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A study on Consumer Buying Behaviour towards Electric Vehicle

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Abstract
The study will focus on customer demand for electronic vehicles, including the impact of consumer innovation and concerns about the functional capabilities of electronic vehicles on their preferences. A conceptual framework is developed and executed that includes measures of innovativeness at the adoption level, as well as an assessment of technology ownership and a set of psychological and social variables. With the continued depletion of fossil fuels and rising prices, an alternative to powering automobiles is required. India's automobile industry is introducing electric vehicles as a solution for both the industry and the environment. Despite the government's implementation of electronic vehicle rules, the current market penetration of electronic vehicles is extremely low. This research will look at consumer purchasing behaviour and views of electric automobiles in India. The research will use both primary and secondary data. The data will be collected by a questionnaire and a small market survey. The data collection will focus on two-wheeler OEM dealers, students, and working personnel. The end users will come from tier 1 and tier 2 cities.

Objective of the study
- To understand the buying behaviour of consumers towards electric vehicles.
- To recognize the important parameters affecting consumers' vehicle purchasing decisions.

Keywords: - Electronic vehicles, buying behaviour.

Introduction
Electric vehicles have minimal operating expenses due to fewer moving parts to maintain, and they are also extremely environmentally friendly because they consume little to no fossil fuels (petrol or diesel). While some electric vehicles employed lead-acid or nickel-metal hydride batteries, lithium-ion batteries have become the industry standard due to their longer lifespan and superior energy retention, with a monthly self-discharge rate of under 5%. Despite their increased efficiency, these batteries are still susceptible to thermal runaway, which has resulted in fires or explosions in the Tesla Model S, despite efforts to improve battery safety.
Consumer buying behaviour refers to the actions that customers take prior to purchasing a product or service. This could include things like using search engines, responding to social media posts, and a variety of other actions. Understanding this process benefits organizations by allowing them to better align their marketing efforts with previous marketing campaigns that have effectively influenced people to buy.

Factors of influencing Customer Buying behaviour
- Cultural Factors - A person's culture is not defined just by their nationality. It might be determined by their religious beliefs, associations, or even geographical area.
- Social Factors - Aspects of a person's surroundings that have an impact on their product views.
- Personal Variables - Personal factors include age, marital status, budget, personal ideas, values, and morals.
- Psychological Factors - When a person is faced with a product, their mental state often impacts how they feel about the product and the brand as a whole.

Anable and Morton focused on understanding customer responses to EVs by determining whether consumer innovativeness correlates with professed preference for EVs. He defined consumer innovativeness as a person's intrinsic and demonstrated propensity to accept new products with different or more complex features and functionalities. Electric vehicles have quite different technical characteristics than vehicles powered by internal combustion engines.
According to Kalra (2022), 63 percent of consumers believe that an EV is out of their price range; capital costs have always been a major consideration in EV purchasing decisions. Our country's lack of sufficient charging infrastructure is a significant barrier to increased EV adoption. However, significant OEMs are also preparing to enter the EV component sector in order to reduce reliance on imports and meet the government's 50% localization requirement for government subsidies. However, he also mentioned that a comprehensive infrastructure that is affordable, accessible,

and supports all consumer groups, as well as a stable financial environment, government incentives, and technological advancements, are expected to position the electric vehicle industry for significant growth over the next decade.

Methodology

The study's objectives were to better understand the respondent's purchasing behavior toward electronic vehicles. The questionnaire was designed with potential customers' preferences and dislikes in mind, as well as their willingness to switch to an electric car.

Data Analysis and Interpretation

- **Weather the respondent is willing to switch to an electronic vehicle or not and the reason**

Sr. No.	Buying EV	Frequency	Percentage
1	I will definitely buy one	8	8%
2	Am likely to buy one	45	45%
3	Am considering buying one but need convincing	30	30%
4	Unlikely to buy one	8	8%
5	Definitely won't buy one	4	4%
6	Don't know	5	5%
	Total	100	100%

Source: Fieldwork

In above Table, the respondent was divided into 6 groups based on the interest to buy an electronic vehicle. Out of 100 respondents, 8 respondents (8%) were definitely going to buy one, 45 respondent (45%) were likely to buy one, 30 respondents (30%) were considering to buy but need some convincing, 8 respondents (8%) were unlikely to buy, 4 respondents (4%) were definitely not going to buy and 8 respondents (8%) were not knowing whether they are going to buy it or not.

- **Reason for willing to switch to an EV**

Sr. No.	**Reason**	**Frequency**	**Percentage**
1	Increased price of bikes	20	20%
2	Petrol price hikes	66	66%
3	To protect the environment	60	60%
4	Less pollution and less noisy	55	55%
	Total		

Source: Fieldwork

In above table, the respondent was having multiple choice to select the reason for willing for switching to an EV. Out of 100 respondents, 20 of the respondents (20%) chose Increased price of bikes, 66 of the respondents (66%) chose Petrol price hikes, 60 of the respondents (60%) chose to protect the environment and 55 of the respondents (55%) chose Less pollution and less noisy.

Conclusion

The majority of people who are considering purchasing an electric vehicle are concerned about pollution created by internal combustion engines and wish to protect the environment. Petrol price increases are also a source of concern for them, which is one of the primary reasons they want to switch to electric vehicles. There is also a dearth of customer awareness regarding electric vehicles. Better infrastructure, awareness campaigns, and promotional activities for electric vehicles would undoubtedly assist this industry into the Indian automobile market.

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