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A Study of Market Potential Analysis of E-Bike in Shegaon Region

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ABSTRACT: This research paper aims to analyze the market potential of e-bikes in the Shegaon region. E-bikes have gained popularity worldwide as an eco-friendly and efficient mode of transportation. However, their adoption and acceptance vary across different regions. This study uses a mix of qualitative and quantitative research methods to understand the factors influencing the market potential of e-bikes in Shegaon. Data was collected through surveys and interviews with residents and industry experts. The findings suggest a growing interest in e-bikes in Shegaon, driven by factors such as environmental concerns, traffic congestion, and the desire for a cost-effective transportation option. The paper concludes with recommendations for businesses and policymakers to capitalize on the market potential of e-bikes in Shegaon.

This research paper conducts a comprehensive analysis of the market potential for electric bicycles (e-bikes) in the Shegaon region. E-bikes have emerged as a sustainable and efficient mode of transportation, particularly in urban and semi-urban areas, offering environmental benefits and addressing mobility challenges. The study employs a mixed-methods approach, combining qualitative and quantitative methodologies to gather and analyze data. Qualitative research involves in-depth interviews and focus group discussions with key stakeholders including e-bike manufacturers, distributors, retailers, and consumers in the Shegaon region. These interactions provide insights into consumer preferences, perceptions, purchasing behaviour, and existing market dynamics.

I. INTRODUCTION

E- Bike:-

An electric Bike is a two-wheeled vehicle that runs solely on electricity. It is not powered by engines or conventional fuels like petroleum, diesel, or CNG. However, it operates and is powered entirely by electricity.

It uses electric propulsion and typically has a rechargeable battery. In other words, you could say that an electric Bike needs nothing more than electricity to function.

An electric motor provides the power for an e-Bike rather than a traditional Bike's fuel-powered engine. An electric motor receives its power supply from a DC battery.

Electric signals are sent from the throttle via wires to the controller, which tells the battery to release energy to one or two motors in the wheels when the rider presses the throttle. The motor rotates the Bike's wheels using that power, propelling it forward.

Over the past few years, an increasing number of people have hopped on the electric Bike bandwagon. The appearance of electric Bike on public roadways has made them a ubiquitous part of the urban transportation landscape of today.

You may be wondering, "Why would you want to ride an electric Bike?" Sustainable, affordable, and convenient—

Here are many benefits of electric Bike over other traditional types of transportation: -

- E-Bike can be very convenient.
- Not required to have a driver's licence.
- Use with minimal effort.
- Savings on greenhouse gas emissions
- Electric Bikes are environmentally friendly.
- There is no noise pollution.
- Cost-effective.



The shegaon, has witnessed rapid urbanization and economic growth in recent years. As a result, the demand for efficient and sustainable transportation options has increased. E-bikes, with their low carbon footprint and affordability, have emerged as a viable alternative to traditional bicycles and motorcycles. However, the market potential of e-bikes in Shegaon remains largely untapped. This study seeks to fill this gap by conducting a comprehensive analysis of the market potential of e-bikes in Shegaon.

Shegaon, undergoing rapid urbanization and economic development, faces increasing transportation challenges. E-bikes, with their environmental sustainability and cost-effectiveness, offer a promising solution. However, the market potential of e-bikes in Shegaon remains largely unexplored. This study aims to fill this gap by conducting a comprehensive analysis of the market potential of e-bikes in Shegaon. Specifically, the study focuses on customer satisfaction, influencing factors, and strategies for improvement. Understanding these aspects is crucial for businesses and policymakers to capitalize on the growing interest in e-bikes and promote sustainable transportation in Shegaon.

II. LITERATURE REVIEW

- **Fabian Edel**

Most E- Bike studies have focused on the environmental impacts during their life cycle (Chang, Wu, Lai, & Lai, 2016; de Bortoli, 2021; de Bortoli & Christoforou, 2020; Hollingsworth et al., 2019; Moreau et al., 2020; Wortmann, Syré, Grahle, & Göhlich, 2021), while quite a few studies have also investigated the potential of E- Bikes as replacements to other modes (Abouelela, al Haddad, & Antoniou, 2021; Edel, Wassmer, & Kern, 2021; Glenn et al., 2020; Latinopoulos et al., 2021; Luo, Zhang, Gkritza, & Cai, 2021; Moreau et al., 2020; Yang et al., 2021) or reported a case study/pilot impacts (Abouelela et al., 2021; Latinopoulos et al., 2021; Luo et al., 2021; PBOT, 2018). E- Bikes are a newly introduced mobility solution, and their impacts are case-based reported rather than in relation to their attributes, such as their type (i.e., docked or dockless), the infrastructure they use (i.e., dedicated lanes or road) and their role (i.e., competing or complementary to public transport).

- **Tina Nielsen Sadie Mae Palmatier Abraham Proffitt (December 19, 2019)**

E-bikes are still a nascent technology, and the research surrounding their use and acceptance within the recreation space is minimal. However, with the careful and constructive guidance of our consultants, the report outline morphed into chapters and, eventually, into a comprehensive document. We are deeply indebted to Mary Ann Bonnell, Morgan Lommele, and Stacey Schulte for guiding our thinking and research process and for supplementing our findings with resources and other support.

- **Cherry, C., MacArthur, J., (2019). E-bike safety: A review of Empirical European and North American Studies.**

The National Park Service (NPS) electric bicycle (e-bike) regulation, which became effective in December 2020, defines the term “electric bicycle” and authorizes superintendents to allow e-bikes, where appropriate, on roads and trails where traditional bicycles are also allowed. This literature review is an internal resource for the NPS intended to assist superintendents with management decisions related to e-bikes; it does not provide recommendations about what decisions should be made. The information in this literature review identifies both beneficial and adverse effects from e-bike use. Superintendents can apply this information, along with any observed effects, to the specific site conditions of the park they manage to inform their decisions regarding e-bike use on trails and administrative roads and to support compliance with the National Environmental Policy Act (NEPA).

- **AVL Company (1999)** proposed a hybrid system that used a 50 carbureted lean-burn two-stroke engine with a 0.75 kW

electric motor mounted on the engine crankshaft mainly to provide increased torque during acceleration.

- **Su-Hau et al (2004)** focused on the highly efficient energy usage of the battery energy and proposed an integrated management

system for electric motor.

- **David and Sheng-Chung (2004)** proposed new parallel-type hybrid-electric-power system comprises an engine’s energy distribution and a torque-integrated mechanism (specifically including an engine, a motor/alternator, a CVT device, and PCM as well as a 3-helical gear set)

- **Wenguang et al (2005)** presented an approach to control powertrain of series hybrid electric vehicles. A formulation of the system equations and controller design procedure were proposed by them. They also proposed a new switching algorithm for the power converter for motor torque and motor flux control.



III. RESEARCH METHODOLOGY

Research Objectives:- The present study was carried out primarily with following objectives in mind.

- 1) To analysis the satisfaction level of the costumer regarding the safety, features and riding experience.
- 2) To study the impact of different variables of those who are purchasing the bike like age, gender, economical background etc.
- 3) To identify the factors responsible for satisfaction or dissatisfaction of the customer.
- 4) To identify and suggestion some measures for improving the satisfaction level of the customers.

Data Collection Method:

1. **Primary Method of Data Collection:-**

- Questionnaire method

2. **Secondary Method of Data Collection:-**

- Corporate website
- Internet/Book/Journals and other written data about company and Topics

✓ **Research type:-** Descriptive type of research

✓ **Sample size:-** 100

Sampling Techniques: Simple random sampling

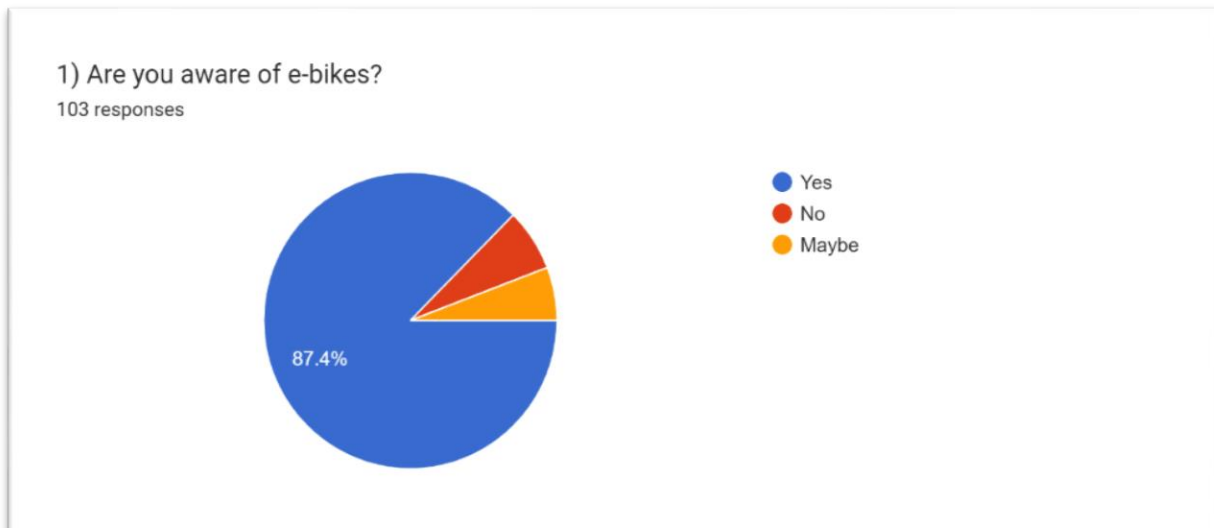
Collection of data through: Through online using Google Forms

3. **Limitations:**

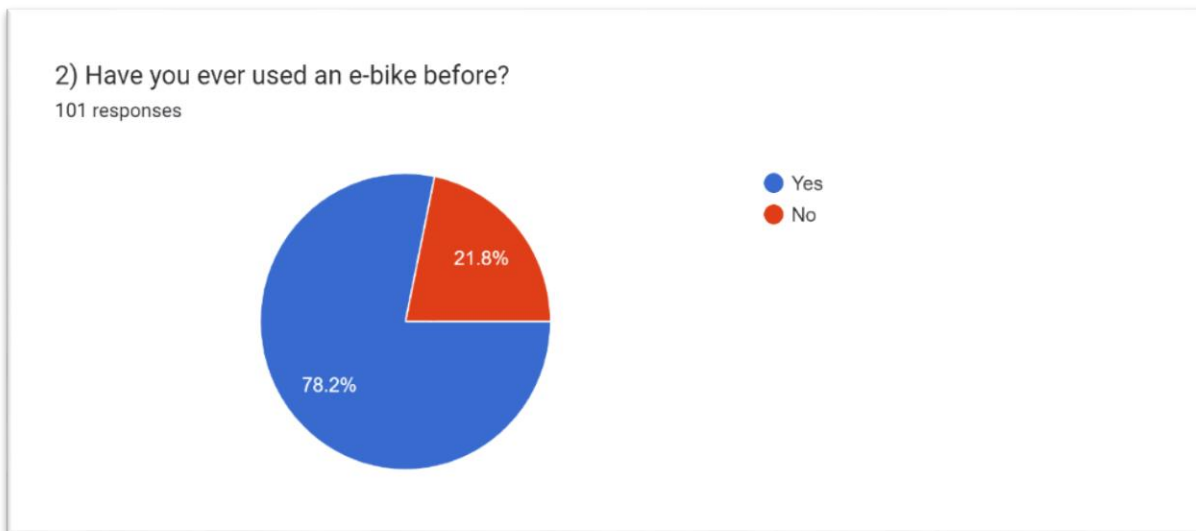
1. Area is Limited
2. Sample Size is Limited
3. Data is collected on the basis of Candidate responses
4. People are avoiding disclosing original Fact.

IV. ANALYSIS AND INTERPRETATION

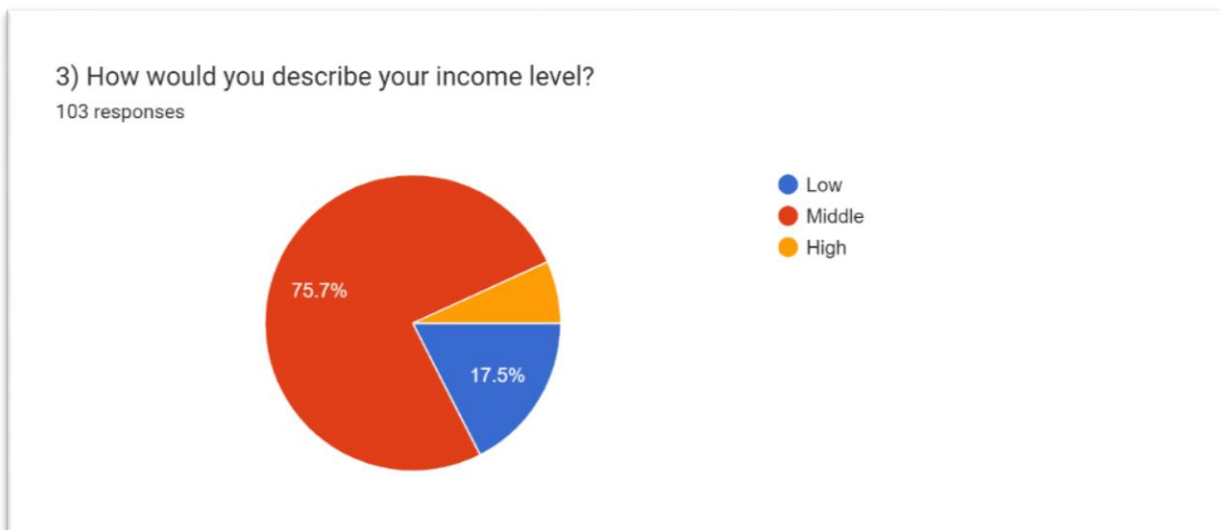
Analysis



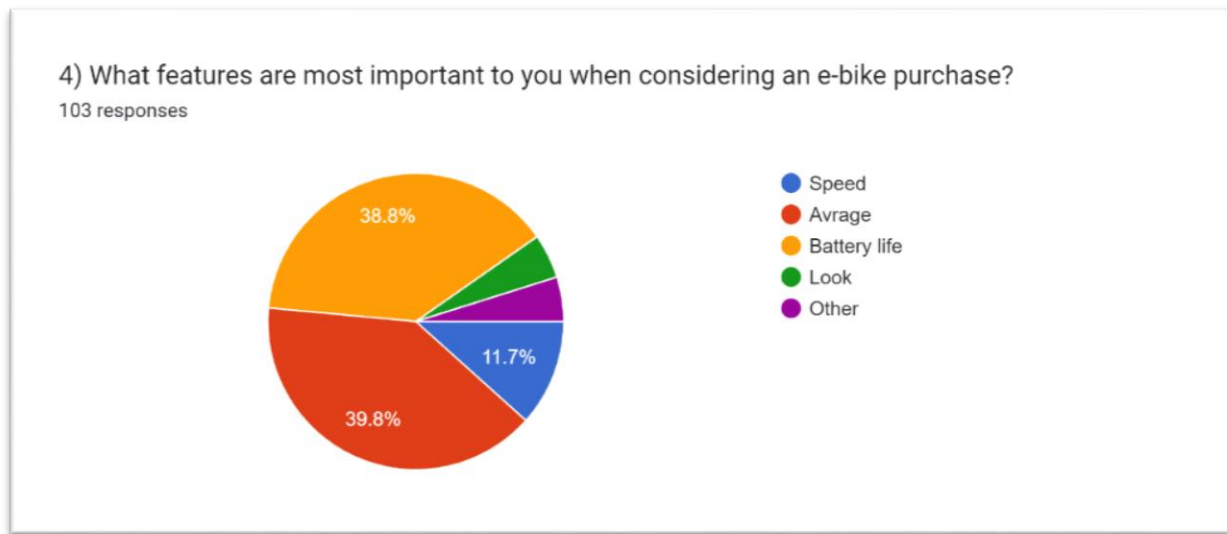
From the above pie chart we observe that 90% (87.4) respondent are aware of E-bike, 7%(6.8) respondent are no aware of e-bike, and also the 6% (5.8) respondent they maybe aware or not. Thus the large number respondent aware of e-bike.



From the above chart we observe that 35% of the respondents strongly agree to the statement about how you ever used an e-bike before on 78.2% (79) on the behalf of the Yes , and also the getting the responses on the behalf of the No like the percentage of 21.8% (22) respondent are getting respond.



To interpret the responses to the question "How would you describe your income level?" with 103 responses categorized into "Low," "Middle," and "High. In this pie chart we can observe the 75.7% (78%) middle respondent are getting , 17.5% (18) of the responses getting and also the 6.8% (7) are the responses getting.



In this pie chart we can observe that 38.8% (40) of respondents are getting responses on the behalf of the battery life of the e-bike, 39.8% (40) of respondent are getting average on this bike that bases they respond, 11.7% (12) respondents for the speed of this bike and on the bases of the look 4.9% (5) they responding, 4.9% (5) other of respond are getting on behalf of the other in the e-bike. Its indicate the use of on the bases of this question.

V. CONCLUSIONS

In conclusion, the study highlights the substantial market potential for e-bikes in the Shegaon region. The analysis reveals a growing interest and awareness among consumers regarding e-bikes, driven by factors such as environmental consciousness, rising fuel prices, and the need for convenient and sustainable transportation options. Despite the relatively higher initial cost compared to traditional bicycles, the perceived benefits of e-bikes, including ease of use and reduced effort in more petrol, make them an attractive alternative for commuting and recreational purposes.

The market potential analysis indicates a significant opportunity for e-bike manufacturers and retailers to capitalize on this growing demand. Strategies focusing on product affordability, awareness campaigns, and infrastructure development for e-bike usage can further stimulate market growth. Additionally, understanding consumer preferences and behavior towards e-bikes, especially regarding key features such as battery life, design, and performance, will be crucial for market penetration and success.

Overall, the findings suggest a promising future for the e-bike market in the Shegaon region, with the potential to not only meet the transportation needs of the populace but also contribute to a greener and more sustainable mode of travel."

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