fixed monthly cost	52	48.1	39	36.1	10	9.2	2	1.8	5	4.6
9	Economically Feasible option	27	25	55	50.9	17	15.7	5	4.6	4	3.7
10	Insurance benefits	24	22.2	35	32.4	28	26	20	18.5	1	0.9

11	Energy efficiency	26	24	58	53.7	18	16.6	5	4.6	1	0.9
12	Less complicated driving nature	26	24	52	48.1	22	20.3	5	4.6	3	2.7

4.12 CHART

5. State your level of awareness on the following statement that motivated you to operating for Electric bike



INTERPERTATION

ENVIRONMENT FRIENDLY

The users are highly aware to the extent of 63.8 percent and 25.9 percent of the users are in the aware category. There are 9.2 percent of the respondents who are neutral towards the view. The respondents to the extent of 0.9 percent are unaware towards the environment friendly feature of the Electric Bikes.

Less running and maintenance cost

. There are 46.2 percent of the respondents who are aware and 22.2 percent of the respondents are highly aware towards the view. There are 21.2 percent of the respondents are neutral that Electric Bikes are less running and involves low maintenance cost. The respondents to the extent of 9.2 percent and 0.9 percent have been unaware and highly unaware of the Electric Bikes features.

More safety

There are 44.4 percent of the respondents who are aware and 25.9 percent of the respondents highly aware about the feature of more safety. The respondents to the extent of 1.8 percent and 0.9 percent have been unaware and highly unaware regarding the safety features of the Electric Bikes and 26.8 are neutral to this.

No registration fee

There are 35.1 percent of the respondents who are aware that there is no registration fee for the respondents and 18.5 percent of the respondents are having high awareness about the registration fees. There are 30.5 percent of the respondents who are neutral towards the features. The unaware category of the respondents is having the support of 11.1 percent and 4.6 percent are highly unaware towards the feature of the Electric Bikes

Government Subsidies

There are 30.40 percent of the respondents who are highly unaware and 12.20 percent of the respondents are unaware about the government subsidies provided for the Electric Bikes. There are 18.10 percent of the respondents who are neutral towards the view. The users of the Electric Bikes are aware to the extent of 9.2 percent and 2.7 percent of the respondents are highly aware about the government subsidies provided by the government.

Positive Benefits to Health conditions

There are 46.2 percent of the respondents who are aware about the health benefits, 25 percent of the respondents are highly aware about the health benefits of using the Electric Bikes. There are 20.3 percent of the respondent who are neutral. There are also 2.7 percent of the respondents who are unaware and 0.9 percent of the respondents are highly unaware of the health conditions that are to arise due to the usage of Electric Bikes.

Protecting earth from various pollution

The responses recorded reveal that majority are highly aware of the situation to the extent 36.1percent respectively. There are 43 percent of the respondents who have aware about the view. There are 2.7 percent of the respondents who are unaware of the view and 0.9 percent of the respondents are highly unaware of the situation that Electric Bikes are protecting the earth from various pollutions.and 17.5 percent are neutral

Reduce fixed monthly expenditures on fuel

There are 9.2 percent of the respondents who are neutral and 36.1percent of the respondents are aware. There are 48.1percent of the respondents are highly aware that the Electric Bikes reduce fixed monthly expenditure. There are 1.8 percent of the respondents who are unaware and 4.6 percent of the respondents are highly unaware of that Electric Bikes reduce monthly expenditure

Economically feasible option

There are 15.7 percent of the respondents who are neutral towards the view and 50.9 percent of the respondents who are aware that the Electric Bikes are economically feasible option. There are 25 percent of the respondents who have highly aware of the condition. The respondents to the extent of 4.6 percent and 3.7percent are unaware and highly unaware of the condition that Electric Bikes are economically feasible option.

Insurance benefits to the Electric Bikes holder

There are 34.90 percent who are aware of the insurance benefits and 13.90 percent of the bike holders are highly aware of the insurance benefits. There are 22.30 percent of the respondents are neutral towards the category. The Electric Bikes users are unaware and highly unaware to the insurance benefits that arise due to the usage of the Electric Bikes to the limit of 18.5percent and 0.9 percent respectively.

Energy Efficient

The Electric Bikes are energy efficient which is aware by the 53.7percent of the respondents and 16.6 percent of them are neutral towards it. There are 24 percent of the respondents who are highly aware of the position. The respondents to the extent of 4.6 percent are unaware and 0.9 percent of the respondents are highly unaware of the energy efficiency of the Electric Bikes.

Less complicated riding

There are 48.1 percent of the respondents who are aware and they form the majority along with 24 percent of the respondents. There are 20.3 percent of the respondents who are neutral towards the view. There are 4.6 percent of the respondents are unaware and 2.7 percent of the respondents are highly unaware.

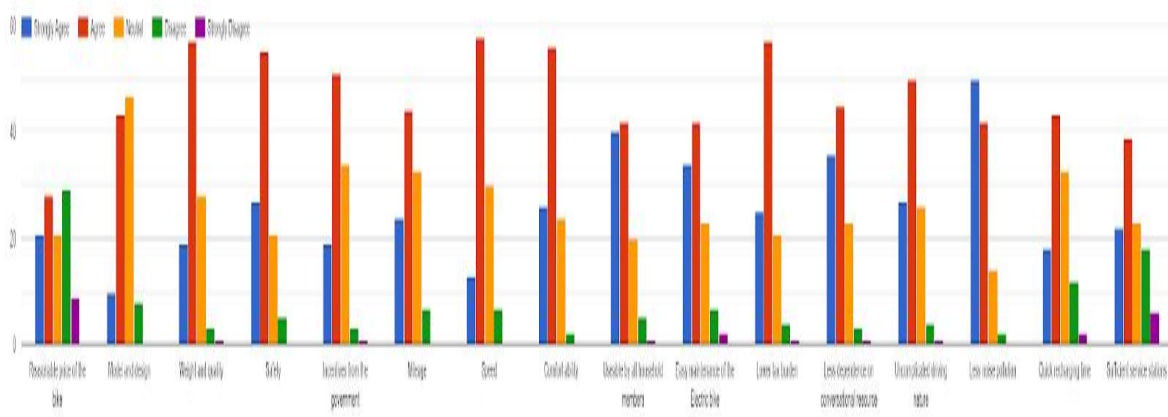
4.13 TABLE

Level of Agreement	Strongly Agree	%	Agree	%	Neutral	%	Disagree	%	Strongly Disagree	%
Reasonable price	21	19.4	28	25.9	21	19.4	29	26.8	9	8.3
Model and design	10	9.2	43	39.8	47	43.5	8	7.4	0	0
weight	19	17.5	57	52.7	28	25.9	3	2.7	1	0.9
Safety	27	25	55	48.1	21	19.4	5	4.6	0	0
Incentives	19	17.5	51	47.2	34	31.4	3	2.7	1	0.9
Milage	24	22.2	44	40.7	33	6.4	7	6.4	0	0
Speed	13	12	58	53.7	30	27.7	7	6.4	0	0
Comfort	26	24	56	51.8	24	22.2	2	1.8	0	0
Usable	40	37	42	38.8	20	18.5	5	4.6	1	0.9
Easy maintainance	34	31.4	42	38.8	23	21.2	7	6.4	2	1.8
Lower tax burden	25	23.1	57	52.7	21	19.4	4	3.7	1	0.9
Less dependence on natural resorces	36	33.3	45	41.6	23	21.2	3	2.7	1	0.9
uncomplicated	27	25	50	46.	26	24	4	3.7	1	0.9

				2						
Less noise pollution	50	46.2	42	38.8	14	12.9	2	1.8	0	0
Quick recharge	18	16.6	43	39.8	33	30.5	12	11.1	2	1.8
Sufficient service stations	22	20.3	39	36.1	23	21.2	18	16.6	6	5.5

4.13 CHART

6. State your level of agreement on the following statement that influences to buy Electric bike.



INTERPRETATION

Reasonable price of the bike

The majority of the 62.50 percent of the respondents have highly disagree the reasonable price along with the 8.3 percent of the respondents. There are also 19.4 percent of the respondents neutral towards the view. There are 25.9percent of the respondents who are agreed and 19.4 percent of them are strongly agree about the reasonable price of the Electric Bikes.

Model and Design

The model and design of the Electric Bikes that provides the comfort is neutral by the 43.5 percent of the respondents on the majority and 39.8 percent of the respondents who are agree with the view. There are 9.2 percent of the respondents strongly agree towards the view, 7.4 percent of the respondents are st disagree.

Weight and quality

There are 25.9 percent of the respondents who are neutral towards the view. The weight and quality of the Electric Bikes is known by 52.7 percent who are in the agreed category and 17.5 percent of the respondents are strongly agree. The respondent to the extent of 2.7 percent disagree and 0.9 percent of them are highly disagree the feature of weight and quality.

Safety

The safety feature of the Electric Bikes is agreed by 48.1 percent of the respondents and 19.4 percent of the respondents are neutral towards the view. There are 25 percent of the respondents strongly agree about the safety of the Electric Bikes. There are 4.6 percent of the respondents disagree.

Incentives from the government

. There are 47.2 percent of the respondent on the majority agree the incentives for the Electric Bikes, 17.5 percent of the respondents are strongly agree about the incentivers provided by the government and 31.4 percent of the respondents are neutral towards it. There are 0.9 percent of the respondents who strongly disagree and 2.7 percent of the respondents disagree the incentives provided by the government.

Mileage

. The majority of 40.7 percent of the respondents agree the condition and 22.2 percent of the respondents strongly agree the. There are 30.5 percent of the

respondents who are neutral towards the view. There are 6.4 percent of the respondents who disagree about the mileage of the Electric Bikes.

Speed

The speed of the Electric Bikes is having majority of 51.8 percent agree are towards the speed of the Electric Bikes. There are 37.7 percent of the respondents who strongly agree and 1.8 percent of the respondents disagree. There are 27.7 percent of the respondents who are neutral towards the speed .

Comfort Ability

The responses reveals that on the majority 51.8 percent of the respondents agree with the comfort-ability of the Electric Bikes along with 24 percent of the respondents who are strongly agree and 22.2 percent of the respondents are neutral towards the view. There are 1.8 percent of the respondents disagree the comfort ability of the Electric Bikes.

Usable by all household members

The majority of the respondents to the extent of 38.8 percent and 37 percent of the respondents strongly agree and agree this. and There are 18.5 percent of the respondents who are neutral towards the view. The respondents to the extent of 4.6 percent disagree and 0.9 percent of the respondents strongly disagree about the usage of the Electric Bikes by the other household members.

Easy Maintenance of the Electric Bikes

The easy maintenance of the Electric Bikes is having a consideration that there is 38.8 percent of them agree with the maintenance of the Electric Bikes along with the 31.4 percent of the respondents who are strongly agree about the use of Electric Bikes. There are 21.2 percent of the respondents are neutral towards the stance. There are 6.4 percent of the respondents disagree and 1.8 percent of the respondents strongly disagree about the easy maintenance of the Electric Bikes

Lower tax burden

There are 19.4 percent of the respondents who are neutral towards the view along with the 52.7 percent of the respondent who agree the lesser tax and 23.1

percent of the respondents strongly agree. There are 3.7 percent of the respondents disagree and 0.9 percent of the respondents strongly disagree lowering of the tax burden while purchasing the Electric Bikes.

Less dependence on conventional energy resources

There are 41.6 percent of the respondents who agree of the view along with 33.3 percent of the respondents strongly disagree and there are 21.2 percent of the respondents who are neutral to the aspect. The respondents involved in the study strongly disagree and disagree to the extent of 0.9 percent and 2.7 percent respectively.

Uncomplicated driving nature

The uncomplicated driving nature of the Electric Bikes have been agreed by the respondents to the extent of 46.2 percent and 25 percent strongly agree this statement. There are 24 percent who are neutral towards it. There are respondents strongly disagree and disagree towards the driving nature to the extent of 0.9 percent and 3.7 percent.

Less noise pollution

There is less noise pollution from the Electric Bikes. The statement was tested and the responses received from the respondents reveal that there are 46.2 percent of the respondents strongly agree and 38.8 percent of the respondents also agree with this, and 12.9 percent of the respondents are neutral. There are 1.8 percent of the respondents strongly disagree the noise pollution created by the Electric Bikes.

Quick recharging time

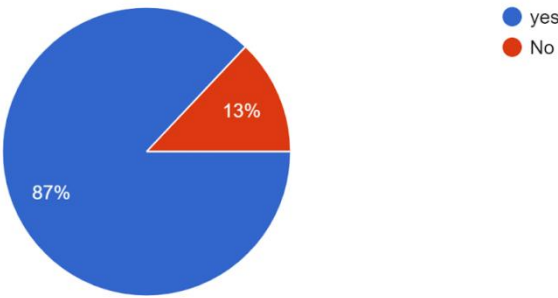
There are 39.8 percent on the majority agree towards the recharging time of the Electric Bikes along with 16.6 percent of the respondents. There are 11.1 percent of the respondents disagree and 1.8 percent of the respondents strongly disagree about the quick recharging time of the Electric Bikes and 30.5 percent are neutral towards the charging time.

4.14 TABLE

WOULD YOU SUGGEST E-BIKES TO FRIENDS/RELATIVES	NO OF RESPONENTS	PERCENTAGE
Yes	94	87
No	12	13

4.14 CHART

7. Would you like to suggest your friends and relatives to operating for Electric bike?
108 responses



INTERPRETATION

From the above chart majority 87 percent of the respondents are interested to suggest the Electric bike to their friends and relatives and least of 13 percent are not willing to suggest the Electric Bike to their friends and relatives

From this majority 87% respondents would like to suggest for operating the Electric Bike.

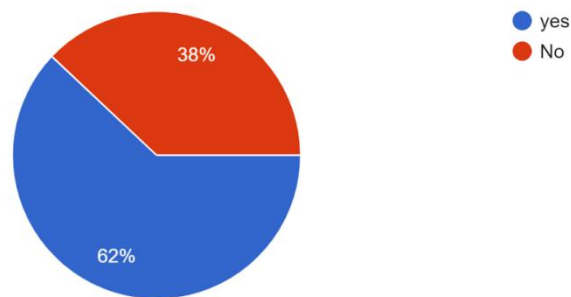
4.15 TABLE

PRESENT PROMOTIONAL ACTIVITY ENOUGH	NO OF RESPONDENTS	PERCENTAGE
Yes	67	62
No	41	38

4.15 CHART

8. Is the present promotional activity about the Electric sufficient enough for you to make the purchase decision?

108 responses



INTERPRETATION

The present promotional activity is having strong influence on the opting the Electric Bikes. The Electric Bikes users have revealed that they are highly satisfied with the advertisement given for the promotion of the Electric Bikes. There are 62 percent of the respondents who are satisfied with the promotional activity.

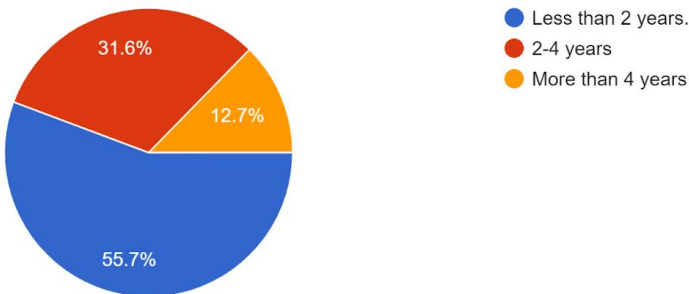
4.16 TABLE

PURCHASE OF E-BIKE	NO OF RESPONDENTS	PERCENTAGE
Less than 2 years	44	55.7
2-4 years	25	31.6
More than 4 years	10	12.7

4.16 CHART

9. When have you bought Electric bike?

79 responses



INTERPRETATION

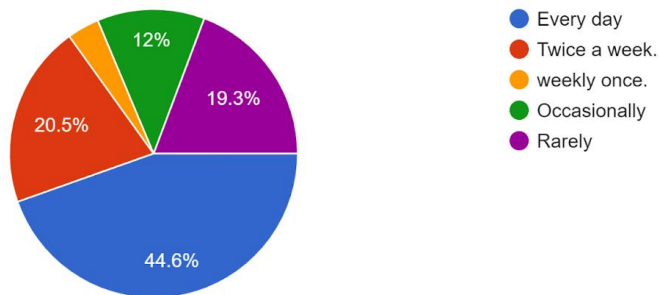
From the above chart majority of 55.7percent of respondents have purchased the Electric Bikes only less than two years and followed by that 31.6 percent purchased the Electric Bike between 2-4 years and least of 12.7 percent are owning the Electric bike for more than 4 years.

4.17 TABLE

HOW OFTEN DO YOU USE E-BIKE	NO OF RESPONDENTS	PERCENTAGE
Everyday	37	44.6
Twice	17	20.7
Weekly	3	3.6
Occasionally	10	12
Rarely	16	19.3

4.17 CHART

10. . On average how often do you use your Electric bike?
83 responses



INTERPRETATION

From the above chart it is interpreted that majority of the respondent 44.6 percent use their Electric Bike Everyday and 20.5 percent respondents use their Electric bike twice a week and 19.3 percent use their Electric Bike Rarely and 12 percent use occasionally and 3.6 percent use weekly once.

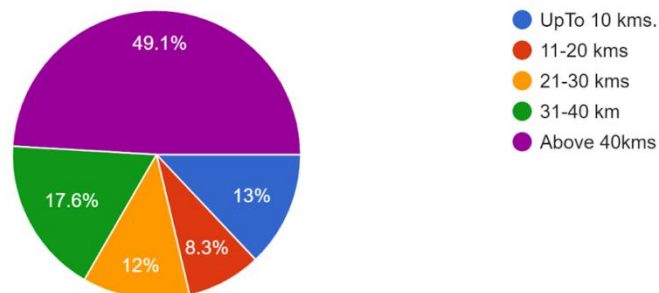
From this majority 44.6 percent are using the Electric Bike Daily and least of 3.6 percent are using the Electric bike atleast weekly once.

4.18 TABLE

HOW MANY KMS	NO OF RESPONDENTS	PERCENTAGE
Upto 10 kms	14	13
11-20	7	8.3
21-30	13	12
31-40	19	17.6
Above 40	53	49.1

4.18 CHART

11. Do you approximately know how many kilometers does E-bikes give
108 responses



INTERPRETATION

From the above chart the data is interpreted as majority 49.1 percent of respondents said that approximately Electric Bikes give above the milage of 40 kms and 17.6 respondents saying that the milage of Electric bike is in the average of 31-4o kms and 13 percent said that it is upto 10kms and 12 percent said that it gives a minimum of 21-30 kms and 8.3 percent said it is within the milage of 11-20 kms.

From this majority 49.1 percentage said that the maximum milage is above 40 kms and least of 8.3 said that it is upto 11-20 kms

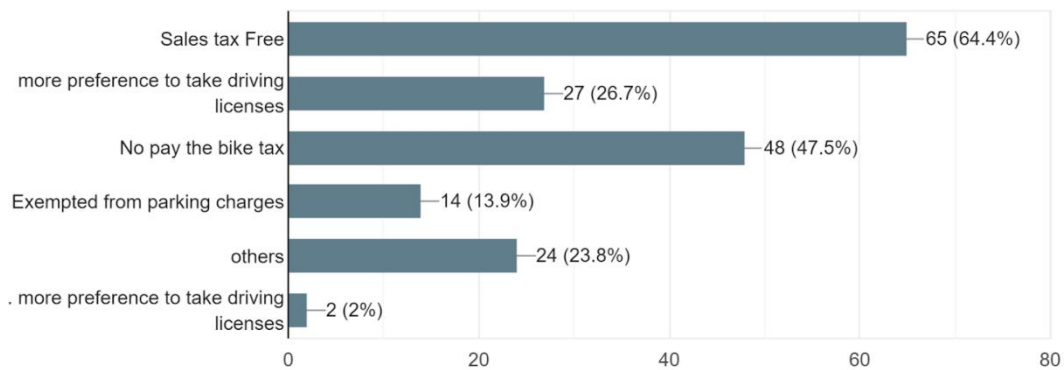
4.19 TABLE

BENEFITS PROVIDED BY GOVERNMENT	NO OF RESPONDENTS	PERCENTAGE
Sales free tax	65	64.4
More preference to take driving license	29	28.7
No pay the bike tax	48	47.5
Excmpted from parking charges	14	13.9
others	24	23.8

4.19 CHART

12. what are the benefits are provided by the government?

101 responses



INTERPRETATION

From the above chart it is interpreted that everyone is aware of the subsidies provided by the government for the purchase of Electric Bike. Majority of 64.4 percentage of respondents are known about the sales tax free for the purchase of the Electric Bike and 47.5 percent are aware of the no pay the bike tax and 28.7 percent said that they know about it is compulsory for the more preference to take the driving license and 13.9 percent are known about the exempted from the parking charges and 23.8 percent know other benefits provided by the government.

From this majority 64.4 percent and 47.5 percent of them are aware about the sales tax free and No pay to the bike tax.

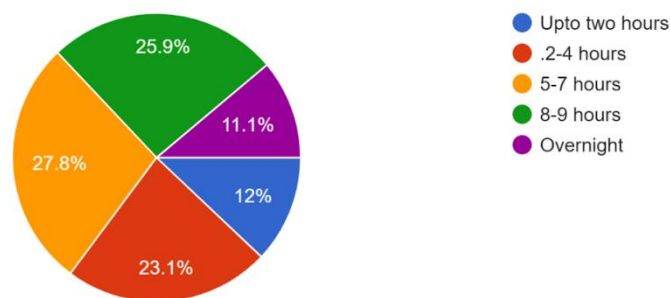
4.20 TABLE

HOW MANY HOURS TO CHARGE E-BIKE	NO OF RESPONDENTS	PERCENTAGE
Upto 2 hrs	13	12
2-4 hrs	25	23.1
5-7 hrs	30	27.8
8-9 hrs	28	25.9
overnight	12	11.1

4.20 CHART

13. Do you know how long does it take to get charged for your Electric bike?

108 responses



INTERPRETATION

From the above table it is interpreted that majority 27.8 percent respondents have said that it takes upto 5-7 hours for charging the battery of the Electric Bikes and 25.9 percent says that it takes upto 8-9 hrs to charge the battery of the Electric Bike and 23.1 percent said that it takes upto 2-4 hrs to charge the Electric Bike and 12 percent and 11.1 percent respondents says it takes upto 2 hrs and overnight to charge the Electric Bike.

From this majority of respondents said that it takes 5-7 hours to charge the Electric bike and least of 12 percent and 11.1 percent said that it takes upto 2 hours and overnight to charge the Electric Bike.

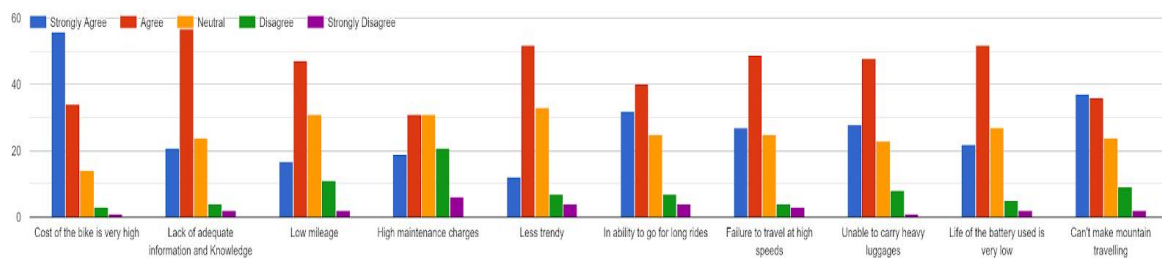
4.21 TABLE

S l. n o	Factors	Str on gly ag ree	%	ag ree	%	neut ral	%	disa gree	%	Stro ngly disa gree	%
1	Cost of the bike is very high	56	51.8	34	31.4	14	12.9	3	2.7	1	0.9
2	Lack of info and knowledge	21	19.4	57	52.7	24	22.2	4	3.7	2	1.8
3	Low milage	17	15.7	47	43.5	31	28.7	11	10.1	2	1.8
4	High maintenanc e cost	19	17.5	31	28.7	31	28.7	21	19.4	6	5.5
5	Less trendy	12	11.1	52	48.1	33	30.5	7	6.4	4	3.7
6	Inability to go for long rides	32	29.6	40	37	25	23.1	7	6.4	4	3.7
7	Failure to travel at high speeds	27	25	49	45.3	25	23.1	4	3.7	3	2.7
8	Unable to carry heavy luggage	28	25.9	48	44.4	23	21.2	8	7.4	1	0.9
9	Life of the battery used is very low	22	20.3	52	48.1	27	25	5	4.6	2	1.8

10	Can't make mountain travelling	37	34.2	36	33.3	24	22.2	9	8.3	2	1.8
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4.21 CHART

14. state your agreement level on the following factors that avoids you in choosing electric bike.



INTERPRETATION

The major problems as per the results are Cost of the bike is very high, Lack of adequate information and knowledge, Low mileage, Less trendy, Lack of social status in having Electric Bikes, Inadequate recharging stations, Lack of services centers, In-ability to go for long rides, Failure to travel at high speeds, Unable to carry heavy luggage, Resistance to change and Life of the battery used is very low. These problems has to be addressed to increase the users of the Electric Bikes and to attract potential new customers.

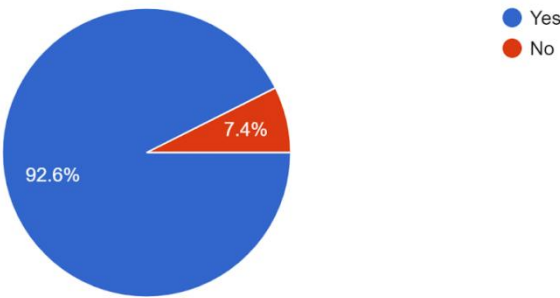
The users of the Electric Bikes involved in the study are feeling that these variables are not proving to be major hindrance and those variables are High maintenance charges, Efficiency related problems, Unable to carry heavy luggages make mountain travelling.

4.22 TABLE

ENVIRONMENT FRIENDLY	NO OF RESPONDENTS	PERCENTAGE
YES	100	92.6
NO	8	7.4

4.22 CHART

15. Do you think environmentally friendly Electric bike is worth paying money for?
108 responses



INTERPRETATION

From the table it is interpreted that majority of 92.6 percentage of respondents think that environmentally friendly electric bike is worth paying for the money and least of 7.4 percent said that it is not worth paying the money.

4.2 STATISTICAL TOOL USED

TEST (CHI SQUARE) A chi-square (χ^2) statistic is a test that measures how a model compares to actual observed data. The data used in calculating a chi-square statistic must be random, raw, mutually exclusive, drawn from independent variables, and drawn from a large enough sample. For example, the results of tossing a fair coin meet these criteria.

4.2.1 HYPOTHESIS

On an average how often do you use your electric bike.

Ho - There is a significant difference between the age and the usage of E-Bike.

H1- There is no significant different between the age and the usage of electric bikes.

Case Processing Summary

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
Age * VAR00003	109	100.0%	0	0.0%	109	100.0%

Age * VAR00003 Crosstabulation

		VAR00003						Total
		Every day	Occasionally	Rarely	Twice a week	weekly once.		
Age	Count	1	1	0	0	0	0	2
	% within Age	50.0%	50.0%	0.0%	0.0%	0.0%	0.0%	100.0%
a) Below 25 years	Count	15	20	8	15	12	3	73
	% within Age	20.5%	27.4%	11.0%	20.5%	16.4%	4.1%	100.0%
b) 25-35 years	Count	6	11	1	1	5	0	24
	% within Age	25.0%	45.8%	4.2%	4.2%	20.8%	0.0%	100.0%
c) 36-45 years	Count	4	3	1	0	0	0	8
	% within Age	50.0%	37.5%	12.5%	0.0%	0.0%	0.0%	100.0%
d) Above 45 years	Count	0	2	0	0	0	0	2
	% within Age	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Total	Count	26	37	10	16	17	3	109
	% within Age	23.9%	33.9%	9.2%	14.7%	15.6%	2.8%	100.0%

Chi-Square Tests

Age * VAR00003 Crosstabulation								
		VAR00003						Total
		Every day	Occasionally	Rarely	Twice a week	weekly once.		
Age	Count	1	1	0	0	0	0	2
	% within Age	50.0%	50.0%	0.0%	0.0%	0.0%	0.0%	100.0%
a) Below 25 years	Count	15	20	8	15	12	3	73
	% within Age	20.5%	27.4%	11.0%	20.5%	16.4%	4.1%	100.0%
b) 25-35 years	Count	6	11	1	1	5	0	24
	% within Age	25.0%	45.8%	4.2%	4.2%	20.8%	0.0%	100.0%
c) 36-45 years	Count	4	3	1	0	0	0	8
	% within Age	50.0%	37.5%	12.5%	0.0%	0.0%	0.0%	100.0%
d) Above 45 years	Count	0	2	0	0	0	0	2
	% within Age	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Total	Count	26	37	10	16	17	3	109
	% within Age	23.9%	33.9%	9.2%	14.7%	15.6%	2.8%	100.0%

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	18.825 ^a	20	.533
Likelihood Ratio	23.236	20	.277
N of Valid Cases	109		

a. 23 cells (76.7%) have expected count less than 5. The minimum expected count is .06.

The Alpha value is 0.05 and P value is 0.533.

Hence the P value is greater than the alpha value the null hypothesis cannot be rejected. Therefore there is significant difference between difference between the age and the usage of E-Bike.

CHAPTER-5

FINDINGS, SUGGESTIONS AND CONCLUSION

5.1 FINDINGS

The major findings of the study identified through the course of the study is presented in the following

1. The users of the Electric Bikes involved in the study have the approval of 51.8 percent who consider the cost of the Electric Bikes is very high.
2. The print media has the highest percentage when it comes to dissemination of the information about the Electric Bikes.
3. The maintenance of the Electric Bikes has been high which was felt by 28.7 percent of the respondents involved in the study.
4. The Electric Bikes advertisement has influence on the respondents to purchase the Electric Bikes to the extent of 69.4 percent.
5. The respondents in the study have revealed that the Electric Bikes has been environment friendly which is supported by 63.8 percent
6. The respondents involved in the study are new to the usage of the Electric Bikes which is revealed by the usage of the Electric Bikes which is supported by less than 2 years category with the 55.7 percent.
7. The usage of the Electric Bikes is restricted for only few days in a week. The Electric Bikes usage to such extent will damage the parts of Electric Bikes due to non-operation. The usage of the Electric Bikes to such effect will damage prolonged usage of the Electric Bikes.

8. The approximate usage of the Electric Bikes involved in the study is only 11-20 kms. The average usage of the Electric Bikes is minimum among the sample respondents involved in the study. The approximate usage is very much low when compared to the conventional bikes.

9. The majority of the respondents of the study have revealed that they would suggest the usage of the Electric Bikes to their friends and relatives.

10. The promotional activities are having significant impact on the purchase of the Electric Bikes which is supported by majority of the respondents.

11. Majority 43.5 percent are neutral to the model and design of the bike, which should be improved.

12. majority of them agree that the monthly fixed cost for fuel is reduced.

5.2 SUGGESTIONS

The study has also found certain areas of concern where there has to be additional care to be taken to promote and develop the brand of Electric Bikes in the minds of the users and potential new customers.

1. The concept of the Electric Bikes is still new in the part of the study area. The cost of the Electric Bikes is considered to be high and it need to be reduced to attract more consumers for the usage of Electric Bikes.

2. There is a need to increase the convenience for the Electric Bikes users on the areas of charging, mileage and carrying capacity of bikes. These areas have to be concentrated by the Research and Development of the Electric Bikes companies to enhance the convenience of Electric Bikes. This will promote the Electric Bikes.

3. There is lack of awareness among the public regarding the registration fees and incentives for the Electric Bikes. There is a need for creating the awareness that Electric Bikes has no registration fees and there are various

incentives provided by the government for the purchase of Electric Bikes. This will create lot of potential buyers to buy Electric Bikes.

4.The promotional campaigns of the Electric Bikes are not satisfactory among the users of the Electric Bikes. The initiatives of conducting promotional campaign will create large pool of consumers to be attracted towards the Electric Bikes.

5. Electric Bikes are used only for short distance because of low battery capacity, so manufacturers should concentrate on research and development to increase the capacity of Electric Bikes.

6.Another major problem in Electric Bikes is the need for frequent charging of the batteries, to overcome this problem charging centers should be opened at various places.

5.3 CONCLUSION

The Electric Bikes have been the order of the day in this polluted world. The Electric Bikes are slowly and steadily finding it s space in the two-wheeler segment. The segment is now been facing stiff competition from the availability of the Electric Bikes. The need for reduction in the pollution is taken by the consumers who are environment conscious. The study has highlighted the awareness levels of the consumers are high when it comes to the understanding of the Electric Bikes. The conventional bikes are gradually losing their market space to the Electric Bikes. This is due to the enhanced awareness among the public regarding the pollution created by the conventional system of travelling.

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QUESTIONNAIRE DEMOGRAPHIC STUDY

1. Gender

a) Male. b) Female

2.Age of the Respondent

A.below 25years. B. 25-35years C. 36-45 years D.Above 45 years

3.Education

a) No Formal Education b) school level c)college level d) professional qualification

4.Occupation

a) Business people b) Employed c) Agriculturalist d) Student

5.Family Annual Income

a) Below Rs.100000 b) Rs.1000001-200000 c) Rs.200001-300000 d) Rs.300000-400001 d) Above Rs.400000.

6.No of earning in the family other than you.

a)One b) two c) three and above

7.Marital Status

a) Married b) unmarried

E-BIKES QUESTIONNAIRE

1. State the source of awareness about the E-bikes

a) Advertisement

b) Representative

c) Friends/relatives

d) Social media.

2. How often do you notice on communication channels about the information on Electric bike in general?

Likert's scale- very frequently, frequently, occasionally, rarely, very rarely.

- a) Print media
- b) Tv/radio broadcasting
- c) Social media
- d) Blogs

3. Did advertisement influence your buying decision for Electric bike?

- a) Yes
- b) No

4. If yes what is your opinion about the advertisement influence your decision for owning Electric bike?

- a) Strongly agree
- b) Agree
- c) Neutral
- d) Disagree
- e) Strongly disagree

5. State your level of awareness on the following statement that motivated you to operating for Electric bike .

THIS QUESTION IS BASED ON 5 POINT LIKERT'S SCALE

- a) Strongly agree
- b) Agree
- c) Neutral
- d) Disagree
- e) Strongly disagree

- 1. Environment Friendly
- 2. Less maintenance and running cost
- 3. More safety
- 4. No registration fee
- 5. Government subsidies
- 6. Positive benefits to health

7. Protect earth from various pollution
8. Reduced fixed monthly cost on fuel
9. Economically feasible option
10. Insurance benefits to electric bikes
11. Energy efficiency
12. Less complicated driving nature

6.state your level of agreement on the following statement that influences to buy Electric bike.

THIS QUESTION IS BASED ON FIVE POINT LIKERT SCALE

- a) Strongly agree
- b) Agree
- c) Neutral
- d) Disagree
- e) Strongly disagree

1. Reasonable price
2. Model and design
3. Weight and quality
4. Safety
5. Incentives from government
6. Milage
7. Speed
8. Comfort ability
9. Usable by all the household members
10. Easy maintenance
11. Lower tax burden
12. Less dependence on conventional sources
13. Uncomplicated driving nature
14. Less noise pollution
15. Quick recharge time
16. Sufficient service stations.

7. Would you like to suggest your friends and relatives to operating for Electric bike?

- a) Yes
- b) No

8. Is the present promotional activity about the Electric sufficient enough for you to make the purchase decision?

- a) Yes
- b) No

9. When have you bought Electric bike?

- a) Less than 2 years
- b) 2-4 years
- c) More than 4 years

10. . On average how often do you use your Electric bike?

- a) Everyday
- b) Twice a week
- c) Weekly once
- d) Occasionally
- e) Rarely

11. Do you approximately know how many kilometers does E-bikes give

- a) Upto 10kms
- b) 11-20kms
- c) 21-30kms
- d) 31-40kms
- e) Above 40 kms

12. what are the benefits are provided by the government?

- a) Sales free tax
- b) More preference to take driving license
- c) No pay bike tax

- d) Exempted from parking charges
- e) Others

13. Do you know how long does it take to get charged for your Electric bike?

- a) Upto 2 hrs
- b) 2-4 hrs
- c) 5-7 hrs
- d) 8-9 hrs
- e) Overnight

14. state your agreement level on the following factors that avoids you in choosing an electric bike.

THIS QUESTION IS BASED ON FIVE POINT LIKERT SCALE

- a) Strongly agree
- b) Agree
- c) Neutral
- d) Disagree
- e) Strongly disagree

1. Lack of adequate information and knowledge
2. Low milage
3. High maintenance charges
4. Less trendy
5. Inability to go for long rides
6. Failure to travel at high speed
7. Unable to carry heavy luggage
8. Life of the battery used is very low
9. Can't make mountain travelling.
10. Cost of the bike is very high.

15. Do you think environmentally friendly Electric bike is worth paying money for?

- a) Yes
- b) No.