IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

CONSUMER ADOPTION OF OLA ELECTRIC VEHICLE: EXPLORING CONSUMER BEHAVIOURAL INTENTIONS

G. BHARGAV [1], Dr. H S. ABZAL BASHA [2]

[1]MBA Student, Department of Management Studies,
G. Pullaiah College of Engineering and Technology, Kurnool -518002, Andhra Pradesh, India
[2]Associate Professor, Department of Management Studies,
G. Pullaiah College of Engineering and Technology, Kurnool -518002, Andhra Pradesh, India

Abstract: The increasing emphasis on sustainable transportation has led to a significant rise in the development and adoption of electric vehicles (EVs) worldwide. Among the emerging leaders in this domain, Ola Electric has positioned itself as a key player in India's electric mobility revolution. The present study, titled "Consumer Adoption of Ola Electric Vehicle: Exploring Consumer Behavioural Intentions," aims to analyze the impact of various consumer adoption factors on consumer preference for Ola EVs. This research emphasizes the growing importance of understanding consumer behaviour as a crucial step toward fostering the transition to eco-friendly transportation alternatives. Primary data for the study has been collected through structured questionnaires administered to a diverse group of respondents, including existing and potential users of Ola electric vehicles. The data was analyzed and interpretated using statistical techniques such as descriptive statistics, factor analysis, and regression analysis, primarily using tools like SPSS. The Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of sphericity used to determine sampling adequacy and data suitability for factor analysis. Principal Component Analysis (PCA) will be employed to identify the underlying dimensions influencing consumer behavioural intentions. The present study confirms that Perceived Economic Benefits (PEC), Environmental Concern (EC), and Social Influence (SI) may affect Behavioural Intention (BI) through constitute of Attitude (AT) of individual, but Self Image (SI) has a direct effect on Consumer's adoption of Ola Electric Vehicles in the region.

Index Terms - Consumer Adoption, Perceived Economic Benefits, Environmental Concerns, Social Influence, Self Image, Attitude, Behavioural Intention

I. INTRODUCTION

Consumer adoption of Electric Vehicles (EVs) is a critical factor that influences the success of the EV industry, the pace of technological advancements, and the achievement of global sustainability goals. When consumers choose EVs over traditional internal combustion engine (ICE) vehicles, it signals a shift in market demand, encouraging automakers to invest more in research and development. This leads to continuous improvements in battery technology, energy efficiency, driving range, and overall vehicle performance. As production scales up to meet growing demand, manufacturers benefit from economies of scale, reducing the cost of EVs and making them more affordable for future buyers.

In addition to economic benefits, consumer adoption plays a significant role in environmental sustainability. The transportation sector is one of the largest contributors to greenhouse gas emissions, and a widespread shift to EVs can substantially reduce carbon footprints. EVs produce zero tailpipe emissions, which helps improve air quality in urban areas, leading to better public health outcomes. Furthermore, as renewable energy sources like solar and wind become more integrated into power grids, EVs can be charged using clean energy, further reducing their environmental impact.

CONSUMER BEHAVIOUR INTENTIONS

1. Perception of Economic Benefits

The "Perception of Economic Benefits" from Consumer Behaviour is that when consumers spend money on goods or services, it directly stimulates economic growth by driving production and boosting businesses, essentially acting as a key driver of GDP in economies; when consumers spend less, the economy can slow down, highlighting significant impact of individual purchasing decisions on t overall market.

2. Environmental Concerns

In Consumer Behaviour, "Environmental Concerns" refers to how much a person's worry about environmental issues influences their decision to purchase products or engage in activities that are considered environmentally friendly, essentially acting as a key driver for sustainable consumption choices when making buying decisions.

3. Social Influence

In Consumer Behaviour, "Social Influence" refers to how the opinions, actions, and behaviors of people within a social group can significantly impact an individual's decision to purchase or consume a product, essentially shaping their buying intentions based on the social norms and expectations of their network.

4. Self-Image

In Consumer Behaviour, "Self-Image" refers to how a person perceives themselves, and it significantly influences their purchasing intentions by driving them to choose products and brands that align with their desired self-image, a concept known as self-image congruence essentially, consumers tend to buy products that they believe reflect who they want to be or how they want to be perceived by others.

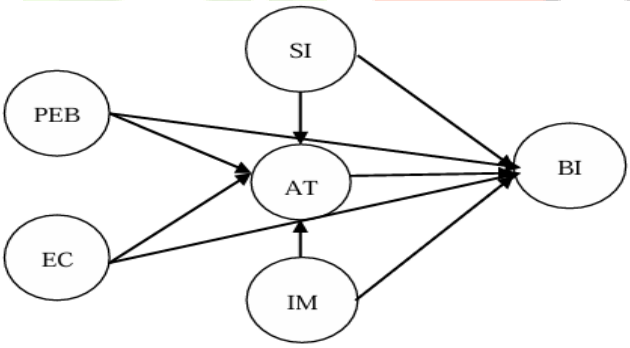
5. Attitude

In Consumer Behaviour, "Attitude" refers to an individuals overall evaluation or emotional response towards a product, brand, service or experience which significantly influences their purchase intentions, meaning a positive attitude towards a product is likely to lead to higher intention to buy it, while a negative attitude would discourage purchase.

6. Behaviour Intentions

In Consumer Behaviour, "Behaviour Intentions" refers to a consumer's planned likelihood or willingness to engage in a specific action related to purchasing or using a product or service. Essentially indicating their intention to behave in a particular wat towards a product or brand in the future.

Figure 1: Adoption of Electric Vehicle Scheme



Source: Abzal Basha H S et al., (2025) Navigating Consumer Adoption Trends for Electric Vehicles in Southern India: A Case Study, International Journal of Engineering Research & Technology, Vol-14, Issue-1, ISSN: 2278-0181

REVIEW OF LITERATURE

H S Abzal Basha et al., (2025)[1]: In their study "Navigating Consumer Adoption Trends for Electric Vehicles in Southern India". This study explores consumer electric vehicle (EV) adoption trends in Southern India, which is characterized by unique cultural, economic, and infrastructural factors by applying mixed approach which unite surveys and interviews with potential consumers.

Dr. S. S. Banwait (2022)[2]: "Electric Vehicle Adoption in India: A Comparative Study of Urban and Rural Consumer Perceptions." This comparative study explores the adoption of electric vehicles in urban and rural areas of India. It investigates factors such as cost, range anxiety, charging infrastructure, and government support. The study highlights the need for customized approaches to address the unique challenges in each context.

Sarmad Zaman Rapier, Johan Albrecht (2020)[3]: Electric mobility offers a low cost of travel along with energy and harmful emissions savings. Nevertheless, a comprehensive literature review is missing for the prospects of electric vehicles in developing countries. Such an overview would be instrumental for policymakers to understand the barriers and opportunities related to different types of electric vehicles (EVs).

Dr. N. Venkata Reddy (2019)[4] : "Consumer Attitudes towards Electric Vehicles: A Comparative Study of Indian and Global Perspectives." This study compares consumer attitudes towards electric vehicles in India with global perspectives. It examines factors such as cost, charging infrastructure, environmental concerns, and technological advancements. The research provides insights into the unique challenges and opportunities in the Indian market.

Dr. M. S. Shunmugam (2018)[5] : "Consumer Perceptions and Preferences of Electric Vehicles: A Study in Urban India." This study investigates the perceptions and preferences of urban Indian consumers towards electric vehicles. It explores factors such as cost, range anxiety, charging infrastructure, and environmental concerns. The research provides insights for policymakers and industry players to address consumer preferences effectively.

STATEMENT OF THE PROBLEM

The exhaustion of fossil fuels and constant hike in fuel prices, there is a need for energy transition in vehicles in India. Govt has taken initiative to fight pollution levels by promoting EVs and giving subsidies on purchase.

The Government and manufacturers should join their hands to build the infrastructure and create positive environment for EVs. The consumers are well aware of global climate conditions and are willing to shift their preference from conventional to green vehicles. However, while considering the purchase of EV, cost is the most important parameter.

Consumers would be willing to consider EV as their future purchasing option if appropriate infrastructure is provided. OLA Electric Vehicles is facing significant challenges in convincing consumers to switch from traditional internal combustion engine vehicles to electric vehicles.

NEED AND SIGNIFICANCE OF THE STUDY

The transition to electric vehicles is crucial for mitigating climate change, improving air quality and enhancing energy security. The Indian government has set a target of having 30% of allnew vehicle sales to be electric by 2030. However, the current adoption rate of electric vehicles is slowly increasing. The electric vehicle market in India is becoming increasingly competitive, with several players entering the market. The Indian government has emphasized the need to reduce greenhouse gas emissions and promote the use of electric vehicles.

This study aims to bridge the knowledge gap by investigating the consumer adoption trends for electric vehicles and provide a competitive advantage for Ola Electric Vehicles by providing them with a deeper understanding of the factors that influence consumer adoption of their products and enabling them to develop effective strategies to increase their market share.

SCOPE OF THE STUDY

The scope of this study was to investigate the factors that influence consumer adoption of Ola Electric Vehicles in Kurnool City. Furthermore, the study has under taken to assess trends of consumer behaviour, preferences and perceptions regarding electric vehicles in this region to explore the reality of consumer adoption.

Particular, the study is emphasizes on to explore role of Perceived Economic Benefits (PEB),Environment Concerns (EC), Social Influence (SI), Self-Image (IM), Attitude (ATT) and Behavioural Intentions (BI).

OBJECTIVES OF THE STUDY

1. To study the concept of consumer adoption and electric vehicles.
2. To examine socio-economic profile of select OLA consumer in Kurnool City.
3. To identify the key factors that constitutes consumer adoption of OLA EV’s.
4. To analyse the impact of consumer adoption factors of EV on consumer preference.

HYPOTHESIS

H_1: There is a significant relation between Consumer's Perceived Economic Benefit and Behaviour Intention in adoption of an EV.

H_2: There is a significant relation between Consumer's Environmental Concern and Behaviour Intention in adoption of an EV.

H_3: There is a significant relation between Consumer's Social Influence and Behaviour Intention in adoption of an EV.

H_4: There is a significant relation between Consumer's Self Image and Behaviour Intention in adoption of an EV.

H_5: There is a significant relation between Consumer's Attitude and Behaviour Intention in adoption of an EV.

H_6: There is a significant relation between Consumer's Attitude, Perceived Economic and Behaviour Intention in adoption of an EV.

H_7: There is a significant relation between Consumer's Attitude, Environmental Concern and Behaviour Intention in adoption of an EV.

H_8: There is a significant relation between Consumer's Attitude, Social Influence, and Behaviour Intention in adoption of an EV.

H_9: There is a significant relation between Consumer's Attitude, Self Image, and Behavior Intention in adoption of an EV.

RESEARCH METHODOLOGY

The descriptive research method was adopted to describe the present scenario of Consumer Adoption of Ola EV's, Kurnool. Both Primary and Secondary data was gathered for the present study. The convenience sampling method was applied to collect the data and the sample Size is 236. Primary data was collected through constructed questionnaire which includes to examine the factors that influence the Consumer Adoption of Ola EV's and Socioeconomic profile of respondents. The Secondary data was collected through Books, Journals, websites and Articles related to Consumer Adoption of Ola EV's. The collected data was interpreted with the help of SPSS package meant for social science. The specific tools employed were, Descriptive statistics, Reliability test, Factor Analysis.

RESULTS AND DISCUSSION

Table No. 1: Reliability Statistics

Reliability Statistics	
Cronbach's Alpha	**N of Items**
.912	21

Source: Primary Data

The above table 1 also shows Cronbach's Alpha, which is a measure of internal consistency for a set of related variables. In this case, Cronbach's Alpha is .912, which indicates excellent internal consistency.

Table No. 2: Descriptive analysis of demographic factors of the respondents

Demographic Aspects		**Details of the Respondents**	
		No. of Respondents	**Percentage (%)**
Age	20-30 years	86	36.4
	31-40 years	98	41.5
	41-50 years	46	19.5
	51 years and above	6	2.5
	Total	**236**	**100.0**
Gender	Male	152	64.4
	Female	84	35.6
	Total	**236**	**100.0**
Educational Qualification	SSC/Inter	60	25.4
	Under Graduation	72	30.5
	Post Graduation	70	29.7
	Professional	34	14.4
	Total	**236**	**100.0**
Occupation	Student	42	17.8
	Farmer	32	13.6
	Business	64	27.1
	Private Employee	68	28.8

	Government Employee	30	12.7
	Total	**236**	**100.0**
Income	Less than 2 Lakh	56	23.7
	2-4 Lakh	63	26.7
	4-6 Lakh	65	27.5
	6-8 Lakh	42	17.8
	Above 8 Lakh	10	4.2
	Total	**236**	**100.0**

Source: Primary Data

The above table 2 shows that the results of a survey of 236 people. It breaks down the results by age, gender, occupation, and income level.

- ✓ **Age:** The largest group of respondents was between 31-40 years old (98 or 41.5%). The fewest respondents were 51 years and above (6 or 2.5%).
- ✓ **Gender: Most** of the respondents were male (152 or 64.4%). Only 84 respondents (35.6%) were female.
- ✓ **Educational Qualification:** Most of the respondents were Under Graduation (72 or 30.5%). The fewest respondents were Professional (34 or 14.4%).
- ✓ **Occupation:** Most of the respondents were Private Employees (68 or 28.8%). The fewest respondents were Government Employees (30 or12.7%).
- ✓ **Income:** Most of the respondents had an income level of 4-6 lakh (65 or 27.5%). Only a small number of respondents had an income level of above 8 lakh (10 or 4.2%).

FACTOR ANALYSIS

Table 3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.856
Bartlett's Test of Sphericity	Approx. Chi-Square	2788.393
	df	210
	Sig.	.000

Source: Primary Data Analysis

The above table 3 represents the KMO value is 0.856, which is considered great and indicates that the dataset is suitable for factor analysis. Degree of freedom represents the number of independent values used in the test. Since the p-value is less than 0.05, it indicates that the correlation between variables is significant.

Table 4: Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squares loadings			Rotation Sums of Squared Loadings		
	Total	%of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.894	37.591	37.591	7.894	37.591	37.591	3.350	15.953	15.953
2	2.097	9.985	47.576	2.097	9.985	47.576	2.794	13.306	29.259
3	1.1733	8.251	55.827	1.733	8.251	55.827	2.790	13.288	42.547
4	1.362	6.484	62.310	1.362	6.484	62.310	2.289	10.900	53.446
5	1.128	5.370	67.680	1.128	5.370	67.680	2.000	9.524	62.970
6	1.089	4.243	71.923	1.089	4.243	71.923	1.880	8.953	71.923

Method: Principal Component Analysis

The table 4 presents the results of a Principal Component Analysis (PCA), highlighting the total variance explained by each of the extracted components. Based on the Initial Eigenvalues, six components have eigenvalues greater than 1, indicating that they are significant and should be retained according to the Kaiser Criterion. These six components together account for 71.923% of the total variance in the dataset, which is a strong cumulative variance.

Table 5: Factor Loading

S.No	Measured Indicator	Construct Factor	Factor Loading
	Perception of Economic Benefits		
1	I will save money on petrol because the operational costs of an electric vehicle are expected to be lower.	PEB	.759
2	Maintenance costs for an electric vehicle will be reduced.	PEB	.753
3	Due to Government subsidies, purchasing an electric vehicle will be less expensive overall.	PEB	.734
4	I am well aware of the financial benefits that come with having an electric vehicle.	PEB	.668
	Environment concerns		
5	Wish to adopt an electric vehicle due of the increased air pollution.	EC	.828
6	Electric vehicles can help the environment and save the future generation.	EC	.536
7	I am familiar with the environmental benefits offered by electric vehicles.	EC	.700
8	I wish to save the environment by choosing an electric vehicle over a regular vehicle.	EC	.802
	Social Influence		
9	Public will respond positively when they see an electric vehicle on the road.	SI	.664
10	If my friends and relatives embrace electric vehicles, I believe I will be more likely to do so as well.	SI	.635
11	People whose opinions are significant to me think electric automobiles are good.	SI	.698
12	Owning an electric vehicle would be a status symbol for me.	SI	.733
	Self-Image		
13	Having an electric vehicle suits my way of life.	IM	.661
14	My driving style will be a representation of who I am.	IM	.805
15	Environmentally conscious people will choose an electric vehicle.	IM	.683
16	My knowledge about electric vehicle will improve my reputation.	IM	.649
	Attitude		
17	I have a strong preference to convert to an electric vehicle.	ATT	.830
18	Using an electric vehicle rather than a traditional vehicle makes sense.	ATT	.829
19	Utilizing an electric vehicle will be a sensible move.	ATT	.721
	Behavioural Intentions		
20	I would like to promote electric vehicles to other people.	BI	.861
21	Without a doubt, I would like to switch to an electric car.	BI	.923

Source: Primary Data Analysis

Method: Principal Component Analysis

Figure 2: Confirmatory Factor Analysis

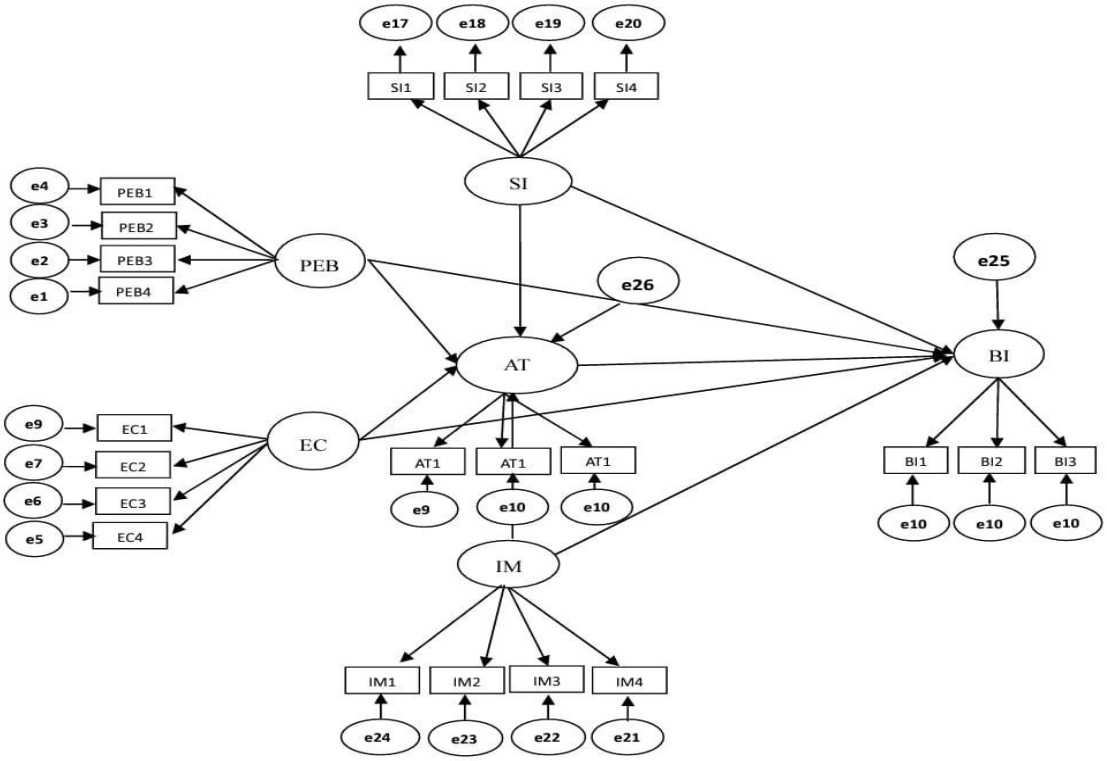


Table 6: Hypothesis Test

Hypothesis No	Construct	SRW	Significance	Result
1	BI-PEB	.282	.000	Significant
2	BI-EC	.264	.000	Significant
3	BI-SI	.247	.000	Significant
4	BI-IM	.195	.000	Significant
5	BI-ATT	.332	.000	Significant
6	AT-PEB	.465	.000	Significant
7	AT-EC	.418	.000	Significant
8	AT-SI	.444	.000	Significant
9	AT-IM	.515	.000	Significant

Source: Primary Data Analysis

Note: Standardized Regression Weight

The above table 6 suggests that there are statistically significant relationships between Perception of Economic Benefits (PEB), Environmental Concerns (EC), Social Influence (SI) Self Image (IM), Attitude (ATT) and Behavioural Intentions (BI). AT-IM (Attitude and Self Image) has the highest SRW (.515), suggesting a strong relationship between attitude and self-image.BI-IM(Behavioural Intention and Self Image) has the lowest SRW (.195), though it is still statistically significant, indicating a weaker but still valid relationship.

CONCLUSION

The study highlights a strong inclination among consumers, particularly well-educated individuals towards adopting electric vehicles, especially Ola Electric. They believe EVs offer savings on fuel, reduced maintenance costs, and affordability through government subsidies.

This research indicates a generally positive perception of electric vehicles, with many respondents viewing them as a logical, practical, and future-ready choice. The willingness to promote and adopt electric vehicles

further supports the growing consumer readiness and favourable behavioural intentions towards Ola Electric and similar sustainable mobility solutions.

The present study confirms that Perceived Economic Benefits (PEC), Environmental Concern (EC), and Social Influence (SI) may affect Behavioural Intention (BI) through constitute of Attitude (AT) of individual, but Self Image (SI) has a direct effect on Consumer's adoption of Ola Electric Vehicles in the region.

REFERENCE

1. Dr H S Abzal Basha et al., (2025). " Navigating Consumer Adoption Trends for Electric Vehicles in Southern India." International Journal of Engineering Research & Technology (IJERT). ISSN: 2278-018.
2. Dr S.S.Banwait (2022). "Electric Vehicle Adoption in India : A Comparative Study of Urban and Rural Consumer Perceptions." International Journal of Environmental Economics, Commerce and Educational Management. ISSN : 2348-814X https://doi.org/10.36713/epra14340
3. Sarmad Zaman Rapier, Johan Albrecht (2020). "A Study on the Adoption of Electric Vehicles in India."
4. Dr N.Venkata Reddy (2019). "Consumer Attitudes towards Electric Vehicles : A Comparative Study of Indian and Global Perspectives". International Journal of Environmental Economics, Commerce and Educational Management. ISSN : 2348-814X.https://doi.org/10.36713/epra14340
5. Dr M.S.Shunmugam (2018). "Consumer Perceptions and Preferences of Electric Vehicles : A Study in Urban India". International Journal of Environmental Economics, Commerce and Educational Management. ISSN : 2348-814X https://doi.org/10.36713/epra14340
6. Masurali.A, Surya.P (2016). "A Study on the Consumers Preference Towards Electric Vehicles With Special Reference to Cochin Corporation".
7. Dr M.R.Rao (2017). "Consumer Perception of Electric Vehicles : A Comparative Study". International Journal of Environmental Economics, Commerce and Educational Management. ISSN : 2348-814X https://doi.org/10.36713/epra14340
8. Fanchao liao, Eric Molin, Bert Van Wee (2017). "A Study on the Adoption of Electric Vehicles in India."
9. Liao (2017). "Impact of Government Policies on the Adoption of Electric Vehicles in India."
10. Dr A.K.Jha (2017). "Electric Vehicles : Opportunities and Challenges for Indian Automotive Industry". International Journal of Environmental Economics, Commerce and Educational Management. ISSN : 2348-814X https://doi.org/10.36713/epra14340
11. Dr P.N.Ramachandra Pillai (2016). "Consumer Perception and Adoption of Electric Vehicles : A Review". International Journal of Environmental Economics, Commerce and Educational Management. ISSN : 2348-814X https://doi.org/10.36713/epra14340
12. Dr P.R.Vittal (2016). "Perceptions and Preferences of Electric Vehicle Users : A Study in Urban India". International Journal of Environmental Economics, Commerce and Educational Management. ISSN : 2348-814X https://doi.org/10.36713/epra14340
13. Rezvani, Janson and Bodin (2015). "Electric Vehicles in India : An Analysis of the Drivers, Challenges and Opportunities".
14. Hoyer (2008). "Electric Vehicle Adoption in India : Challenges and Opportunities".
15. Jayashree S and B.G.Fernandez (2007). "An Overview of Electric Vehicles and Their Charging Infrastructure in India".
16. Krishnaswami, O. R., & Ranganatham, M. (2005). Methodology of research in social sciences. [ISBN 81-8318-454-5].