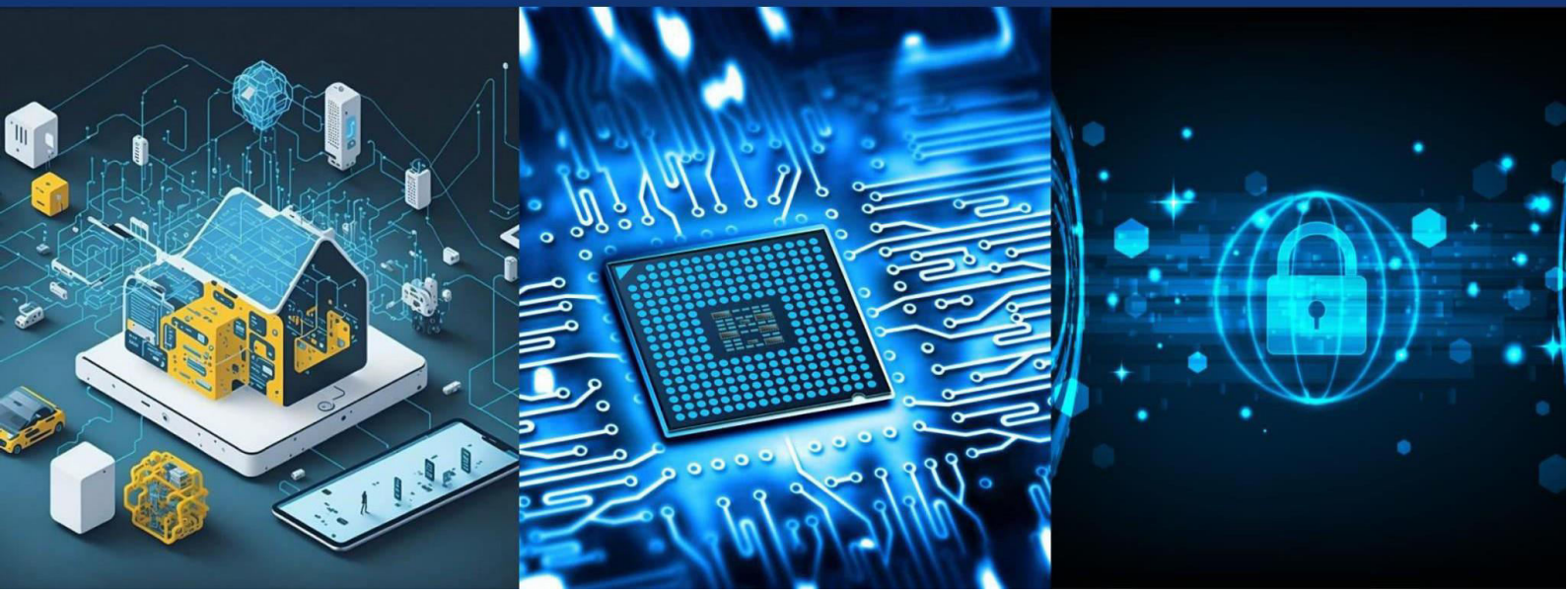
IJIRCCE

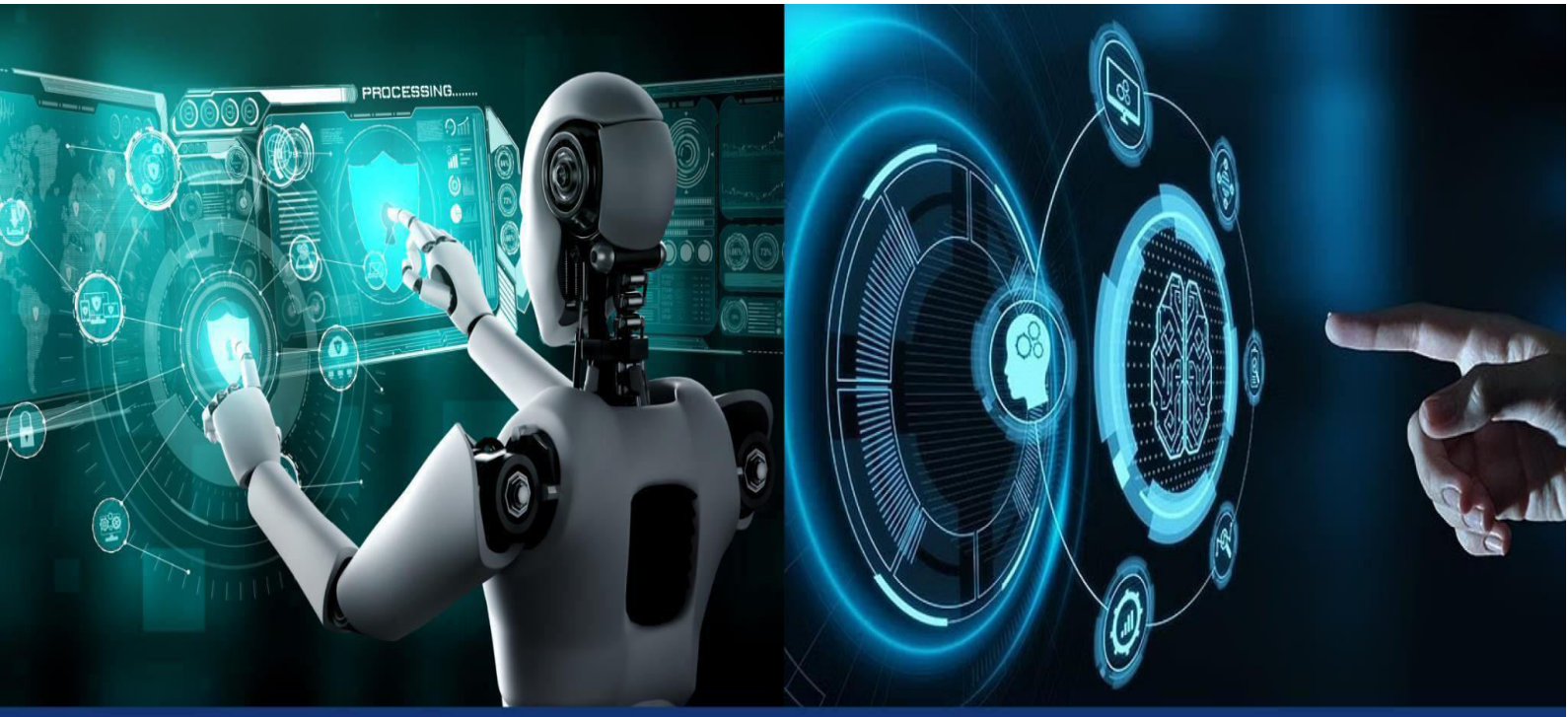
ISSN(O): 2320-9801

ISSN(P): 2320-9798



International Journal of Innovative Research in Computer and Communication Engineering

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)



Impact Factor: 8.771

Volume 14, Issue 2, February 2026

© 2026 IJIRCCE | Volume 14, Issue 2, February 2026| DOI:10.15680/IJIRCCE.2026.1402057

www.ijircce.com | e-ISSN: 2320-9801, p-ISSN: 2320-9798| Impact Factor: 8.771| ESTD Year: 2013|

International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

Public Perception and Acceptance of Electronic Bike Exploring Users

Dr.S. Christy Monisha[1], T. Nishanth[2], S. Nirmal[3]

Assistant Professor, PG & Research Department of Commerce, Sri Ramakrishna College of Arts & Science, Coimbatore, India[1]

Student, PG & Research Department of Commerce, Sri Ramakrishna College of Arts & Science, Coimbatore, India[2]

Student, PG & Research Department of Commerce, Sri Ramakrishna College of Arts & Science, Coimbatore, India[3]

ABSTRACT: This study examines the public perception and acceptance of electric bikes (e-bikes) in Dindigul, focusing on consumer preferences, satisfaction, and factors influencing usage. Based on a survey of 50 respondents, findings show that younger, urban consumers—especially students—are the primary users, with most purchasing their e-bikes in the last two years. Key motivators include rising fuel prices, environmental benefits, and low maintenance costs, while challenges such as limited charging stations, battery issues, and speed limitations persist. The study suggests that improving infrastructure, addressing technical concerns, and offering government incentives could encourage wider adoption of e-bikes in India.

KEYWORDS: E-mail marketing, customer retention, consumer preference, data analysis

I. INTRODUCTION

Travelling has come long way from the days of the walking to various forms of modern transportation of the globalized 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 sectors 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 inker ability to absorb the emitted pollutants. The research is looking forward to evaluate the potential degrading effects of the petrol and diesel engine of the environment. The mode of transport has also been changing the preferences towards the electric engines. 2 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 to 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

II. STATEMENT OF THE 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 have 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

www.ijircce.com | e-ISSN: 2320-9801, p-ISSN: 2320-9798| Impact Factor: 8.771| ESTD Year: 2013|

International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

ultra-modern bikes to attract the most potential younger generation of the society. 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 to 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. 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.

III. REVIEW OF LITERATURE

G Ivanova, AC Moreira 2023 - Antecedents of Electric Vehicle Purchase Intention from the Consumer's Perspective: A Systematic Literature Review Sustainability, the growing demand for conventional internal combustion engine vehicles can aggravate the current energy and environmental crisis by presenting a higher dependence on fossil fuels and a higher level of greenhouse gases. The transition to electric mobility is a sustainable solution to mitigate the negative impact on the environment and energy security. In recent years, global sales of electric vehicles (EVs) have grown steadily; however, their worldwide market share is still less than 10%.

Hussain, P Musilek (2022)- Resilience enhancement strategies for and through electric vehicles A Hussain, P Musilek Elsevier Electric vehicles (EVs) have the potential to reduce emissions from the transportation sector and are also capable of providing several services to the power system including resilience during power outages. However, transportation electrification has increased the inter dependence of transport and power networks, which could become challenging during periods of extended outages. Consequently, the analysis of the existing literature on the resilience of power systems and EVs is carried out in two parts in this study.

F Schulz, J Rode (2022)- Public charging infrastructure and electric vehicles in Norway F Schulz, J Rode - Energy Policy, – Elsevier We study whether public charging infrastructure drives battery electric vehicle adoption. Our analysis is based on granular, annual information on the location of public charging infrastructure and the battery electric vehicle ownership rate across 356 Norwegian LAU-2 municipalities between 2009 and 2019. We focus on areas in which the first public charging infrastructure was installed in this time period. In these mostly rural areas, the establishment of a first public charging station-initiated adoption.

IV. SCOPE OF THE STUDY

This study has focused on both primary and secondary data of electric vehicles in India. The primary data will be collected through questionnaire specially designed for this survey. And secondary data will be gathered from the relevant journals, website and others sources. The questionnaires in this study were distributed online to individuals of varying age groups. Though the research found a potential scope on electric vehicle, still there is a scope for in – depth study with greater number of sample and more factors. The main focus of this study was on the two-wheeler market of electric vehicles with the exclusion on 3w and 4w market segment.

V. RESEARCH METHODOLOGY

The presents study is based on primary data collected from respondents belonging to the different parts of place in DINDIGUL. A well-structured questionnaire was conducted and data was collected via Googleforms. The research and statistical tools used in study are simple percentage, and chart analysis, method were used in the study of conduct statistical test.

DATA:

In this research, the collection of data is from primary data and as well as secondary data.

© 2026 IJIRCCE | Volume 14, Issue 2, February 2026| DOI:10.15680/IJIRCCE.2026.1402057

www.ijircce.com | e-ISSN: 2320-9801, p-ISSN: 2320-9798| Impact Factor: 8.771| ESTD Year: 2013|

International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

PRIMARY DATA:

Primary data are those, which are collected fresh and for the first time, thus it happens to be original in character. The study was mainly based on primary data first-hand information was collected and used in the study. The gathered information was then transferred to master table to facilities further analysis.

SECONDARY DATA

For the majority of organizational research, secondary data is required. Secondary data is information obtained by someone other than the researcher who is currently performing the investigation. Such information might be internal or external to the company and it can be accessible via the internet or by looking at recorded or published information.

TOOLS OF ANALYSIS

The following statistical tools were used to analyse the data.

1. SIMPLE PERCENTAGE

GENDER OF THE RESPONDENTS

Gender	No.of Respondent	Percentage
Male	30	60%
Female	20	40%
Total	**50**	**100%**

Interpretation:

The table shows that out of total respondents,60% of respondent was male,40% of them were female. It concludes from the above analysis majority of the respondent 60%.

AGE OF THE RESPONDENTS

Age	No.of Respondent	Percentage
Below 25	27	54%
26 to 35	17	34%
36 to 50	5	10%
Above 51	1	2%
Total	**50**	**100%**

Interpretation:

The table shows that out of total respondents in age groups below 25 are 54%,2635 age groups are 34 %, 36-50 age groups are 10% and above 51 years are 2%. The majority of the respondent is below 25 ages with 54%.

OCCUPATION OF THE RESPONDENTS

Occupation	No.of Respondent	Percentage
Private employee	13	26%
Businessman	4	8%
Government employee	12	24%
Student	14	28%
Others	7	14%
Total	**50**	**100%**

Interpretation:

The table shows that out of total respondent 26% are private employee,8% are businessman,24% are government employee, 28% are student and other than 14%. The majority of the 28% are students.

© 2026 IJIRCCE | Volume 14, Issue 2, February 2026| DOI:10.15680/IJIRCCE.2026.1402057

www.ijircce.com | e-ISSN: 2320-9801, p-ISSN: 2320-9798| Impact Factor: 8.771| ESTD Year: 2013|

International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

RESPONDENTS QUALIFICATION

Education Level	No.of Respondent	Percentage
Below +2 level	5	10%
UG level	32	64%
PG level	7	14%
None	6	12%
Total	**50**	**100%**

Interpretation:
The table shows that out of total respondent,10% are below +12 level and UG level are 64% and PG level are 14% and None of this 12%.The majority of respondent graduate are UG 64%.

RESPONDENT MARITIAL STATUS

Maritial Status	No.of Respondent	Percentage
Married	24	48%
Unmarried	26	52%
Total	**50**	**100%**

Interpretation:
The table shows that out of total respondent,48% are married and 52% are unmarried. It is concludes from the above analysis majority of the respondent 52% are unmarried.

RESPONDENT ANNUAL INCOME

Annual Income	No.of Respondent	Percentage
Below Rs 1,00,000	14	29%
1,00,001-2,00,000	8	16%
2,00,001-3,00,000	4	8%
Above 3,00,000	11	22%
None	12	25%
Total	**50**	**100%**

Interpretation:
The table shows that out of total respondent 29%,16%,8%,22%, and 25%. The majority of the respondent 29%.

RESIDENT OF RESPONDENT

Resident	No.of Respondent	Percentage
Urban	30	60%
Semi Urban	6	12%
Rural	14	28%
Total	**50**	**100%**

Interpretation:
The table shows that out of total respondent,60% are Urban and 12% are SemiUrban,28% are Rural. It is concludes majority of the respondent 60% are Urban.

© 2026 IJIRCCE | Volume 14, Issue 2, February 2026| DOI:10.15680/IJIRCCE.2026.1402057

www.ijircce.com | e-ISSN: 2320-9801, p-ISSN: 2320-9798| Impact Factor: 8.771| ESTD Year: 2013|

International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

HOW DID YOU COME TO KNOW ABOUT E-BIKE?

Come to know	No. of Resident	Percentage
TV/Radio broadcasting	4	8%
Friends	21	42%
Relatives	3	6%
Social Network	18	36%
Others	4	8%
Total	**50**	**100%**

Interpretation:
The table shows that out of total respondent, were know 8% are TV/radio broadcasting,42% are friends and 6% are relatives and 36% are social network and none of these 8%. The majority of the respondent know about friends.

WHEN HAVE YOU PURCHASE E-BIKE?

Years	No.of Respondent	Percentage
Less than 2 years	38	76%
2-4 years	7	14%
4-6 years	3	6%
Above 6 years	2	4%
Total	**50**	**100%**

Interpretation:
The table shows that out of total respondent, purchasing e-bike less than 2 years are 77% and 12% are 2 to 4 years,6% are 4 to 6 years and 4% are above 6 years. The majority of the respondent are less than 2 years with 77%.

ON AVERAGE HOW MANY TIMES DO YOU USE YOUR E-BIKE?

How Many Time	No.of Respondent	Percentage
Every day	25	50%
Twice a week	8	16%
Rarely	15	30%
Weekly once	2	4%
Total	**50**	**100%**

Interpretation:
The table shows that out of total respondent, every day users 50% and 16% are twice a week,30% are rarely and 4% are weekly once. The majority of the respondent are using e-bike every day with 50%.

DO YOU APPROXIMATLY KNOW, HOW MANY KILMETERS DO YOU DRIVE PER DAY?

K.M	No. of Respondent	Percentage
Below 20km	25	50%
21-40km	16	32%
41-60km	3	6%
Above 60km	6	12%
Total	**50**	**100%**

© 2026 IJIRCCE | Volume 14, Issue 2, February 2026| DOI:10.15680/IJIRCCE.2026.1402057

www.ijircce.com | e-ISSN: 2320-9801, p-ISSN: 2320-9798| Impact Factor: 8.771| ESTD Year: 2013|

International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

Interpretation:
The table shows that out of total respondent approximately drive e bike per day,50% are below 20km and 32% are 21 to 40km,6% are 41 to 60km and 12% respondent above 60 km.50% of the majority respondent drive below 20kmrs.

WHAT PURPOSE MAINLY USE YOUR E-BIKE?

Purpose	No. of Respondent	Percentage
Work place	17	34%
College	9	18%
Visiting family/Friends	9	18%
Other purpose	15	30%
Total	**50**	**100%**

Interpretation:
The table shows that out of total respondent mainly use 34% are work place and 18% are college users and 18% are visiting family and friends,30% other purpose users. It concludes majority of the respondent using for work place with 34%.

BEFORE OWNING AN E-BIKE, DID YOU USING FUEL BIKE?

Type	No.of Respondent	Percentage
Yes	39	78%
No	11	22%
Total	**50**	**100%**

Interpretation:
The table shows that out of total respondent78% are using fuel bike before owning on e-bike and 22% are cannot using fuel bike.

HOW MANY E-BIKE HAVE IN YOUR HOUSEHOLD?

Number of e-bike	No.of candidate	Percentage
1	41	82%
2	6	12%
3	2	4%
4 or more	1	2%
Total	**50**	**100%**

Interpretation:
The table shows that out of total ,41 respondent having 1 each bike,6 respondent having 2 bikes and 2 respondents having 3 bikes,1 respondent having 4 bikes in their household. The majority 41 respondent having 1 each bike.

DO YOU HAVE A DRIVING LICENCE?

Type	No. of Respondent	Percentage
Yes	**40**	**80%**
No	**10**	**20%**
Total	**50**	**100%**

© 2026 IJIRCCE | Volume 14, Issue 2, February 2026| DOI:10.15680/IJIRCCE.2026.1402057

www.ijircce.com | e-ISSN: 2320-9801, p-ISSN: 2320-9798| Impact Factor: 8.771| ESTD Year: 2013|

International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

Interpretation:
The table shows 40 respondents having driving licence and 10 respondents don't having a driving licence.

HOW MANY SPEED YOU RIDE THE E-BIKE?

KM/HR	No of Respondent	Percentage
10-25km/hr	11	22%
26-40km/hr	21	42%
41-50km/hr	13	26%
Above 50km/hr	5	10%
Total	**50**	**100%**

Interpretation:
The table shows that out of total respondent 22% are driving 10 to 25km/hr and 42% are 26 to 40km/hr and 26% are 41to 50km/hr and 10% are drive above 50km/hr. The majority of the respondent 42% are driving with 26 to 40km/hr speed.

The findings of the study on Public Perception and Acceptance of Electronic Bikes can be explained using several established theories. According to the Diffusion of Innovation Theory, the majority of e-bike users belong to the younger age group (below 25 years), identifying them as early adopters who are more open to trying new technologies. The Technology Acceptance Model (TAM) is also evident, as users' willingness to adopt e-bikes is influenced by perceived usefulness (low maintenance cost, savings on fuel, environmental benefits) and perceived ease of use (smoothness, comfort, and reduced physical strain). Social influence plays a vital role, consistent with Social Learning Theory, as many respondents came to know about e-bikes through friends and social networks. Economic motivations, such as rising petrol prices and road tax exemptions, align with the Utility Maximization Theory, where consumers choose options offering greater long-term financial benefits. Environmental concerns reflect the Theory of Planned Behavior, showing that positive attitudes toward sustainability can shape purchasing decisions. However, barriers such as limited charging stations, battery performance issues, and speed limitations indicate that while acceptance is growing, infrastructural and technological challenges need to be addressed for full market penetration. This aligns with the Product Life Cycle Theory, placing e-bikes in the growth phase but still requiring strategic improvements to reach maturity.

FINDINGS:

- The study reveals that 60% are male and 40% female.
- Most of the 54% respondents were below 25 years.
- Most of the 28% respondents were students.
- The majority of the respondents were Under graduate level.
- From the respondent, majority of the members are Unmarried at 52%.
- The study shows that the majority of the respondent's monthly incomes below Rs.1,00,000 at 30%.
- The majority 60% of the respondent living at Urban.
- The survey, majority of the 42% respondent knowing e-bikes from their friends.
- Most of the 76% respondent purchasing their e-bikes during less than 2years.
- The majority of the 50% respondent using their e-bike on every day.
- Most of the 50% respondent driving below 20kmrs in a day.
- From the majority of 34% respondent using their e-bike for work place.
- The 78% of respondent using fuel bike, before owning their e-bike.
- From the study 82% respondent having e-bike each 1 their household.
- The majority 80% of the respondent having driving licence.
- Most of the 42% respondent are driving 26-40km/hr in their e-bike.

www.ijircce.com | e-ISSN: 2320-9801, p-ISSN: 2320-9798| Impact Factor: 8.771| ESTD Year: 2013|

International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

SUGGESTIONS:

- Increasing the number of charging station, more people will be interested in purchasing electric bikes.
- Electric bike are zoro emission vehicle at the point of use.To reduce air pollutions.
- Petrol prices are steadily rising. The problem of rising petrol price can be addressed with electric vehicle. The government promotion of using electric vehicle will aid the country's feature progress.
- Reduce tax rates can attract buyers to buy electric vehicle to a certain extent.
- To reduce maintenance cost.
- To solve battery temperature and it's issues.
- To solve battery fires.

VI. CONCLUSION

Electric bikes and regular bikes have many common features and almost the same number of e bikes pros and cons. Riding any bicycle is not a comparison between motors or the power of your legs, but a choice of healthier and more environmentally friendly type of transport. Therefore, the main advantage of an electric bike over the regular one is, of course, the electric motor, which helps you pedal and makes it easier to ride. You can travel longer distances from 40 to 75 miles per charge. The main disadvantage is the higher price and greater weight. We hope that this article will help you make the right choice in our e-bike shop.

REFERENCES

[1]. Kotler, P., & Keller, K. L. (2016). Marketing Management (15th ed.). Pearson Education.
[2]. Chaffey, D., & Ellis-Chadwick, F. (2019). Digital Marketing (7th ed.). Pearson Education.
[3]. Goldsberry, S. (2018). "The Impact of Email Marketing on Customer Retention." Journal of Marketing Development and Competitiveness.
[4]. Kiani, G. R. (2017). "Email Marketing: A Tool for Customer Retention." Journal of Business and Economics.
[5]. Kotler, P., & Armstrong, G. (2010). Principles of Marketing (13th ed.). Pearson Education.
[6]. Merisavo, M., & Raulas, M. (2005). "The Impact of Email Marketing on Customer Relationships." Journal of Interactive Marketing.
[7]. Chittenden, L., & Rettie, R. (2003). "An Evaluation of Email Marketing Campaigns." Journal of Marketing Communications.
[8]. Tezinde, T., & Smith, B. (2016). "Email Marketing and Customer Retention: A Study of the Fashion Industry." Journal of Fashion Marketing and Management.
[9]. Hsin Chang, H., & Rizal, H. (2018). "The Impact of Email Marketing on Customer Loyalty." Journal of Business and Retail Management Research.
[10]. Kumar, V., & Reinartz, W. (2016). "Creating Enduring Customer Value." Journal of Marketing.
[11]. Parasuraman, A., & Grewal, D. (2000). "The Impact of Technology on the Quality-Value-Loyalty Chain: A Research Agenda." Journal of the Academy of Marketing Science.
[12]. Peppers, D., & Rogers, M. (1993). The One-to-One Future: Building Relationships One Customer at a Time. Currency Doubleday.
[13]. Reichheld, F. F., & Sasser, W. E. (1990). "Zero Defections: Quality Comes to Services." Harvard Business Review.
[14]. Rust, R. T., & Oliver, R. L. (1994). "Service Quality: Insights and Managerial Implications from the Frontier." Sage Publications.
[15]. Schiffman, L. G., & Wisenblit, J. (2015). Consumer Behavior (12th ed.). Pearson Education.
[16]. Stone, B. (2014). Successful Direct Marketing Methods (9th ed.). McGraw-Hill Education.
[17]. Verhoef, P. C., & Lemon, K. N. (2013). "Successful Customer Value Management: Identifying and Managing Key Customer Metrics." Journal of Marketing,

INTERNATIONAL STANDARD SERIAL NUMBER INDIA

INNO SPACE SJIF Scientific Journal Impact Factor

doi cross ref

निस्केयर NISCAIR

INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

9940 572 462 6381 907 438 ijircce@gmail.com

www.ijircce.com

Scan to save the contact details