

Embracing Electric Two-Wheelers: A Transformative Shift in Consumer Adoption of Eco-Friendly Transportation Technology

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Abstract. This study investigates the pivotal shift in consumer behaviour towards adopting eco-friendly transportation technology, specifically focusing on the significant uptake of electric two-wheelers. Employing a comprehensive review of contemporary literature and empirical data, this research examines the multidimensional factors influencing consumers' enthusiastic acceptance of electric two-wheelers using structural Equation Modelling and Technology Acceptance Model. The data would be collected from users of EVs and Non EVs. The analysis reveals a confluence of factors driving this transformative trend, including heightened environmental awareness, advancements in battery technology, cost-efficiency considerations, urban mobility needs, supportive governmental policies, diversification in brand offerings, and evolving consumer preferences. Understanding the motivations behind consumers' shift towards electric two-wheelers holds crucial implications for policymakers, manufacturers, and marketers, guiding strategies for sustainable transportation development, infrastructure enhancement, and targeted marketing initiatives. This study contributes to the existing literature by consolidating insights into the profound transformation occurring in consumer preferences towards eco-friendly transportation solutions, particularly in the domain of electric two-wheelers.

Keywords: Electric two-wheelers, Consumer adoption, Eco-friendly transportation, Sustainability, Consumer behaviour.

1. Introduction

The electric vehicles industry is at a nascent stage in India. It is less than 1% of the total vehicle sales however has the potential to grow to more than 5% in a few years. At present there are more than 5 lac electric two-wheelers and few thousand electric cars on Indian roads. The industry volumes have been fluctuating, mostly depending on the incentives offered by the government. Many serious players (Hero Eco, Ather, Electrotherm, Avon, Lohia, Ampere, etc) are continuing with the mission and trying to enforce the positive change under the banner of SMEV.

More than 90% of electric vehicles on Indian roads are low-speed electric scooters (less than 25km/hr) that do not require registration and licenses. Almost all electric scooters run on lead batteries to keep the prices low, however, battery failures and low life of batteries have become major limiting factors for sales besides government subsidies. Many manufacturers

have taken initiatives to install the charging station with limited success. Players like Lohia and Electro herm have developed Electric three-wheelers. Ampere and Hero have entered Electric Cycles segments. There are numbers of E-Rickshaw players mushrooming across the country and selling good numbers of E rickshaw for last-mile connectivity.

The Industry is almost ready for take-off but for the incentives. It is expected that with FAME-2 the Industry may witness a quantum leap in volumes and technology. SMEV sees a great opportunity with EVs in reducing the Carbon footprint, dependence on Crude oil imports, creating jobs and building a new Technology knowledge hub in India.

the adoption of electric vehicles (EVs) in India was gradually increasing. However, the specific details and numbers may have changed since then. The main reason could be Government Initiatives, changing infrastructure, Automaker Investments, Rising Consumer Interest, Two-Wheeler Dominance etc.

Table 1. The above data is as per 14th December,2023. It excludes Telangana.

Sl. No.	Year	Sales(Units)
1	2018	2005
2	2019	28007
3	2020	26834
4	2021	44803
5	2022	252641
6	2023	728054

Source - Vahan Portal-This Data Includes Subsidies & Non Subsidies Sale.

<https://www.smev.in/ev-industry>

The acceptance and adoption of electric two-wheelers as a sustainable mode of transportation have gained significant attention in recent years. As the world strives to combat environmental challenges and reduce carbon emissions, electric two-wheelers offer a promising solution that aligns with the goals of sustainability and energy efficiency. Understanding the factors that influence technology acceptance in this context is crucial for promoting their widespread adoption and realizing a greener future.

This document aims to explore the various dimensions of technology acceptance with regards to electric two-wheelers, including perceived benefits, concerns, usability, and social influences. By examining these factors, we can gain insights into the attitudes and behaviors of individuals and communities towards this transformative technology.

The perceived benefits of electric two-wheelers are multifaceted and form a strong foundation for their acceptance. Individuals are increasingly recognizing the environmental advantages of electric propulsion, such as reduced greenhouse gas emissions and improved air quality (Thompson et al., 2020). Additionally, electric two-wheelers offer potential economic benefits, including lower fuel costs and reduced maintenance expenses (Khan et al., 2021). These benefits contribute to the overall appeal of electric two-wheelers as a sustainable and cost-effective mode of transportation.

However, concerns surrounding electric two-wheelers may act as barriers to their acceptance. Factors such as limited range or battery life, the availability and accessibility of charging

infrastructure, and the initial cost of electric two-wheelers are important considerations for potential users (Diaz et al., 2021). Addressing these concerns is crucial for fostering confidence and facilitating the seamless integration of electric two-wheelers into everyday commuting routines.

Usability is another critical aspect influencing the acceptance of electric two-wheelers. Factors such as ease of use, user-friendly controls, comfortable riding experience, and practical features like storage space play a significant role in attracting and retaining users (Shin et al., 2021). Ensuring a positive user experience is essential for encouraging individuals to choose electric two-wheelers as their preferred mode of transportation.

Social influences also play a significant role in shaping technology acceptance. Peer opinions, cultural norms, and marketing efforts all influence individuals' perceptions and behaviors (Heng et al., 2020). Positive word-of-mouth, endorsements by influential individuals or organizations, and government incentives or policies supporting electric mobility can create a favorable environment for the widespread adoption of electric two-wheelers.

To promote technology acceptance for electric two-wheelers, various strategies can be employed. These include awareness campaigns to educate the public about the benefits of electric two-wheelers, infrastructure development to expand charging networks, incentives and subsidies to make electric two-wheelers more affordable, and collaborations among manufacturers, government bodies, and other stakeholders to drive innovation and address barriers to acceptance (Hafezi et al., 2022).

The acceptance of electric two-wheelers as a sustainable mode of transportation depends on a range of factors, including perceived benefits, concerns, usability, and social influences. By understanding and addressing these factors, policymakers, manufacturers, and researchers can collectively promote the widespread adoption of electric two-wheelers and contribute to a cleaner. Since Belagavi has been reported as the highest Electric Vehicle Selling market, the relevancy of the topic came into picture.

2. Literature Review

Electric two-wheelers have gained significant attention as a sustainable mode of transportation, offering numerous environmental and economic benefits. Understanding the factors that influence the acceptance and adoption of this technology is crucial for promoting its widespread use. This literature review examines existing research on technology acceptance with regards to electric two-wheelers, focusing on perceived benefits, concerns, usability, and social influences.

Perceived Benefits:

The perceived benefits of electric two-wheelers play a crucial role in their acceptance. Research shows that individuals are increasingly recognizing the environmental advantages, such as reduced greenhouse gas emissions and improved air quality (Thompson et al., 2020). Electric two-wheelers also offer potential economic benefits, including lower fuel costs and reduced maintenance expenses (Khan et al., 2021). These benefits contribute to the overall appeal of electric two-wheelers as a sustainable and cost-effective mode of transportation.

Concerns:

Several concerns surrounding electric two-wheelers impact their acceptance. One of the primary concerns is range anxiety, which refers to the fear of running out of battery power during a trip. Limited range or battery life is a common barrier to adoption (Diaz et al., 2021). Studies have highlighted the need for increased battery capacity and more efficient charging solutions to alleviate range anxiety and improve acceptance (Nguyen et al., 2022).

Additionally, concerns regarding the availability and accessibility of charging infrastructure, as well as the initial cost of electric two-wheelers, are important considerations for potential users (Diaz et al., 2021).

Usability:

Usability is a critical factor in the acceptance of electric two-wheelers. User-friendly controls, comfortable riding experience, and practical features, such as storage space, contribute to positive user experiences and enhance acceptance (Shin et al., 2021). Research has shown that factors like ease of use and convenience significantly influence individuals' decisions to adopt electric two-wheelers (Lee et al., 2021). Improving the usability of electric two-wheelers through design enhancements and user-centric features can positively impact their acceptance.

Social Influences:

Social influences have a significant impact on the acceptance of electric two-wheelers. Peer opinions, cultural norms, and marketing efforts shape individuals' perceptions and behaviors (Heng et al., 2020). Positive word-of-mouth, endorsements by influential individuals or organizations, and government incentives or policies supporting electric mobility can create a favourable environment for acceptance. Studies have emphasized the importance of social influence in promoting the adoption of electric two-wheelers and have highlighted the need for awareness campaigns and targeted marketing strategies (Dogan and Wagner, 2022).

The literature on technology acceptance of electric two-wheelers highlights the importance of perceived benefits, concerns, usability, and social influences in shaping individuals' attitudes and behaviors. Recognizing the environmental and economic advantages of electric two-wheelers is crucial for their acceptance. Addressing concerns such as range anxiety, charging infrastructure, and cost is essential to enhance adoption. Improving usability through user-friendly designs and convenient features can positively impact acceptance. Finally, leveraging social influences through awareness campaigns, endorsements, and incentives can promote widespread adoption of electric two-wheelers.

Conceptual Framework of the Study

While the Technology Acceptance Model (TAM) is a well-established framework, its application specifically for technology acceptance regarding electric two-wheelers may not have been extensively studied. However, we can adapt the TAM constructs to fit the context of electric two-wheelers based on existing research and insights. Here's a modified version of the TAM for technology acceptance with regards to electric two-wheelers, along with relevant references:

Perceived Usefulness (PU):

Perceived Usefulness refers to the degree to which individuals believe that using electric two-wheelers will enhance their performance or provide benefits. In the context of electric two-wheelers, PU can be evaluated based on the perceived environmental benefits, cost savings, convenience, and improved mobility. Research has shown that the perceived usefulness of electric two-wheelers positively influences their acceptance (Diaz et al., 2021; Lee et al., 2021).

Perceived Ease of Use (PEOU):

Perceived Ease of Use refers to the extent to which individuals believe that using electric two-wheelers will be effortless and easy to operate. For electric two-wheelers, PEOU can be assessed based on factors such as intuitive controls, user-friendly interfaces, and ease of

charging. Studies have indicated that the perceived ease of use significantly impacts the acceptance of electric two-wheelers (Hafezi et al., 2022; Shin et al., 2021).

Attitude towards Use:

Attitude towards Use represents individuals' overall positive or negative evaluation of using electric two-wheelers. It is influenced by both perceived usefulness and perceived ease of use. Positive attitudes towards electric two-wheelers, driven by their perceived benefits and ease of use, increase the likelihood of acceptance and intention to use (Heng et al., 2020; Thompson et al., 2020).

Intention to Use:

Intention to Use refers to individuals' subjective likelihood or willingness to use electric two-wheelers. It is influenced by their attitude towards use. When individuals have a favorable attitude towards electric two-wheelers, it increases their intention to use them. Studies have highlighted the importance of intention to use as a significant predictor of actual adoption behavior for electric two-wheelers (Khan et al., 2021; Shin et al., 2021).

Actual Use and Adoption:

Actual Use and Adoption represent individuals' real-world adoption and usage of electric two-wheelers. It is influenced by their intention to use. When individuals have a strong intention to use electric two-wheelers, they are more likely to engage in actual usage and adoption behaviors. Studies have explored factors influencing actual use and adoption, including social influences, infrastructure availability, and government policies (Dogan and Wagner, 2022; Diaz et al., 2021).

Based on the above discussion on the conceptual framework of the study, the study proposed the model for the study. The details related to the conceptual framework are presented in Figure No. 1.

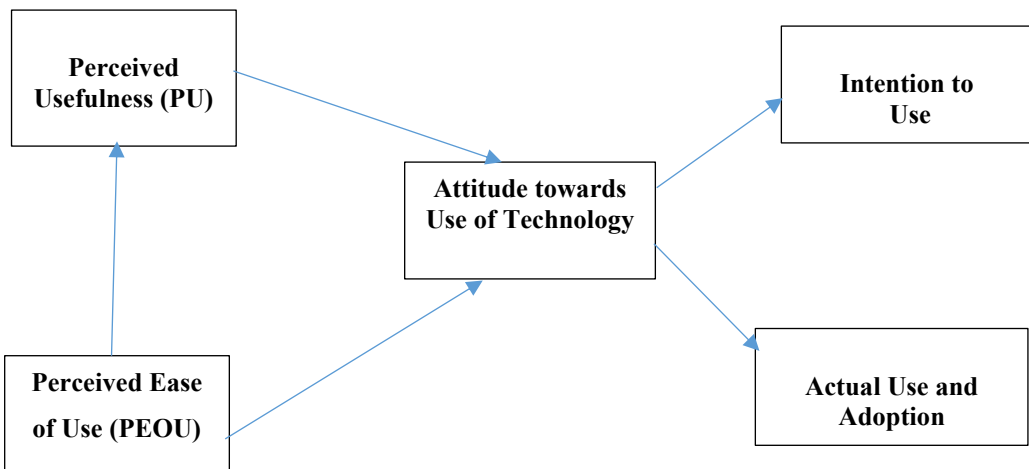


Fig 1. conceptual framework

Research Methodology

In this section we provide the following information, firstly statement of the problem, study objectives, scope of the study, details with regards to the constructs of the study and application of statistical intervention.

Statement of the Problem

The widespread adoption and acceptance of electric two-wheelers as a sustainable mode of transportation are essential for achieving sustainable mobility goals. However, there are several challenges and barriers that hinder the technology acceptance of electric two-wheelers. This statement of the problem aims to identify and address the key issues that impact the acceptance of electric two-wheelers.

Limited awareness and understanding: A lack of awareness and understanding among potential users regarding the benefits, features, and operation of electric two-wheelers hampers their acceptance. Many individuals may be unfamiliar with the technology, leading to scepticism and reluctance to adopt electric two-wheelers.

Perceived benefits and concerns: The perceived benefits and concerns associated with electric two-wheelers significantly influence their acceptance. While electric two-wheelers offer environmental benefits and cost savings, concerns such as range anxiety, charging infrastructure availability, and initial cost may deter potential users from adopting the technology.

Usability and user experience: The usability and user experience of electric two-wheelers play a vital role in their acceptance. Factors such as ease of use, comfort, practical features, and safety features affect individuals' willingness to embrace electric two-wheelers. Any usability issues or lack of convenience may discourage potential users from adopting the technology.

Social influences and norms: Social influences and cultural norms impact the acceptance of electric two-wheelers. Peer opinions, social norms, and the influence of influential individuals or organizations can shape individuals' attitudes and behaviors towards electric two-wheelers. Inadequate positive social influences and lack of endorsement may hinder the widespread acceptance of the technology.

Policy and infrastructure support: Government policies, incentives, and infrastructure development play a crucial role in promoting the acceptance of electric two-wheelers. Inadequate charging infrastructure, limited government support, and absence of supportive policies may impede the adoption of electric two-wheelers.

Addressing these challenges is vital to promote the widespread acceptance and adoption of electric two-wheelers. By understanding and mitigating these issues, stakeholders can develop targeted strategies, awareness campaigns, policy interventions, and user-centric designs to overcome the barriers and facilitate the acceptance of electric two-wheelers as a sustainable transportation option.

Objectives of the study

1. To understand the level of awareness of electric two-wheelers
2. To evaluate the perceived benefits of electric two-wheelers among the potential consumer and actual consumer in this segment.
3. To understand the usability and user experience among the users of electric two-wheelers.

Scope of the Study

The study is confined to the users of electric two-wheelers in North Karnataka, to be more specific the study is confined to the city of Belagavi. The reason for the confinement to the city of Belagavi is due the fact that, as per the latest report on the sales of electric two-wheelers by Times of India publication and as per the registration of electric two-wheelers in India, Belagavi city stands at the first position in India. Hence, this is the most ideal situation to understand the users of electric two-wheelers from the perspective of Belagavi city of India. Therefore, this study is confined to the Belagavi city of Karnataka, India.

Hypothesis for the Study

The perceived ease of use and perceived usefulness are important factors that influence the acceptance of electric two-wheelers. The study aims to empirically test these hypotheses to gain insights into the factors driving the acceptance of electric two-wheelers and to provide valuable implications for promoting their adoption and usage.

It is hypothesized that individuals who perceive electric two-wheelers as easy to use and operate (PEOU) will have a higher acceptance of the technology. Additionally, it is hypothesized that this relationship is mediated by the perceived usefulness (PU) of electric two-wheelers. When electric two-wheelers are perceived as both easy to use and useful, potential users are more likely to accept and adopt the technology.

H1: Perceived Ease of Use (PEOU) positively influences the acceptance of electric two-wheelers, and this relationship is mediated by Perceived Usefulness (PU).

Individuals who perceive electric two-wheelers as useful will develop a more positive attitude towards using them. When electric two-wheelers are perceived as beneficial, such as providing environmental advantages, cost savings, and improved mobility, individuals are more likely to develop a favourable attitude towards using electric two-wheelers.

H2: Perceived Usefulness (PU) positively influences individuals' Attitude towards Use of electric two-wheelers.

Individuals who perceive electric two-wheelers as easy to use and operate will develop a more positive attitude towards using them. When electric two-wheelers are perceived as user-friendly, intuitive, and convenient, individuals are more likely to develop a favourable attitude towards using electric two-wheelers.

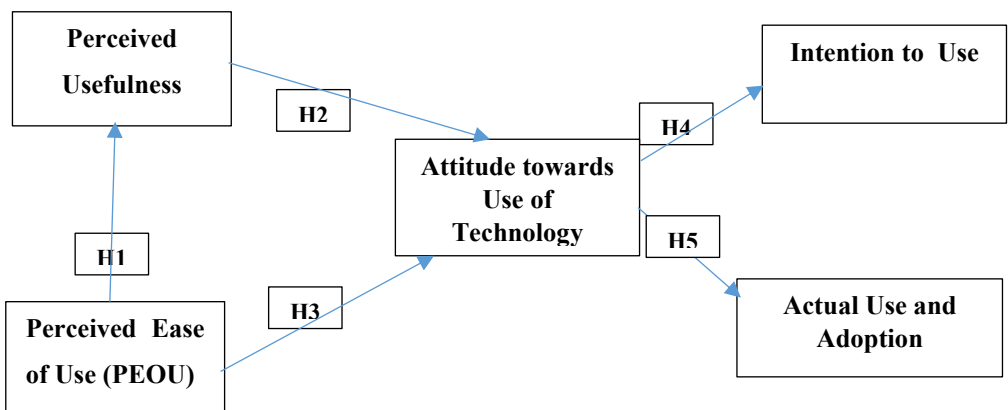
H3: Perceived Ease of Use (PEOU) positively influences individuals' Attitude towards Use of electric two-wheelers.

Individuals who have a more positive attitude towards using electric two-wheelers will have a higher intention to use them. When individuals perceive electric two-wheelers favourably, considering them as beneficial, convenient, and suitable for their needs, they are more likely to express a stronger intention to use electric two-wheelers in the future.

H4: Attitude towards Use of electric two-wheelers positively influences individuals' Intention to Use.

Individuals who have a more positive attitude towards using electric two-wheelers will be more likely to engage in actual use and adopt electric two-wheelers. When individuals perceive electric two-wheelers favourably, considering them as beneficial, convenient, and suitable for their needs, they are more likely to translate their positive attitude into actual use and adoption of the technology.

H5: Attitude towards Use of electric two-wheelers positively influences the Actual Use and Adoption of electric two-wheelers. Figure N0.2



Sampling Plan

The study would adopt simple random sampling method as the data would be collected from sectors of the city. The sectors identify for the study are as under and detail of calculation of the sample from each sector. The total respondents for the study would include 1200 from all the sectors of the study.

1. Colleges both technical and non-technical
2. Industrial sectors of Belagavi
3. Residential/Housing Societies

The above section of the sector includes representation from the all the sectors of the society, namely youth, industry workers and employees and rural users of the electric two-wheelers. Formula for calculation for the sample size is as under;

The sample size for an infinite (unknown) population and for a finite (known) population is given as:

Formulae for Sample Size (SS)

For Infinite Sample Size $SS = [Z^2p(1 - p)] / C^2$

For Finite Sample Size $SS / [1 + \{(SS - 1) / Pop\}]$

Where,

SS = Sample size

Z = Given Z value

p = Percentage of population

C = Confidence level

Pop = Population

Sampling Method used: Simple Random Sampling.

Sample Size: 240

Constructs for the study

The study constructs are developed based on the following aspects, they are as under, 1. Perceived Ease of Use (PEOU), 2. Perceived Usefulness (PU), 3. Attitude towards Use of Technology, 4. Intention to Use and Actual Use and Adoption.

Table 2. Constructs of the study

Sr.No	Main Construct	Sub- Construct	Reference
1	Perceived Ease of Use (PEOU)	<ol style="list-style-type: none"> 1. Learning to operate an electric two-wheeler is easy for me. 2. I find the controls of an electric two-wheeler to be intuitive and user-friendly. 3. I believe that I can quickly become proficient in operating an electric two-wheeler. 4. Using an electric two-wheeler does not require much effort on my part. 5. The features and functions of an electric two-wheeler are easy to understand and use 	Davis, F. D. (1989); Venkatesh, V., & Davis, F. D. (2000).; Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). Legris, P., Ingham, J., & Collerette, P. (2003).; Thompson, E. L., et al. (2020).

2	Perceived Usefulness (PU)	<ol style="list-style-type: none"> 1. Using an electric two-wheeler would enhance my mobility and transportation options. 2. I believe that using an electric two-wheeler would contribute to reducing environmental pollution and carbon emissions. 3. An electric two-wheeler would help me save money on transportation expenses. 4. Using an electric two-wheeler would make my daily commutes more convenient and time-efficient. 5. I believe that an electric two-wheeler would provide a reliable and efficient mode of transportation. 	Venkatesh, V., & Davis, F. D. (2000); Davis, F. D. (1989); Legris, P., Ingham, J., & Collette, P. (2003); Thompson, E. L., et al. (2020); Chen, L. D., Gillenson, M. L., & Sherrell, D. L. (2002)
3	Attitude towards Use of Technology	<ol style="list-style-type: none"> 1. I have a positive attitude towards using electric two-wheelers for my transportation needs. 2. I believe that using electric two-wheelers would greatly benefit my daily commuting experience. 3. I perceive electric two-wheelers as a reliable and effective mode of transportation. 4. I have a favourable opinion about using electric two-wheelers in terms of their impact on the environment. 5. I believe that using electric two-wheelers would positively contribute to my overall quality of life. 	Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003); Chen, L. D., Gillenson, M. L., & Sherrell, D. L. (2002). Legris, P., Ingham, J., & Collette, P. (2003); Davis, F. D. (1989); Thompson, E. L., et al. (2020).
4	Intention to Use	<ol style="list-style-type: none"> 1. I intend to use an electric two-wheeler as my primary mode of transportation in the future. 2. I plan to incorporate the use of electric two-wheelers into my daily commuting routine. 3. I am likely to choose an electric two-wheeler as a preferred mode of transportation over other alternatives. 4. I have a strong intention to actively use electric two-wheelers for my transportation needs. 5. I am committed to adopting and using electric two-wheelers in the near future. 	Venkatesh, V., & Davis, F. D. (2000); Davis, F. D. (1989); Legris, P., Ingham, J., & Collette, P. (2003); Thompson, E. L., et al. (2020); Chen, L. D., Gillenson, M. L., & Sherrell, D. L. (2002)
5	Actual Use and Adoption	<ol style="list-style-type: none"> 1. I have actively used an electric two-wheeler for my 	Venkatesh, V., & Davis, F. D. (2000); Davis, F. D. (1989);

		transportation needs in the past month. 2. I have integrated the use of electric two-wheelers into my regular commuting routine. 3. I have adopted an electric two-wheeler as my preferred mode of transportation over other alternatives. 4. I regularly use an electric two-wheeler for my transportation needs, relying on it as a primary mode of travel. 5. I have embraced and adopted electric two-wheelers as an integral part of my lifestyle and transportation choices	Legris, P., Ingham, J., & Collette, P. (2003); Thompson, E. L., et al. (2020); Chen, L. D., Gillenson, M. L., & Sherrell, D. L. (2002)
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Results for the study

Table 3. Data Collection Chart

Gender	N	%	Designation	N	%
Male	201	83.75	EV User	162	67.5
Female	39	16.25	EV non user	67	27.91
Total	240	100.00	EV Dealer	11	4.583
			Total	240	100.00

Table 4. Parameter Estimates

Means/Intercepts	Estimate	Std Error	Wald Z	Prob> Z
Constant → PU	2.7894737	0.1363511	20.458016	<.0001*
Constant → PEOU	3.0736842	0.1366331	22.495894	<.0001*
Constant → Attitude	1.9695496	0.3368776	5.8464848	<.0001*
Constant → Intention to Use	1.3258427	0.312664	4.240471	<.0001*
Constant → Actual Use and Adoption	1.3820225	0.3080717	4.4860412	<.0001*

Table 5. Regressions

	Estimate	Std Error	Wald Z	Prob> Z
PU → Attitude	0.1409358	0.091149	1.5462136	0.1221
PEOU → Attitude	0.2176192	0.0909608	2.3924496	0.0167*
Attitude → Intention to Use	0.5140449	0.0959863	5.3553967	<.0006*
Attitude → Actual Use and Adoption	0.5962079	0.0945765	6.3039727	<.0007*

Table 6: Structural Equation Modelling

Variiances	Estimat	Std Error	Wald Z	Prob> Z	
PU ↔ Attitude	1.76620	0.256268	6.892	<.0001*	Support
PEOU ↔ Attitude	1.77351	0.257329	6.892	<.0001*	Support
Attitude ↔ Intentions to use	1.26839	0.184037	6.892	<.0008*	Not Supported
Attitude ↔ Actual Use and Adoption	1.24293	0.180343	6.892	<.0005*	Not Supported
Actual Use and Adoption ↔ Actual Use and Adoption	1.20668	0.175085	6.892024	<.0001*	
Adoption	98		4		

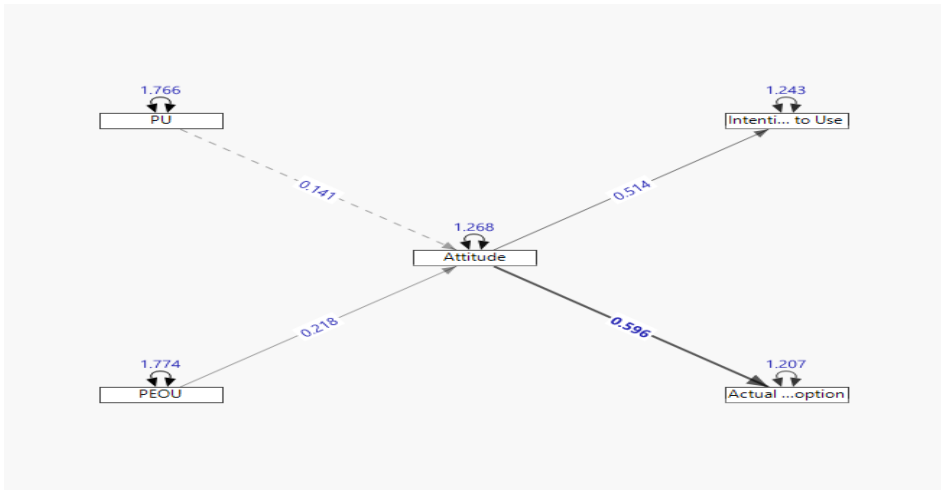


Figure 3

Hypothesis Testing

The hypothesized relationships in the proposed model were tested using a structural model.

We examined the structural model's path coefficients to assess the relationship's direction and strength.

The path from PU (PU) and attitude (Att) was statistically significant (0.141, $p < 0.001$),

The path from (PEOU) to attitude (ATT) was also significant (0.216, $p < 0.001$),

Showing a positive influence of PU on Attitude. The path from (PEOU) to attitude was also statistically significant, exhibiting a positive influence of PEOU on Attitude.

However, Attitude to intention to use is not significant ($p < 0.008$); in the same way path from attitude to actual use and adoption is not significant ($p < 0.008$).

The inference we can draw from the analysed data is that Perceived Usefulness (PU) is showing significant results and consumer's perception towards accepting the Technology of electrical two wheelers in the said sampling frame. The perceived Ease of Ease (PEOU) to Attitude towards Use of Technology is also statistically significant and positive. Consumes

are intending towards use of electrical two wheelers and showing the willingness to adopt the utilisation of Technology.

However, we have initial variables are having positive results but significance for attitude towards intention to use is negative and the same path is continuing towards actual use or adoption, which is not showing the acceptance results.

The analysed data is of an inference that consumer acceptance for the perceived usefulness and Perceived ease of use of Electrical Two wheelers is positive and promising. But parallel to this is acceptance is not allowing the consumer to make a purchase decision since intention to use and active use and adoption is negative.

Conclusion

The study propagates facts that there is a paradigm shift in the usage of electrical vehicles in the said area and has the positive impact on the technological acceptance. Though there is enough awareness about the technology in electrical two wheelers, consumers are showing affinity towards change in the technology and majority of the consumers are resulting into purchase decision. But there is also an observation from the data that there is acceptance by consumers but not getting into purchase decision. This will lead to the analysis of influencing factors and create a way for further research.

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