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A Study on Consumer Buying-behavior Towards Electric-vehicles in Bagalkote

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1. Introduction

A Study on Consumer buying-behavior towards electric-vehicles in Bagalkote

The automobile industry is undergoing a major transformation with growing popularity of electric-vehicles (EVs). Factors such-as increasing fuel prices, need to reduce carbon emissions, technological advancements, and government initiatives have accelerated this shift. EVs are considered a cleaner and more sustainable alternative to traditional fuel-based vehicles, offering benefits like lower running costs, reduced pollution, and innovative features. However, the adoption of EVs largely depends on consumer perception and acceptance.

In regions like Bagalkot, where awareness and accessibility are still developing, it becomes crucial to study how consumers perceive EVs and what influences their buying decisions. Factors such as affordability, charging infrastructure, battery performance, brand trust, and after-sales service play significant role in shaping their preferences. Additionally, social influence, lifestyle needs, and knowledge about environmental benefits may also impact-their willingness to adopt EVs.

This study aims to understand the consumer buying-behavior towards EVs in Bagalkot by analyzing their attitudes, motivations, & challenges. The findings will help identify the level of awareness among consumers, the major factors driving or discouraging EV adoption, and the potential opportunities for automobile companies and policymakers to promote sustainable mobility in the region.

The automobile sector is experiencing a paradigm shift with the emergence of electric-vehicles (EVs) as viable alternative to conventional internal-combustion engine (ICE) vehicles. Rising fuel prices, growing-concerns about environmental degradation, climate-change, and increasing global dependence on fossil fuels have accelerated need for sustainable mobility solutions. EVs have gained-attention for their ability to reduce carbon footprints, lower operational costs, and offer innovative technology to modern consumers. Moreover, government policies, subsidies, and incentives have further encouraged both manufacturers and buyers to participate in this transition towards green transportation.

Despite the global momentum, adoption of EVs in semi-urban and rural regions of India, such as Bagalkot, remains relatively slower compared to metropolitan areas. Consumers in these regions face-unique challenges such as limited charging infrastructure, higher upfront costs, lack of product awareness, and uncertainty regarding vehicle performance and maintenance. Same time, opportunities

for growth exist due to rising awareness of environmental issues, increasing exposure to new technologies, and gradual improvements in infrastructure and financing options.

Literature review:

1. **Prof. Nagaraj Navalagund and the Dr. Shashidhar Mahantshetti School of Management Studies and Research at KLE Technological University Hubballi in Karnataka, India (2020).** According to a study of the Karnataka region, there several things make Indian consumers want to buy electric vehicles. Pollution and the use up of natural resources are putting the environment at risk of getting worse. As a result, consumers are caring more about the environment and acting in a way that protects it. Purpose of this study is to find out what kinds of behaviours and attitudes lead people in the state of Karnataka to buy e-mobility, or electric vehicles. To get the information that was needed, a structured questionnaire people could fill out on their own was used. The items on questionnaire were all closed-ended and taken from previous research. As suggested, questionnaire was first looked over by four experts in the field to make sure it was correct in terms of both content and format. The questionnaire was put through a pilot test, and any changes were needed were made based on results. Six hypotheses back up what we are looking into. are hired to find out how much people know about EVs and the environmental problems come with regular cars. It is also agreed upon that second-hypothesis, which says that EV performance attributes are strongly and positively linked to plans to buy an EV, is correct. this makes it possible for the ecosystem to help EVs spread in India. There was also the idea that the PEB would act as a link between awareness and intention to buy, but this only partly true.

2. **Pollution is a problem all over the world right now. Someone named Anil Khurana1 and Manish Sidhpuria. According to a study published in 2019,** attitudes play a big role in how people decide to buy electric cars in India. Main thing that pollutes the air is the toxic stuff that comes out of internal combustion engines. Electric-vehicles (EVs) are being actively pushed around the world to help the environment and lessen the damage that fossil fuel emissions cause. Several governments are trying to get people to switch to electric cars by giving them incentives to do so. To get the information, a structured questionnaire was used. In the instrument that was made, there was information about constructs and their parts. The questionnaire split into two parts. The first part was mostly about demographic information of the respondents, such as their gender, age, level of education, household income, and the number of cars they owned. In second part of the survey, model variables are measured. It had five variables: one dependent, four independent, and one mediating. The study's goal was to look at possible factors that affect people's decisions to buy EVs. Infrastructure, economic incentives, technical issues, and ecology were the main topics of earlier studies. Perceived Economic Benefit, EC, SoC. In, and IM were all separate variables in the model suggested by the study. The ATT was the key variable used to test BI. The study says that the BI to buy EVs nothing to do with the PEB. ATT actually gets a lot better because of it. It also makes ATT more likely to switch to electric cars. The results showed that ATT was a good predictor of BI.

3. **What makes people hesitant to buy electric cars? It was written by Nadine Bessenbach and Sebastian Wallrapp.2020** People are rethinking the usual ways they get around because of climate change and the lack of resources. E-mobility has been studied and improved a lot, but consumer acceptance has gotten less attention. EVs are still seen as less desirable by most people when compared to regular cars. But there won't be a revolution in technology or long-term viability of sustainable transport systems until people accept them. The study looks at how people's ideas about new ideas affect their resistance to new ideas in EVs.

4. **In 2017, Fanchao Liao, Eric Molin, and Bert van Wee did a literature review on how people feel about electric cars.** Electric-vehicles (EVs) could help solve-problems like climate change, oil dependence, and pollution by making them more common. EVs aren't very popular yet, even though many-governments have put in place strong policies to encourage people to bu- them. The main goal of the methodology is to come up with a complete method that includes both psychological and economic factors in research on EV preference. It is possible to look at trends in EV-adoption in a more methodical way with the chosen economic framework and discrete choice analysis, which helps government and businesses make decisions. We read research papers to find out what parts of EVs and their service systems, like infrastructure, vehicle features, and marketing plans for EVs, affect how useful they are. We also want to find out what makes a person choose electric-vehicles over other types. Because the stated choice method is flexible enough to easily account for how both vehicle features and personal traits affect EV preference, it was used in most of the research that looked into these two topics.

5. **There is Muhammad Ikram and Tugba Yegin. An Extension of Theory of Planned Behaviour: An Examination of Consumers' Plans to Buy Electric-vehicles (2022).** As soon as possible getting rid of carbon emissions from environment and air is part of the plan to avoid possible energy and water shortages in the future. To get rid of CO2-based fuels, countries are taking both voluntary and mandatory steps in different areas. More electric cars should be used by everyone. Also, there aren't many studies on EV adoption in Turkey that are known around the world, and even fewer that look at people's green trust (GT) and environmental concerns (EC). the main goals of this study to make the questionnaire, collect data, and figure-out what that data means. Many theory-based models have been built on top of this one. For example, the Environmental Concern (EC) model measures how environmental awareness affects the purchase of electric-vehicles. The Theory of Planned-Behaviour (TPB) model looks at attitudes (AT), subjective norms (SN), and perceived behavioural control (PBC). TPB is a valid theory explains why people do the things they do, and it been used in many important studies that try to predict people's behaviour intentions. We added consumers' concerns about the environment and their trust in green products to theory of planned behaviour, which looks at AT, SN, and PBC factors, in order to study and figure out what makes-people in Turkey want to buy-electric cars.

6. **.M.N, Dr. Meena Rani.(2021)."Purchase Intention of Electric-Vehicles: An Empirical Study in Bangalore".** Electric-vehicles have attracted the attention of India's policy makers as clean technology alternatives. The opportunities for India's mobility future are massive. Electric vehicle is a ne- way of transportation having no air, noise-pollution and an environmentally friendly way to

commute. To study the trends in Electric-vehicles over the past decade globally in general and India in Particular. To captive the factors that potential buyers of Electric-vehicles consider important while buying Electric-vehicles and offer constructive suggestions for stakeholders. The adoption of new technology or paradigm in any industry is more a function of the cumulative actions of all the players in the industry. Considering development, government policies, responses to new technologies, Indian consumers buying concerns the growth of Internal combustion engine technology will remain in demand. Electric vehicle and hybrid fuel technology will have promising future in India.

7. **Ajex Thomas Varghese, V. S. Abhilash1 and Sini V. Pillai.(2019).A Study on Consumer-Perception & Purchase Intention of Electric-vehicles in India.**The primary-purpose of this study is to analyse the consumer-perception & purchase intention of electric-vehicles in India. As India is facing environmental problems, the government is producing positive policies to stimulate the sales of electric-vehicles . study is to understand the consumer perception and the purchase intention of e-vehicles in India. The significance of the study is that EVs can cause remarkable impacts on the environment, the country's economy, power system, and other related sectors. There are possibilities of enormous environmental benefits as well, as EVs can extensively reduce the greenhouse gas emission from the transportation sector. The result clearly illustrates that population is well aware of environmental-benefits. Because environmental sustainability is one of major concerns to be addressed &electric-vehicles would ultimately aid in achieving same as carbon emissions from electric-cars is almost 90% lower than conventional-cars.

8. **Mandays F. Electric-vehicles as well as what the customer wants. There many good things about electric-vehicles (EVs) compared to regular vehicles (CVs).** There are two main benefits: they save-money because they use much less fuel, and they are better for environment because they release fewer greenhouse gases. The main goal of this study is to find out what early adopters of electric-vehicles in the UK have in common and which features of a vehicle have a big impact on their decisions to buy.

9. **Nurgul Hafize Murat Akıl and Durmus Senyapar (2023). A look at what people want, what worries them, and what they plan to do about electric-vehicles.** This research looked at policies and incentives for buying electric-cars in different countries. It also looked at what consumers were worried about before SDs made available. Finally, it used bibliometric analysis to find out what-consumers wanted to do to buy EVs using models such as technology acceptance-model, reasoned action theory, and planned behaviour theory. To find-out what people want about electric-vehicles (EVs), academic papers are looked at in context of well-known theories in the literature. The levels of use of these eco-friendly vehicles in different countries are also looked at, along-with steps and incentives that be used to get more people to use them. The results are laid out in a logical way. Researchers have looked into which behavioural models most useful for understanding how people-think about and use electric vehicles. They have also tried to figure out what ideas and topics the studies affect. Marketin- communication tools can help get more people to buy electric cars, which are better for environment. The market can grow by getting rid of economic, technological, and other barriers. Recent research should be taken into account as a first step towards a sustainable future.

10. **The study by Hermanto YaputraKurniawati and others in 2023, "The Effect of Green Marketing, Sustainable Advertising, and Eco Packaging/Labeling Towards Green** Purchasing Behaviour (Study on Electric-vehicles in Indonesia)," was meant to be useful for both academics and people who work in the real world. The proposed conceptual framework could add to the body of literature about green marketing and help people who sell environmentally friendly products. The researchers used an explanatory approach to empirically prove all of their hypotheses. The main goal was to find relevant respondents through purposive sampling, and data from cities used for analysis using structural-equation modelling (SEM). The study shows that green-marketing and sustainable advertising have a positive & significant effect on both green purchase intention and green purchasing behaviour.

11. **Pawel Bryla Shuvam Chatterjee and Beata Ciabiada-Bryła.(2022)**People buying more electric cars. It's possible that getting rid of electric vehicles (EVs) could lead to big environmental problems, like using too much oil in the transportation industry. Even with this knowledge, the adoption intention has not been satisfactory so far. to list the theories, methods, and variables that were used in research papers on how to get people to buy electric vehicles; to summarise the most important findings from the most recent studies; to suggest areas for future research; to come up with guidelines for EV makers and policymakers; and to look at the patterns in the literature by looking at things like the number of citations and the co-occurrence of keywords. Lastly, how people think about risks and benefits of new technology [37] will play a big role in their decision to buy an EV in the future. The main things will stop people from buying EVs are their lack of knowledge about how they-work, safety rules, and range per charge.

12. **Kenneth Lebeau Joeri Van Mierlo Philippe Lebeau Olivier Maires and Cathy Macharis (2013)** A large-scale survey of how people feel about battery-electric vehicles. Electric-vehicles (EVs) get a lot of attention these days. But it's not easy for them to break into the market. The results of a large-scale survey with 1196 respondents that was held in Flanders, Belgium, are shown in this paper. What government should do to encourage purchase of BEVs, what tools government should use to get the most sales, and what consumers willing to pay (WTP). At this point in the market introduction of BEVs, this research is needed because there aren't many recent studies on the subject, leaving a gap in the scientific literature. We made a big survey where people in Flanders asked different questions about electric cars because of this. A second survey with a questionnaire was given to 585 people, and they were shown a 10-minute movie about electric cars. These people-said they knew more EVs than the others. We looked into what effect this newfound knowledge has and found that it has no effect on how well people accept the driving range.

13. **Dr. Bharti Motwani Associate Prof. BIMM, Pune, India Abhishek Patil Student, BIMM Pune, Ind .(2019)**CUSTOMER BUYING INTENTION TOWARDS ELECTRIC-VEHICLE IN INDIA. Electric-vehicles are a new way to get around that doesn't pollute the air or make noise. They are also an environmentally friendly way to get to work. India is a big market for electric-cars, and the government wants the whole country to be electric by 2030. As the first source of information, a self-structured questionnaire was used. To get the first-hand information, a non-probability judgemental sampling method was used. 345 people were asked to fill out a survey, & 10 variables

related to electric cars were looked at for this study. A study found nine-important factors about electric cars and looked at how these factors affected people's plans to buy. The study found the pros and cons of mobility and charging were most important factors in people's decisions to buy-electric cars. RTO rules were found to be least important factor.

14. **Ali Asghar Jamali and Saima Kalwar. (2024)** In developing countries, people are planning to buy electric cars. Electric-vehicles (EVs) are now a smart way to cut down on pollution from cars and trucks. However, EVs need to be properly integrated into current transportation systems. That's why it's important to know why people choose to buy EVs. The study used survey data to look at people's plans to buy electric-vehicles (EVs) and then looked at sociodemographic

15. **PanelDebajani Sahoo, Sidhartha Harichandan, Sanjay Kumar Kar, and Sreejesh S. (2022)** A study that looks at what drives Indian consumers to buy electric cars and how they feel about them. This study tries to figure out why people feel, plan, and talk in certain ways about electric cars. A multi-stage stratified sampling-procedure was used to get the information. First, they chose Indian millennials as the group they wanted to study. People from all over the world are interested in India because it has recently passed the US as the world's largest market for millennials. The study supported the research model shown in Fig. 1 and hypotheses about how personal good and bad motives, social motives, attitude, word of mouth, and plans to buy electric-vehicles in India are connected.

16. **Jassandeep Singha and Ramandeep Singh Arnejab. (2020)** Public Perception And Purchase Intentions About Electric-vehicles In The Punjab State Of India. The study's goal is to find out how people in the state of Punjab, India, feel about EVs and how that feels about their plans to buy one. A cross-sectional survey using a self-administered questionnaire among 438 people was used, and multiple regression-analysis was used to find out how people's perception of EVs affected their plans to buy one. The study also looks at how their perception changed based on their demographics and other factors, such as their daily drive range and the type of vehicle they were driving at the time of survey. The four factors of perception are perceived quality, expected benefits, perceived difficulty, and perceived value.

17. **Abhijeet K. Digalwar and Arpit Rastogi .(2022)** Studies of the social factors lead people in India to buy electric cars. Literature review helps us figure out the social-factors that have led to rise of electric-vehicles (EVs) in India. A survey-questionnaire has been made to find out how customers-feel about EVs. The survey results analysed using descriptive statistics tools. Study is based on 543 responses to a survey that was held in Delhi, and the data which was gathered is analysed. But the numbers show even though people are optimistic about the growth of the EV market. In Delhi, a questionnaire survey was used to find-out how customers felt about the adoption of electric-vehicles (EVs) and the social factors were linked to it. The study is based on 543 responses to a survey that was done in Delhi. The data that gathered was then analysed. The numbers show even though people are happy about the growth of the electric vehicle (EV) market, they are hesitant to switch to EVs because of the many problems they come with.

18. **Sharath Kumar Y Amrita Vishwa vidyapeetam Deemed University, Karnataka, India(2023),** Electric-vehicles in Karnataka: What People Think and What's Trending. This study looks at how people in Karnataka's modern car market feel about electric-vehicles (EVs) and what they like about them. As the auto industry makes a big change towards more environmentally-friendly options, especially electric-vehicles (EVs), our study looks at the many things affect people's decisions. The research's goal was to get a full picture of the many things affect how people feel, how demographics work, and what the main reasons are for or against EV adoption. The collected quantitative data were put through a thorough statistical analysis. The results show important aspects of how people feel about electric-vehicles (EVs), supporting the changing picture of environmentally friendly transportation. Fact that environmental friendliness was rated so highly (64.9%) is in line of research which shows how environmental awareness affects consumer choices.

19. **Among the factors that affect people's decision to buy electric cars in China is Jian Wang Wei Zhou's (2019) study.** China is trying to make policies which-will encourage people to buy electric cars because they worried about the environment. Also, China is one of biggest markets for electric cars in the world, and market for electric-cars has a lot of room to grow. For this study, a quantitative approach been chosen, and research questionnaire will be used to gather information. Then, we used SPSS to come up with measurements to test & explain our research. These measurements include dependent variables, independent-variables, & control variables. The survey's goals are to find out how-willing people are to buy electric cars and to test the six factors that affect that willingness. Based on RCT, we looked into the factors that made a difference, such as driving range, charging infrastructure, purchase-cost, government-financial incentives, people's awareness of the environment, and how much social-influence they thought they had.

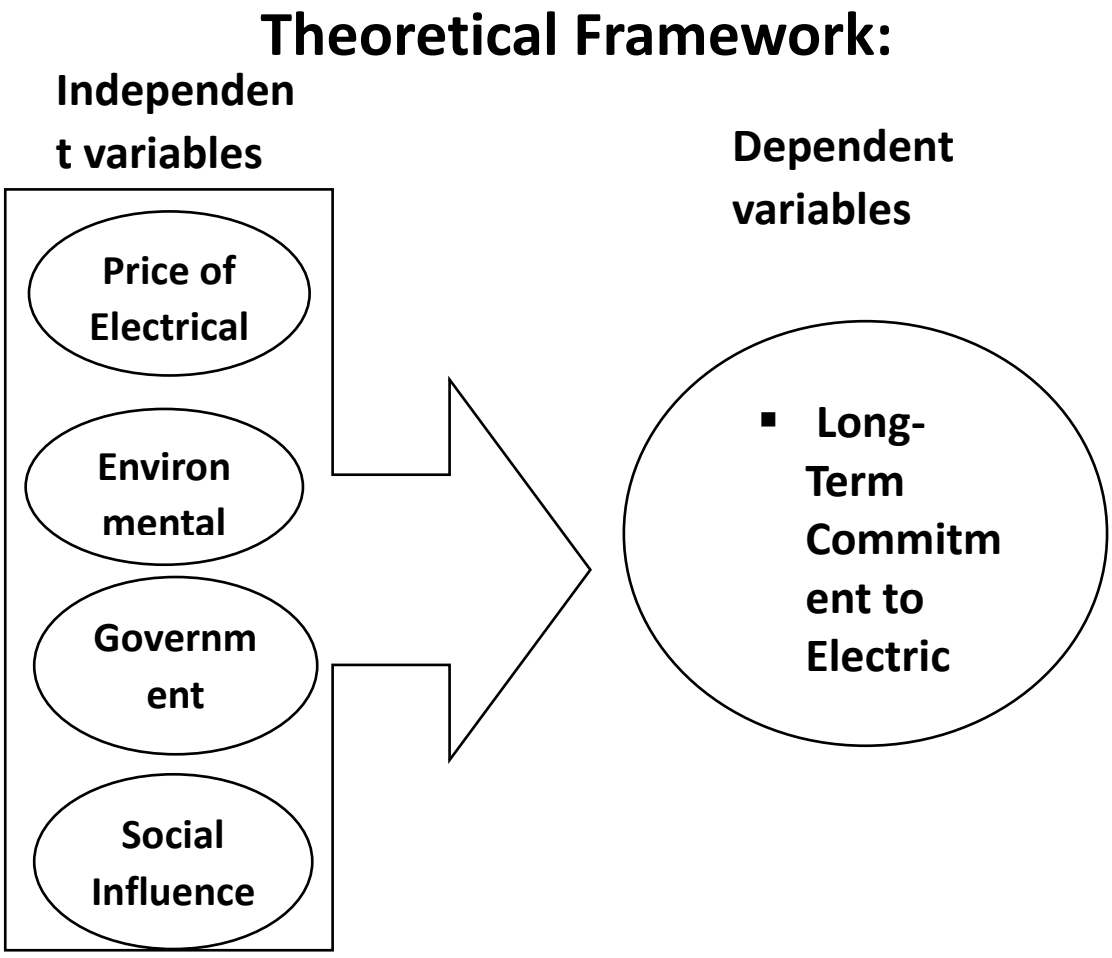
20. **Zulfiqar Ali Lashari,(2024)**In developing countries, people are planning to buy electric cars. Electric-vehicles (EVs) have become popular as a way to cut down on pollution from cars and trucks. To successfully add electric-vehicles (EVs) to current transportation systems, it's important to understand which makes people decide to buy EVs. The Binary Logistic-Regression analysis was used in this study to find-out what makes people want to buy electric-vehicles (EVs). Cross-sectional data from a wider range of users, such as those from different regions or with different amounts of experience with EVs, could give a more complete picture of the different people who want to buy. Using different types of analysis, such as machine learning and multi-criteria decision-making, could also give us new information about people's plans to buy electric-vehicles (EVs) and make it easier to do comparative studies that would help bring EVs to more people.

Problem Statement

Despite growing awareness about environmental issues and the government's push for electric-vehicles (EVs), consumer adoption in smaller cities like Bagalkot remains limited. Many people still hesitate to buy EVs due to concerns about high costs, lack of charging infrastructure, limited knowledge, and doubts about performance. Understanding these issues is important to identify what prevents or motivates consumers in Bagalkot to adopt EVs. Hence, this study aims to analyze the consumer buying-behavior towards electric-vehicles in Bagalkot and highlight factors influencing their decisions.

Objectives

- To study the awareness about electric-vehicles in Bagalkot
- To study the customer mobility towards electric vehicles
- To know the factors influencing customer to purchase electric vehicles



Hypotheses

- **H1 :** Environmental regulations and policies have a positive influence on consumers' interest in test driving electric vehicles.
- **H2 :** Availability of after-sales service and support significantly increases long-term commitment to electric vehicle usage.
- **H3 :** Perceived driving range and battery life have a significant effect on consumers' preference over traditional fuel vehicles.
- **H4 :**Influence of advertisements and promotions positively impacts customer loyalty toward electric vehicle brands.

Scope of the Study

The scope of the study is limited to analyzing factors influencing customers to purchase electric-vehicles, assessing level of awareness about electric-vehicles among consumers in Bagalkot, and examining customer mobility trends and their shift towards electric vehicles. This research aims to identify key determinants such as government policies, charging infrastructure availability, environmental concerns, and socio-economic factors that impact EV adoption in the region. Additionally, the study will evaluate the effectiveness of existing awareness programs and their influence on consumer perceptions and behaviors regarding electric vehicles.

LIMITATIONS

1) The study is limited to Bagalkot city and nearby areas only, so results may not apply to other regions.
2) Data is based on the responses of selected consumers, which may not represent the entire population.
3) The study focuses only on electric-vehicles and does not compare with other alternative fuel vehicles.
4) Time and resource constraints may limit the depth of analysis.
5) Consumer opinions may change over time due to new policies, technology, or market conditions.

Research Methodology
Research-Approach
Quantitative Research:

The research follows a quantitative approach using structured questionnaires. This method helps uncover patterns, associations, and the significance between consumer demographics, environmental attitudes, and their buying behaviour regarding electric-vehicles (EVs).

Data Collection:

- **Primary data :** Questionnaires

Primary data in electric-vehicles (EVs) encompasses firsthand, original information collected through direct-observation, measurement, or experimentation. This data is crucial for research, development, and policy-making in the EV sector. Here's an overview of primary data sources and their applications.

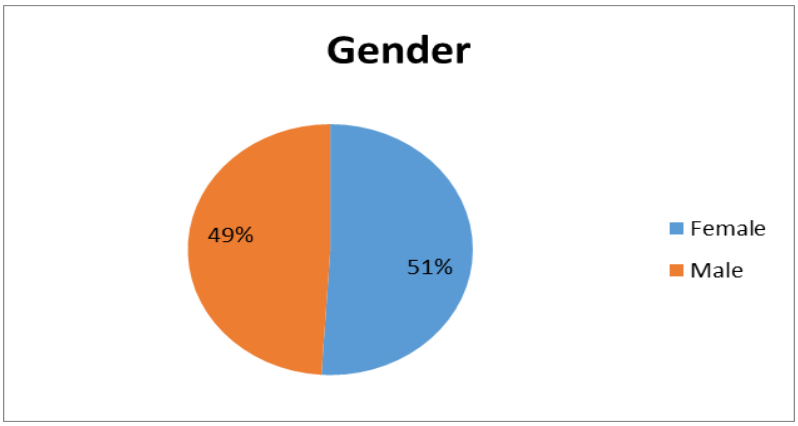
Sampling Plan:
Designing a sampling plan for studying consumer buying-behavior toward electric-vehicles (EVs) involves selecting a representative subset of the population to draw valid conclusions. Here's a comprehensive guide to structuring such a plan.

- Sampling method: Simple random sampling
- Sample Frame: Urban areas of Bagalkotdistrict
- Sample unit: Individuals who are aware of electric-vehicles or have shown interest in purchasing one.
- Sample size: 100

Simple random sampling: Is a fundamental probability sampling technique in statistics where every individual in a population has an equal and independent chance of being selected for a sample. This method is widely used in research to ensure unbiased and representative data collection.

Analysis and Interpretation

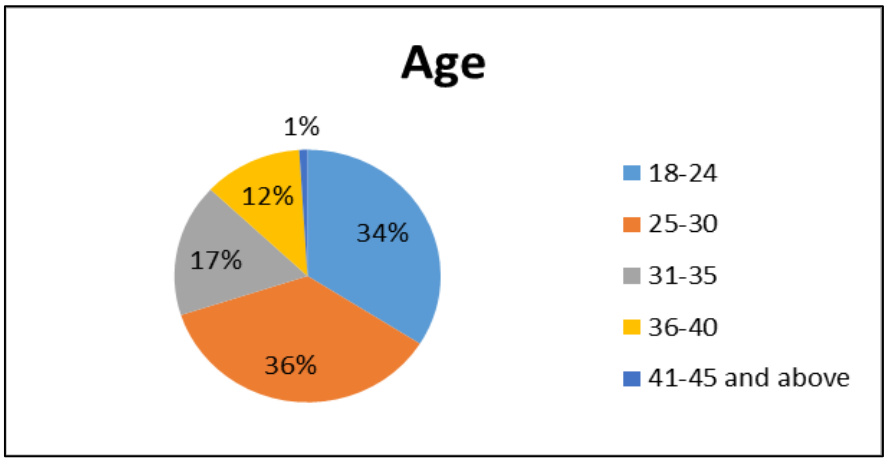
Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	51	51.0	51.0	51.0
	Male	49	49.0	49.0	100.0
	Total	100	100.0	100.0	



Analysis: The pie chart displays the gender distribution of the respondents. It shows that 51% are female and 49% are male. The data reveals a nearly equal proportion of both genders, along females having a slight majority.

Interpretation: The gender distribution indicates a well-balanced sample, which is beneficial for obtaining unbiased results. Since both male and female respondents almost equally represented, any conclusions drawn from the study likely to reflect the perspectives of both genders fairly and accurately.

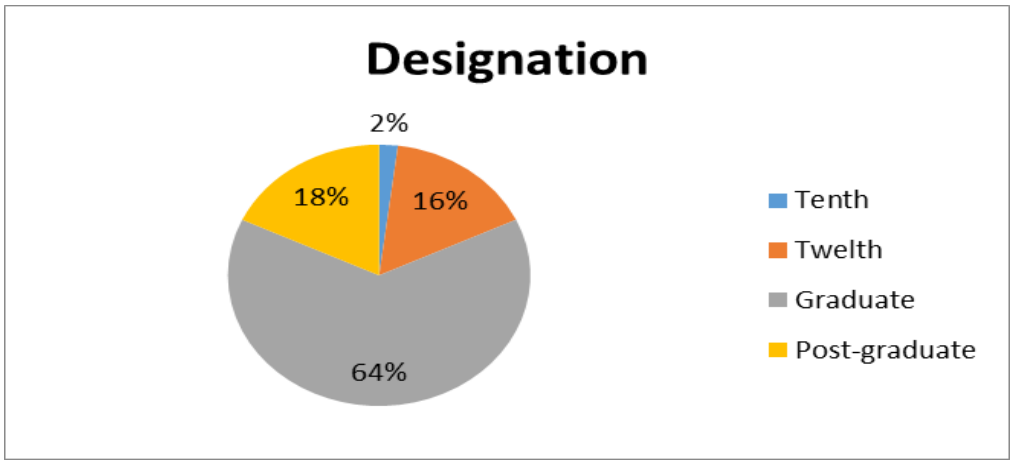
Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-24	34	34.0	34.0	34.0
	25-30	36	36.0	36.0	70.0
	31-35	17	17.0	17.0	87.0
	36-40	12	12.0	12.0	99.0
	41-45 and above	1	1.0	1.0	100.0
	Total	100	100.0	100.0	



Analysis: The pie chart illustrates the age distribution of respondents. The largest age group is 25-30 years, making up 36% of the total, followed by 18-24 years at 34%. The 31-35 years group represents 17%, while 36-40 years accounts for 12%, and only 1% are aged 41-45 and above.

Interpretation: The data reveals that majority of respondents are young adults, specifically between the ages of 18 and 30, who together make up 70% of the sample. This suggests that the study primarily reflects the views and behaviors of the younger demographic. The low representation of older age-groups may indicate either a lesser interest or lower participation rate among them, which could slightly limit the generalizability of results to older populations.

Designation					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Tenth	2	2.0	2.0	2.0
	Twelth	16	16.0	16.0	18.0
	Graduate	64	64.0	64.0	82.0
	Post-graduate	18	18.0	18.0	100.0
	Total	100	100.0	100.0	



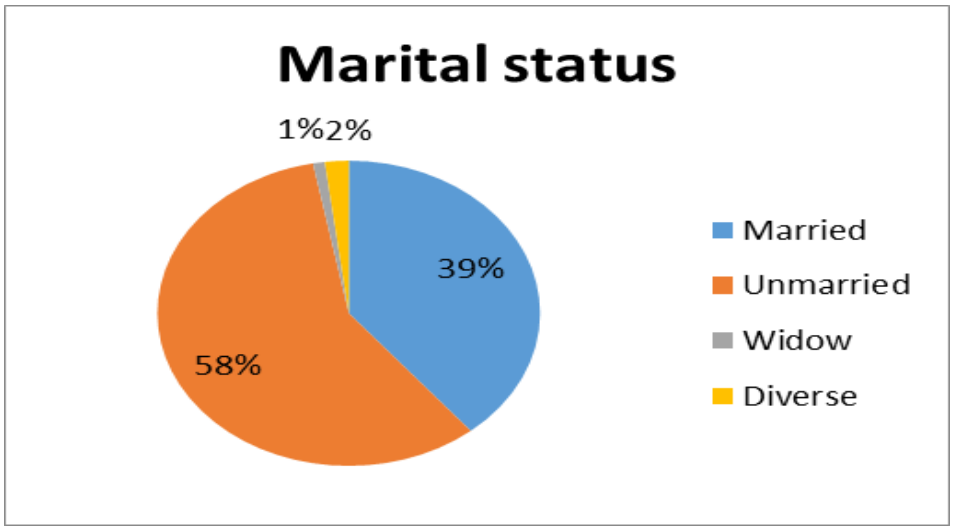
Analysis:

The pie chart displays the educational qualifications of respondents. The majority, 64%, are Graduates, followed by Post-graduates at 18%. Those who have completed Twelfth grade form 16%, while only 2% have completed Tenth grade.

Interpretation:

The data suggests that the survey predominantly includes well-educated individuals, with over 80% holding either graduate or post-graduate qualifications. This implies that the responses are mostly from academically advanced participants, which may positively influence the depth and reliability of the insights gathered. However, the low representation of respondents with only school-level education (Tenth and Twelfth) could limit understanding of perspectives from less-educated segments.

MaritalStatus					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	39	39.0	39.0	39.0
	Unmarried	58	58.0	58.0	97.0
	Widow	1	1.0	1.0	98.0
	Diverse	2	2.0	2.0	100.0
	Total	100	100.0	100.0	

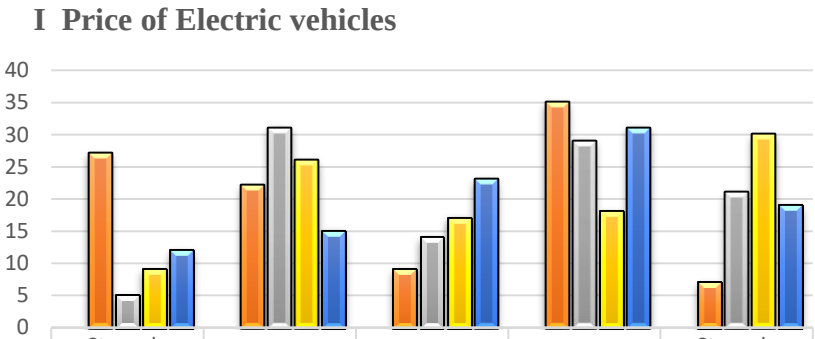


Analysis :

The pie chart represents the marital status of the respondents. The majority, 58%, are Unmarried, followed by Married respondents at 39%. Small portions, 2%, are Widows, and 1% identify as Diverse.

Interpretation:

The data indicates that most of participants are unmarried, suggesting that the sample is primarily composed of younger individuals, which aligns with the earlier age distribution chart. The presence of a small percentage of widows and diverse individuals shows some inclusivity but is minimal. The responses & perspectives gathered from this study are therefore more reflective of the unmarried population, which may influence the outcome depending on nature of the study.



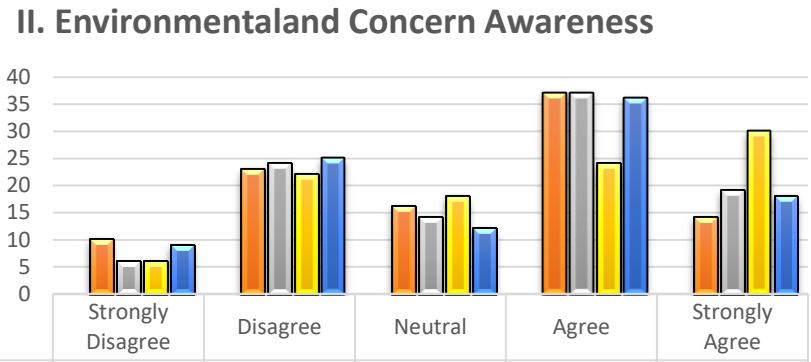
I Price of Electric vehicles					
1. The initial purchase price of electric vehicles is a significant barrier to adoption.	27	22	9	35	7
2. I believe that electric vehicles offer long-term cost savings compared to traditional vehicles	5	31	14	29	21
3. The availability of affordable electric vehicle models would encourage me to consider purchasing one.	9	26	17	18	30
4. I am willing to pay a premium for an electric vehicle if it offers substantial fuel and maintenance savings.	12	15	23	31	19

Analysis:

Analysis shows a divided opinion on whether the initial purchase price of electric-vehicles is a major barrier. While 35 respondents agreed and 7 strongly agreed with this concern, a notable number — 22 disagreed and 27 strongly disagreed — indicating that not all see price as a primary obstacle. Regarding long-term cost savings, 29 agreed and 21 strongly agreed that electric-vehicles offer financial benefits compared to traditional vehicles, though 31 disagreed, suggesting that some consumers remain unconvinced. Interestingly, a large portion of respondents (30 strongly agreed and 18 agreed) said that the availability of affordable EV models would influence their purchase decision positively. Additionally, 31 agreed and 19 strongly agreed they are willing to pay a premium if electric-vehicles ensure substantial savings on fuel and maintenance.

Interpretation:

The data suggests that while numerous consumers see the long-term financial benefits of electric vehicles, the high initial cost remains a concern. A majority are attracted to affordable models and are even open to paying a premium if savings are guaranteed. However, there is still a significant portion who disagree, highlighting the need for better awareness and competitive pricing strategies to increase EV adoption.



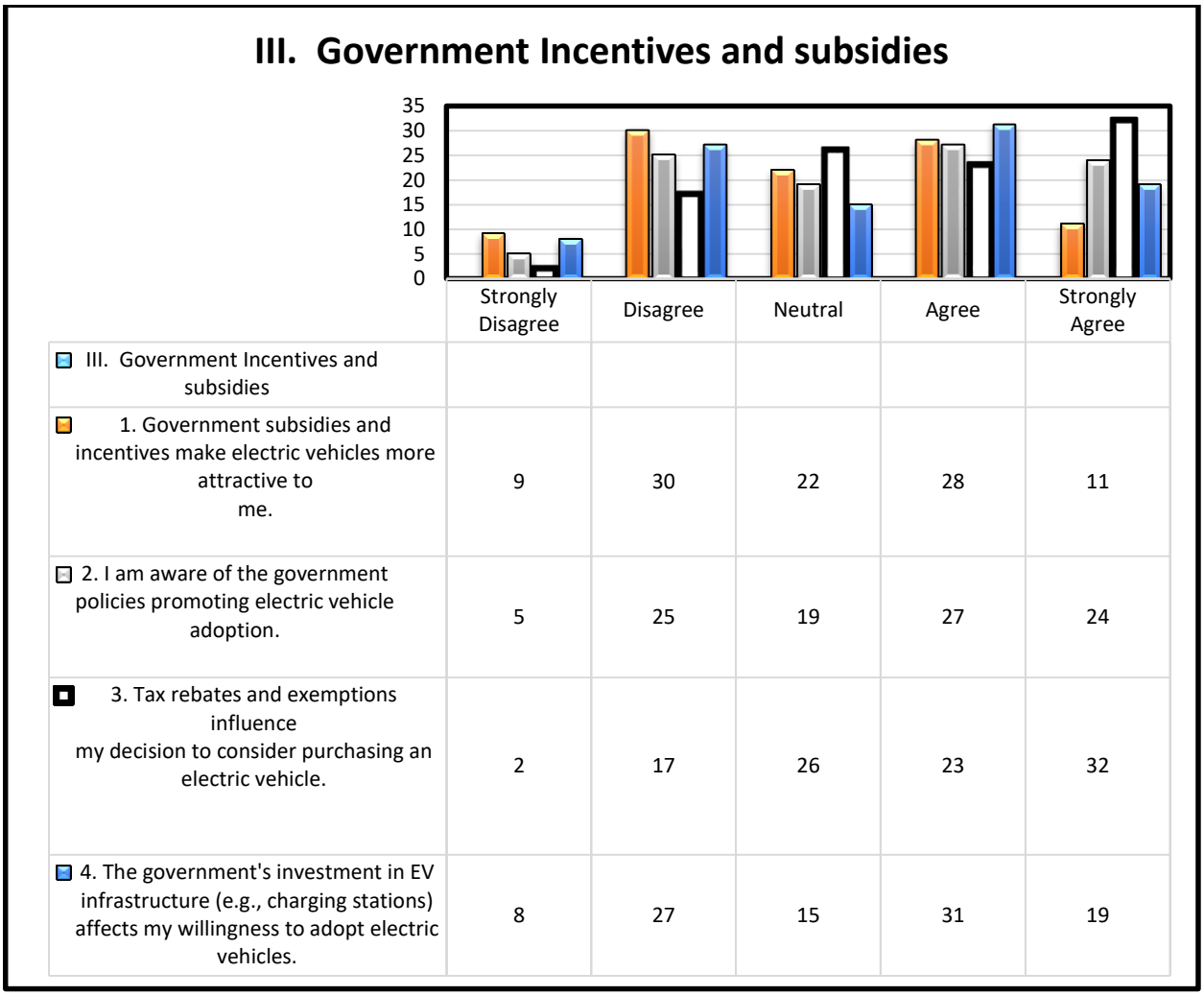
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
II. Environmentaland Concern Awareness					
1. I am concerned about the environmental impact of traditional gasoline-powered vehicles.	10	23	16	37	14
2. Reducing carbon emissions is an important factor in my decision to adopt electric vehicles.	6	24	14	37	19
3. I believe that electric vehicles contribute positively to environmental sustainability	6	22	18	24	30
4. Environmental benefits are a significant motivator for me to consider purchasing an electric vehicle.	9	25	12	36	18

Analysis:

The responses show which most participants are aware of environmental concerns. For the statement about the impact of traditional vehicles, 37% agreed and 14% strongly agreed, while 33% disagreed. In terms of carbon emissions influencing EV adoption, 37% agreed and 19% strongly agreed, with only 30% disagreeing. For the belief that EVs support environmental sustainability, 24% agreed and a strong 30% strongly agreed, showing high positive perception. When asked whether environmental benefits motivate them to consider EVs, 36% agreed and 18% strongly agreed. Overall, the data reflects a clear trend: environmental awareness positively influences-consumer attitudes toward electric vehicle adoption.

Interpretation:

The results show most respondents are aware of environmental issues and believe electric-vehicles help reduces pollution and carbon emissions. Many agree that environmental benefits are an important reason to consider buying an EV. This suggests that environmental-concern is a strong factor influencing long-term commitment to electric vehicle usage.



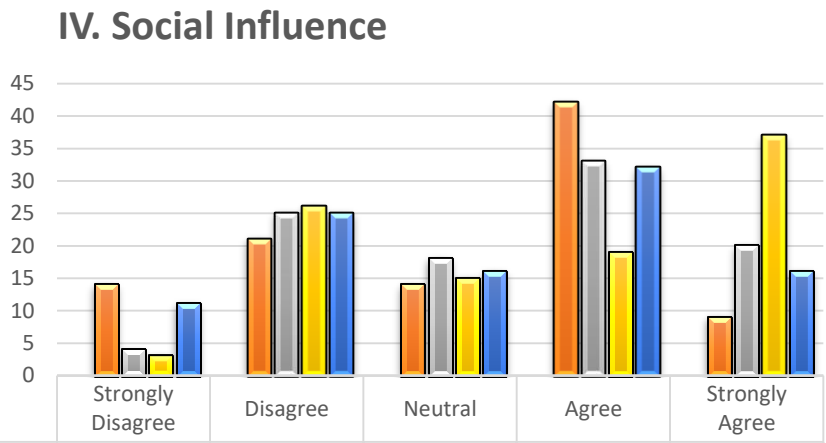
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
III. Government Incentives and subsidies					
1. Government subsidies and incentives make electric vehicles more attractive to me.	9	30	22	28	11
2. I am aware of the government policies promoting electric vehicle adoption.	5	25	19	27	24
3. Tax rebates and exemptions influence my decision to consider purchasing an electric vehicle.	2	17	26	23	32
4. The government's investment in EV infrastructure (e.g., charging stations) affects my willingness to adopt electric vehicles.	8	27	15	31	19

Analysis:

The responses reflect a generally positive view of government support for EVs. For subsidies and incentives making EVs more attractive, 28% agreed and 11% strongly agreed, though 39% disagreed or strongly disagreed. Awareness of government policies was high, with 27% agreeing and 24% strongly agreeing. When asked about tax rebates, 23% agreed and a notable 32% strongly agreed, showing strong influence on purchase decisions. For infrastructure investment like charging stations, 31% agreed and 19% strongly agreed, though 35% disagreed. Overall, the data suggests that tax benefits and visible infrastructure support are key motivators, while general policy awareness is improving among consumers.

Interpretation:

The results indicate that government incentives, tax rebates, and investment in EV infrastructure have a strong positive impact on consumer interest in electric vehicles. Many respondents are aware of government policies and see these benefits as important in their decision-making. This shows that continued government support can significantly influence long-term commitment to EV usage.



IV. Social Influence	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. My friends and family influence my decision to consider purchasing an electric vehicle.	14	21	14	42	9
2. Social media discussions about electric vehicles impact my perception of their benefits.	4	25	18	33	20
3. I am more likely to adopt electric vehicles if they are popular among my social circle.	3	26	15	19	37
4. Community initiatives promoting electric vehicles encourage me to consider their adoption.	11	25	16	32	16

Analysis:

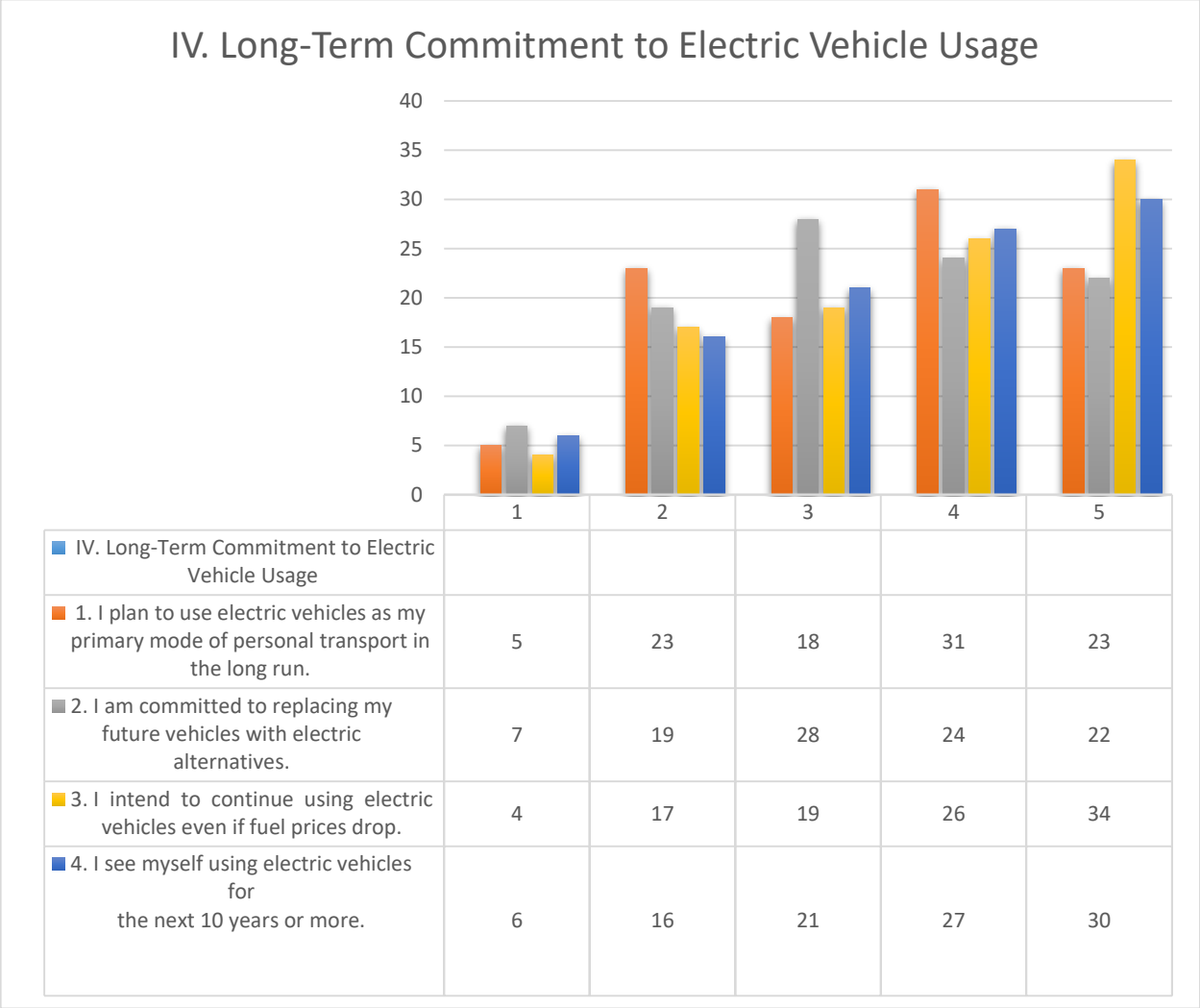
The responses show that social factors impact EV adoption. 51% of respondents said friends and family influence their decision. Social media had a strong effect, with 53% agreeing it shaped their perception. A majority (56%) said they are more-likely to adopt EVs if they are popular in their social circle. Community initiatives also had influence, with 48% agreeing. Overall, social exposure plays an important-role in shaping EV interest.

Interpretation:

The findings show that social-influence plays significant role in shaping consumer interest in electric vehicles. Many respondents agreed that family, friends, and social media impact their decisions and perceptions about EVs. The popularity of EVs within one's social circle increases the likelihood of adoption, indicating the power of peer behavior. Additionally, community initiatives promoting EVs were seen as encouraging factors. This suggests that creating a socially supportive environment through awareness programs, online discussions, and community engagement can positively influence long-term commitment to electric vehicle usage among consumers.

Dependent variable

Long-Term Commitment to Electric:



IV. Long-Term Commitment to Electric Vehicle Usage					
1. I plan to use electric vehicles as my primary mode of personal transport in the long run.	5	23	18	31	23
2. I am committed to replacing my future vehicles with electric alternatives.	7	19	28	24	22
3. I intend to continue using electric vehicles even if fuel prices drop.	4	17	19	26	34
4. I see myself using electric vehicles for the next 10 years or more.	6	16	21	27	30

Analysis:

The survey shows mixed views about the price of electric vehicles. For the statement about the initial purchase price being a barrier, 34% agreed and 7% strongly agreed, while 22% disagreed and 27% strongly disagreed. This means price is a concern for some, but not for everyone. On long-term cost savings, 29% agreed and 21% strongly agreed that EVs save money over time, though 31% disagreed, showing that some people are unsure about the benefits. When asked if affordable models would encourage them to buy, 30% strongly agreed and 18% agreed, showing that price flexibility matters. Also, 31% agreed and 19% strongly agreed that they are ready to pay more if the EV saves fuel and maintenance costs. Overall, while cost is a challenge for some, many people are open to EVs if they are affordable and provide good value.

Interpretation

The results show that price plays an important role in the decision to adopt electric vehicles. While some respondents still see the high initial cost as a barrier, many believe that EVs offer long-term savings. The strong agreement on the need for affordable models shows that people are more likely to consider EVs if prices are reasonable. Also, many are willing to pay more upfront if they get savings in fuel and maintenance later. This suggests that consumers are value-conscious, and with better awareness and pricing options, more people may be willing to switch to electric vehicles.

Price of Electric-vehicles:

Model Summary				
Model	R	R Square	Adjusted R-Square	Std. Error of Estimate
1	.611[a]	.373	.367	.72035
a. Predictors: (Constant), PriceofElectricvehicles				

ANOVA[b]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30.304	1	30.304	58.400	.000[a]
	Residual	50.853	98	.519		
	Total	81.157	99			
a. Predictors: (Constant), PriceofElectricvehicles						
b. Dependent-Variable: LongTermCommitment toElectricVehicleUsage						

Coefficients						
Model		Unstandardized-Coefficients		Standardized-Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.838	.231		7.945	.000
	PriceofElectricvehicles	.530	.069	.611	7.642	.000
a. Dependent Variable: LongTermCommitmenttoElectricVehicleUsage						

H0: There is no-significant influence between-Price of Electric-vehicles and long-term commitment to EV usage.

H1: There is significant influence between-Price of Electric-vehicles and long-term commitment to EV usage.

Analysis:

- The R value is 0.611, indicating a moderate to strong positive correlation between the price of electric-vehicles and the long-term commitment to electric vehicle usage.
- The R^2 value is 0.373, which means that 37.3% of the variation in long-term commitment to EV usage is explained by the price of electric vehicles.
- The significance-value (p-value) is 0.000, which is less than 0.05, indicating that relationship is statistically significant.
- The unstandardized beta coefficient is 0.530, meaning that for every 1-unit decrease in price, the long-term commitment to electric vehicle usage increases by 0.530 units, assuming other factors-remain constant.

Interpretation:

There is a moderate to strong positive-correlation between the price of electric-vehicles and long-term commitment to their usage in Bagalkot. The statistically significant p-value (0.000) confirms this relationship. The beta value of 0.530 indicates that as price becomes more affordable, consumers show a greater commitment to using electric-vehicles in the long run. Therefore, price is a key factor influencing sustained EV adoption.

Environmental and Concern Awareness:

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	.625[a]	.391	.385	.71011
a. Predictors: (Constant), EnvironmentalandConcernAwareness				

ANOVA[b]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	31.740	1	31.740	62.946	.000[a]
	Residual	49.416	98	.504		
	Total	81.157	99			
a. Predictors: (Constant), EnvironmentalandConcernAwareness						
b. Dependent Variable: LongTermCommitmenttoElectricVehicleUsage						

Coefficients[a]						
Model		Unstandardized-Coefficients		Standardized-Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.500	.264		5.680	.000
	EnvironmentalandConcernAwareness	.602	.076	.625	7.934	.000
a. Dependent Variable: LongTermCommitmenttoElectricVehicleUsage						

H0: There is no-significant influence between- Environmental and Concern Awareness and long-term commitment to EV usage .

H1: There is significant influence and Environmental and Concern Awareness long-term commitment to EV usage .

Analysis:

- The R value is 0.625, indicating a strong positive correlation-between environmental concern awareness and long-term commitment to electric vehicle usage.
- The R^2 value is 0.391, meaning that 39.1% of the variation in long-term EV commitment is explained by environmental concern awareness.

- Significance value (p-value) is 0.000, which is less-than 0.05, confirming that the relationship is statistically significant.
- The unstandardized beta coefficient is 0.602, indicating for every 1-unit increase in environmental concern awareness, the long-term commitment to electric vehicle usage increases by 0.602 units, holding other factors constant.

Interpretation:

There is a strong and statistically significant-positive correlation between environmental concern awareness and long-term commitment to electric vehicle usage in Bagalkot. The p-value of 0.000 supports this finding. The beta coefficient of 0.602 shows that greater awareness of environmental issues positively influences consumers' long-term dedication to using electric vehicles. Therefore, promoting environmental awareness can effectively enhance EV adoption and retention.

Government Incentives and subsidies

Model Summary

Model	R	R Square	Adjusted R-Square	Std. Error of Estimate
1	.728[a]	.530	.526	.62366

a. Predictors: (Constant), GovernmentIncentive San subsidies

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	43.040	1	43.040	110.656	.000[a]
	Residual	38.117	98	.389		
	Total	81.157	99			

a. Predictors: (Constant), GovernmentIncentiveSan subsidies

b. Dependent Variable: LongTerm Commitment toElectricVehicleUsage

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.146	.234		4.902	.000
	GovernmentIncentiveSan subsidies	.711	.068	.728	10.519	.000
a. Dependent Variable: Long Term CommitmenttoElectricVehicleUsage						

H0: There is no-significant influence between-Government Incentives and subsidies and long-term commitment to EV usage .

H1: There is significant influence and Government Incentives and subsidies long-term commitment to EV usage .

Analysis:

- The R value is 0.728, indicating a strong positive-correlation between government incentives and subsidies and long-term commitment to electric vehicle usage.
- The R^2 value is 0.530, meaning that 53.0% of the variation in long-term EV commitment is explained by government incentives and subsidies.
- The significance value (p-value) is 0.000, which is well below 0.05, confirming the relationship is statistically significant.
- The unstandardized beta coefficient is 0.711, indicating that for every 1-unit increase in government incentives and subsidies, the long-term commitment to EV usage increases by 0.711 units, assuming other variables-remain constant.

Interpretation:

There is a strong and statistically significant positive-relationship between government incentives and subsidies and long-term commitment to electric vehicle usage in Bagalkot. The p-value of 0.000 confirms this significance. The high beta coefficient of 0.711 suggests that government support is a major influencing factor—greater incentives and subsidies significantly boost consumers' long-term commitment to EV adoption. Policy interventions are therefore critical in encouraging sustained EV usage.

Social Influence

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	.690[a]	.477	.471	.65831
a. Predictors: (Constant), SocialInfluence				

ANOVA[b]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38.687	1	38.687	89.270	.000[a]
	Residual	42.470	98	.433		
	Total	81.157	99			
a. Predictors: (Constant), SocialInfluence						
b. Dependent-Variable: LongTermCommitmenttoElectricVehicleUsage						

Coefficients[a]						
Model		Unstandardized-Coefficients		Standardized-Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.371	.237		5.794	.000
	SocialInfluence	.646	.068	.690	9.448	.000
a. Dependent-Variable: LongTermCommitmenttoElectricVehicleUsage						

Analysis:

- The R value is 0.690, indicating a strong positive-correlation between social influence and long-term commitment to electric vehicle usage.
- The R^2 value is 0.477, meaning that 47.7% of the variation in long-term commitment to EV usage is explained by social influence.
- The significance-value (p-value) is 0.000, which is less than 0.05, confirming that the relationship is statistically significant.
- The unstandardized beta coefficient is 0.646, suggesting that for every 1-unit increase in social influence, the long-term commitment to EV usage increases by 0.646 units, assuming-other factors remain constant.

Interpretation:

There is a strong and statistically significant positive-correlation between social-influence and long-term commitment to electric vehicle usage among consumers in Bagalkot. The p-value of 0.000 confirms the significance of this relationship. With a beta coefficient of 0.646, it is evident that social influence (such as peer behavior, family opinions, and societal trends) plays an important-role in shaping and sustaining consumer commitment to EVs. Encouraging positive EV conversations and role models can further drive long-term adoption.

Findings:

1. The gender distribution is nearly equal, with 51% female and 49% male respondents.
2. Most respondents are young adults, with 70% aged between 18–30 years.
3. The educational background of respondents is high, with 64% being graduates and 18% postgraduates.
4. A majority (58%) of the respondents are unmarried, while 39% are married.
5. Opinions on the high initial cost of electric-vehicles (EVs) are mixed; 42 respondents see it as a barrier, but 49 do not.
6. Around 50 respondents believe EVs provide long-term cost savings on fuel and maintenance.
7. The availability of affordable EV models is a strong motivator for 48 respondents to consider purchasing.
8. Many respondents (50) are willing to pay more for EVs if they save on fuel and maintenance in the long run.
9. Environmental concerns influence consumer behavior positively, with over half agreeing that traditional vehicles harm the environment.
10. 56% of respondents believe carbon emissions impact their decision to adopt EVs.

11. A significant number (54%) believe that EVs support environmental sustainability and motivate their adoption.
12. Government support plays an important role; 39% agree subsidies make EVs attractive, while 51% are aware of EV-related policies.
13. Tax rebates are considered influential by 55% of respondents in deciding to buy EVs.
14. 50% of respondents support government investment in EV infrastructure, although 35% remain dissatisfied.
15. Social influence strongly affects EV adoption, with 51% influenced by friends/family and 53% by social media.
16. A majority (56%) said they are more-likely to adopt EVs if they are popular in their social circle.
17. Community initiatives also matter, with 48% agreeing they impact their interest in EVs.
18. There is statistically significant and positive-relationship between EV price and long-term commitment ($R = 0.611$, $\beta = 0.530$).
19. Environmental awareness has a strong influence on long-term EV usage ($R = 0.625$, $\beta = 0.602$).
20. Government incentives and subsidies show the strongest positive correlation with EV commitment ($R = 0.728$, $\beta = 0.711$).
21. Social influence is also a strong predictor of long-term EV usage ($R = 0.690$, $\beta = 0.646$).

Suggestions of the Study:

Introduce More Affordable EV Models: Manufacturers should offer electric-vehicles at lower prices or with flexible financing options to reduce the barrier of high initial cost.

Enhance Environmental Awareness: Campaigns highlighting the environmental-benefits of EVs can further motivate eco-conscious consumers to adopt and stay committed to using them.

Strengthen Government Support: Continued and increased subsidies, tax benefits, and investment in EV infrastructure (like charging stations) are essential to boost adoption and long-term use.

Leverage Social Influence: Awareness programs, community events, and online promotions involving influencers and satisfied EV users can positively shape public-opinion & behavior.

Focus on Youth-Centric Strategies: Since the majority of respondents young and educated, campaigns and messages should be tailored to appeal to this tech-savvy demographic

Include Less Educated and Older Populations: Efforts should be made to include less-represented groups through simplified awareness materials and outreach in local languages to ensure inclusivity.

Promote Long-Term Financial Benefits: Clear communication of long-term cost savings from EVs (fuel and maintenance) should be emphasized to counter the concern of high upfront prices.

Conclusion

The study on consumer buying-behavior-towards electric-vehicles in Bagalkot shows that there is a growing acceptance of EVs, particularly among young and educated consumers. These consumers more environmentally conscious & open to adopting new-technologies, making them the driving force behind EV adoption in the region. Although the high initial purchase cost remains a challenge, many respondents believe that long-term benefits, such as lower running costs and fuel savings, outweigh the price factor. Environmental awareness, peer influence, and media exposure strongly encourage a positive outlook towards EVs. Moreover, government support through incentives and better infrastructure has been identified as a major factor influencing purchasing decisions. The analysis indicates that if affordability improves, charging facilities are expanded, & awareness campaigns & strengthened, the adoption of EVs in Bagalkot can increase significantly.

Overall, the study concludes that Bagalkot is gradually moving towards embracing electric mobility. To accelerate adoption, efforts should focus on improving-affordability, expanding charging infrastructure, & conducting awareness programs to educate consumers. With active participation from the government, automobile manufacturers, and local dealers, the barriers can be reduced, and EV adoption can be strengthened. The youth, being more adaptable and motivated, will play critical role in driving this transition. In the long run, Bagalkot has potential to emerge as a promising market for sustainable mobility, contributing not only to regional development but also to the larger goal of environmental protection and energy conservation.