

A Study on Peoples Acceptance Level Towards E-Bike and Features Expected in it with Special Reference to Sivakasi

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Abstract- Air Pollution is an area of alarm for everyone as it affects people's health directly. Ailments like stroke, lung cancer, heart disease, chronic obstructive pulmonary disease, and acute respiratory infections have been linked to air pollution. Energy catastrophe is one of the major concerns in today's world because of quick depleting resources of petrol, diesel and natural gas. Introduction of E-bike is a wonderful solution to cut costs and energy conversation. There can be many models of E-bike and customer satisfaction towards E-bike determines the fate of E-bike. While comparing petrol bike, there will be lot of conversions available for purchasing E-bike, there are very few low-cost electric conversions available for long and short commutes. These are the some of the important features available in this E-bike. The purpose of the study is to find out the acceptance level towards the features available in E – Bike and the features expected by the people in it.

Key Words: E-Bike, Energy Conservation, Ailments, Depleting resources

INTRODUCTION

Air pollution is one of the serious problems faced by the people globally in today's environment, mainly due to rapid growth of population and industrialization which is accompanied by increasing number of vehicles. Air Pollution is an area of alarm for everyone as it affects people's health directly. As per WHO, globally, an estimated 4.2 million premature deaths are linked to ambient air pollution. Ailments like stroke, lung cancer, heart disease, chronic obstructive pulmonary disease, and acute respiratory infections have been linked to air pollution. A 2010 Survey by Central Pollution Control Board of India (CPCB) has acknowledged that 60 Indian Cities have been seriously polluted and according to the World Health Organization, the Capital City of India i.e.,

New Delhi is one of the top ten most polluted cities in the world.

Energy catastrophe is one of the major concerns in today's world because of quick depleting resources of petrol, diesel and natural gas. In grouping with this, environmental decay is an added factor which is contributing to the depletion of resources which is an alarming notification. The Electric Bike which functions on the battery that is power-driven by the motor is the common mode of transport for a local trip. The solar panels can be substitute source for this by adding it to the system. The Electric bike which will be running on battery, the power is abounding by the motor, thereby supplying this power to drive the other gear components. The main reason of using this E-bike is that it is economical, user friendly and comparatively cheap. The effectiveness of this system unquestionable compared to conventional modes of transport.

The thought of creating an electric bike has intrigued cyclists since the late 1800s, when several American inventors researched with the prospect of combining the potential power of electric motors with the simple mechanics of the bike. It wasn't until the technological advancements of the 20th and 21st centuries, however finally that this idea became a viable reality. Today's electric bikes give a way for cyclists of all ages, fitness levels, and physical needs to enjoy the benefits of cycling, whether it's a leisure ride, a workout, or part of a daily commute, with lightweight motors, high efficiency rechargeable batteries, smoothly shifting drive trains, and huge advances in bicycle components. For many, electric bikes are a good-looking alternative to both conventional bicycles and traditional automobiles, providing an environmentally friendly, entertaining, efficient, and suitable way to travel.

STATEMENT OF THE PROBLEM

Two-Wheeler industry is one of the biggest industries in the automobile segment of Global market. Being the leader in product and process technologies in the manufacturing Bike, it has been recognized as one of the drivers of economic development. An average two-wheeler customer can be described as one who is at energetic stage of growth of the organization. The difference that survives in income, literacy and culture create it a difficult task to point out the two-wheeler customers and the people choice of preference.

People all over the country have a preference to travel on bikes, which give them convenience and Cost-efficient means for transport. When it comes to electric bike, the cost efficiency of these E- bike are even enhanced than normal bikes as there is no fuel consumption in electric bike and in countries like India where their majority are of middle-class families who cannot afford high fuel prices. Electric bike gives the best solution for it.

Introduction of E-bike is a wonderful solution to cut costs and energy conversation. There can be many models of E-bike and customer satisfaction towards E-bike determines the fate of E-bike. While comparing petrol bike, there will be lot of conversions available for purchasing E-bike, there are very few low-cost electric conversions available for long and short commutes. These are the some of the important features available in this E-bike. The purpose of the study is to find out the acceptance level towards the features available in E – Bike and the features expected by the people in it.

SCOPE OF THE STUDY

The study aims at finding the student's level of acceptance towards the features available in E – Bike. The study also aims to find out the student's expected features in electric bikes. The study objective is to ascertain the factors that motivate end users to purchase electric bikes so as to enable respective companies to improve their services, sales promotions etc. Student's expectations are also gauged to help the companies regarding after sales service.

OBJECTIVES OF THE STUDY

1. To find the people acceptance level towards features available in E-bike

2. To identify the factor's underlying in purchase of E-bike
3. To investigate the most expected features preferred by the respondents in E – Bike
4. To find out the reason to go for purchasing E-Bike

METHODOLOGY

Primary Data

The primary data is known as the collected for the first time though field survey. Such data collected with specific set of objectives to assess the current status of any variable study; simply, primary data were collected from the sample respondents through a well-structured questionnaire.

Secondary Data

The secondary data refers to the information or facts already collected. Such data are collected with the objective of understanding the past status of any variable. The data collected and reported by source is accessed and used for the objectives of the study. In this study the respondents have gathered secondary data from various sources such as books, website, journal and college library.

RESEARCH DESIGN

The present study is descriptive in nature. The study includes facts finding enquiries on the customer Acceptance level and feature expectation. The major purpose of descriptive research is the description of state of affairs as it exists at present. The study aims at collecting the opinion of the customers about the features available in E-Bike.

Sampling Method

Simple random sampling is the method of sample selection which gives each possible sample combination an equal probability of being picked up and each item in the entire population to have equal chance of being included in the sample. Direct questionnaire method was used to get the data from the sample. The sample size taken for the study is 60.

ACCEPTANCE LEVEL TOWARDS FEATURE AVAILABLE IN E-BIKE

In order to find out the respondents acceptance level towards feature available in E-Bike, weighted

arithmetic mean has been applied and result are given in below table.

TABLE 1-Acceptance Levels of Feature In E-Bike – Frequency Table

Particulars	3	2	1
	HIGHLY ACCEPTED	ACCEPTED	NOT ACCEPTED
i) Instrument cluster			
A) Analog	19	40	1
B) Fuels	13	29	18
C) Trip meter	18	37	5
D) Odometer	16	42	2
E) Batter indicator	23	31	6
F) Engine temperature	14	42	4
G) Side stand	23	35	2
ii) pass switch			
A) High power	17	41	2
B) Low power	21	34	5
iii) brake system			
A) Disk	26	30	4
B) Abs	25	30	5
iv) Tyre			
A) Classical	15	40	5
B) Tube less	26	32	2
v) Battery			
A) Lithium ion	25	32	3
B) Single Battery	20	35	5
vi) Speed			
A) High	27	30	3
B) Low	22	35	3

Source: Primary Data

The result of weighted arithmetic mean is displayed in Table 2

TABLE 2-Acceptance Levels of Feature In E-Bike - WeightedArithmetic Score

S. No.	Particulars	Weighted ArithmeticScore	Rank
1.	Speed	2.36	I
2.	Brake System	2.33	II
3.	Battery	2.31	III
4.	Tyre	2.28	IV
5.	Pass Switch	2.26	V
6.	Instrument Cluster	2.21	VI

Source: Calculated Data

Speed Scores first rank and it is the main feature influencing most in buying E-Bike, Brake System secures second rank, Battery Performance ranked third place, Tyre ranked fourth place, Pass switch scores fifth rank and Instrument cluster ranked sixth place.

FEATURES EXPECTED IN E-BIKE

The overall features expected by the respondents in E-Bike have been collected and the results are shown in Table 3

TABLE 3-FEATURES EXPECTED IN E-BIKE

S. No.	Particulars	HIGHLY LIKE	LIKE	DISLIKE
1.	i) Instrument cluster(DIGITAL)	40	20	0
	A) Analog	{66.7%}	{33.3%}	{0.0%}
2.	B) Fuels (Electric unitlevel)	25	16	19
		{41.7%}	{26.7%}	{31.7%}
3.	C) Trip meter	43	16	1
		{71.7%}	{26.7%}	{1.7%}
4.	D) Odometer	38	20	2
		{63.3%}	{33.3%}	{3.3%}

5.	E) Batter indicator	37 {61.7%}	23 {38.3%}	0 {0.0%}
6.	F) Engine temperature	37 {61.7%}	21 {35.0%}	3 {5.0%}
7.	G) Side stand	36 {60.0%}	22 {36.7%}	2 {3.3%}
8.	ii) pass switch A) High power	34 {56.7%}	22 {36.7%}	4 {6.7%}
9.	B) Low power	38 {63.3%}	19 {31.7%}	3 {5.0%}
10.	iii) brake system A) Disk	35 {58.3%}	24 {40.0%}	1 {1.7%}
11.	iv) Tyre A) Tube less	39 {65.0%}	19 {31.7%}	2 {3.3%}
12.	v) Battery A) Dual Battery	36 {60.0%}	22 {36.7%}	2 {3.3%}
13.	vi)Charging type Wireless charging	34 {56.7%}	23 {38.3%}	3 {5.0%}
14.	vii)Wireless device Bluetooth	37 {61.7%}	22 {36.7%}	1 {1.7%}
15.	viii)Speed High	39 {65.0%}	19 {31.7%}	2 {3.3%}
16.	ix)Security Anti -theft alarm	40 {66.7%}	19 {31.7%}	1 {1.7%}

Source: Primary Data

It is identified that, majority of the respondents prefer instrumental cluster in digital mode, Disk brake system, Tubeless tyre, Dual battery, wireless charging, wireless Bluetooth device and anti – theft alarm facilities in E-Bike.

FINDINGS

- It is clear that 50.0 percent of the respondents belong to the age group of 30 to 35 years.
- It is identified that majority {51.7percent} of the respondents are studying in undergraduate course.
- It is identified that majority (58.3percent) of the respondents are unmarried.
- It is inferred that 55 percent of the respondents are living in Nuclear Family.
- It is determined that more than 3 members in the family are having more than 18 years of age stipulates by 43.3 percent of the respondents.
- It is identified that majority {86.7} of the respondents are getting aware about the electric bike.
- It is launched that 41.7 percent of the respondents came to know about details about E-Bike from their relatives and friends.
- It is clear that 48.3 percent of the respondent buy E-bike to save environment.

- It is inferred that 64 percent of the respondents have seen the advertisements of EBike.
- It is identified that; 36.7 percent of the respondents consider the basic feature of low running cost while purchasing E – Bike.
- It is identified the majority {53.3percent} of the respondents are highly preferred the hybrid electric vehicle.
- It is identified the majority {51.7percent} of the respondents are using three bikes in one family.
- It is identified that majority of {31.7percent} of the respondents are highly prefer the Hero E-Bikes.
- It is identified that majority of {38.3percent} of the respondents are prefer to buy E – Bike in the range of Rs.70,001-1,00,000
- It is identified the majority {63.3percent} of the respondents are willing to buy the product with instant payment method.
- It is identified the majority {33.3 percent} of the respondents viewed that spare parts of the e-bike are generally of high cost
- It is identified the majority {45.0percent} of the respondents’ opinion are good.
- It is identified the majority {48.3percent} of the respondents confined that E-bike gives good mileage.

- The survey result of respondents opinion about maintenance cost of E – Bike and it is concluded that, majority {56.7 percent} of the respondents pointed that the maintenance cost of their E-Bike is moderate.
- It is identified the majority {43.3 percent} of the respondents availed two free services for their bike.
- It can be concluded that, majority {38.3 percent} of the respondents look forward the speed and handling feature while purchasing E – Bike.
- The survey result of the respondents regarding satisfaction in E – Bike concluded that, majority {96.7% } of the respondents are satisfied in using E-Bike.
- It is identified that, majority (91.7%) of the respondents viewed GPS facility is more useful to them.
- Majority of the respondents (81.7%) feels that panic switch is necessary in E – Bike.
- It is identified that, majority (96.7 %) of the respondents got positive experience in using E-Bike.

SUGGESTIONS

- To improve the battery capacity of E-Bike is permanent solution for battery problem.
- Back up for battery is useful for emergency time.
- Introduce more style vehicle is also helps to improve and attract electric bike among the people.
- Improve the speed of the vehicle to attract more people.
- More advertisement is need for the E-Bike; it will help to improve the sales volume of E-Bike.

CONCLUSION

With the growing consumption of natural resources like petrol and diesel it is essential to change our way towards alternate resources like the Electric bike and others because it is required to spot new way of transport. To decrease the pollution levels, a novel two-wheeler came into the market- An electric bike. These are the new generation plug-in electric bike and are a low-priced and suitable mode of travelling. Electric bike is an alteration of the existing cycle by using and it can be used for shorter distances by people of any age. Electric bike does not consume fossil fuel which leads to save more and it is be considered as an important

feature. The second most important feature is, it is eco – friendly, pollution free, and noiseless in operation. Due to multiple features available in E-bikes many of the people are very much interested in purchasing of E-Bikes and it should be a great successful in the market. For offsetting environmental pollution using of on – board Electric Bike is the most practical solution.

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