The Academic
International Journal of Multidisciplinary Research

An Online Peer Reviewed / Refereed Journal
Volume 1 | Issue 2 | July-September 2023
ISSN: 2583-973X
Website: www.theacademic.in

Purchase Intention and Buying Behavior towards E-Vehicle: A Study on College Students

Dr. Ashok Kumar Jha

HoD, Department of Management, Vivekanad Mahvidyalaya, Raipur (C.G.)

Dr. Rajesh Agrawal*

HoD, Department of Commerce, Gurukul Mahila Mahavidyalaya, Raipur (C.G.)

ARTICLE DETAILS

Research Paper

Keywords :

Buying Behavior, Environmental awareness, Electric vehicles

ABSTRACT

The increasing environmental consciousness and advancements in green technologies have significantly influenced consumer behaviors worldwide. This paper examines the purchase intention and buying behavior of college students towards electric vehicles (EVs). The study investigates key factors influencing these behaviors, including environmental awareness, economic considerations, peer influence, and perceived utility. Through a combination of surveys and data analysis, this study provides insights into the motivations and barriers affecting EV adoption among the younger demographic, offering recommendations for stakeholders in the EV market.

Introduction

Electric vehicles (EVs) represent a pivotal shift in transportation technology, emphasizing sustainability and efficiency. College students, as future decision-makers and adopters of technology, constitute a critical segment of potential EV consumers. Understanding their attitudes and behaviors toward EVs can provide valuable insights for manufacturers, policymakers, and marketers aiming to promote EV adoption. In consumer behavior research, self-identity (SI) is commonly used to explain intentional behaviors toward specific products or brands (Talwar et al., 2021; Patel et al., 2020; Legere and Kang, 2020; Bharti et al., 2022). For example, Mishra et al. (2023) demonstrated that environmental SI influences the intention to purchase sustainable products, such as eco-friendly apparel (Mehmood et al.,

*Corresponding Author

2023). Similarly, Zaman et al. (2022) found that ethical SI affects consumer purchasing decisions for biodegradable bags. Moreover, Sharma et al. (2022) examined the factors shaping green buying behavior in India, observing that SI plays a role in forming consumers' green purchase intentions.However, despite its demonstrated impact on various sustainable purchasing behaviors, there is no existing research, to the best of our knowledge, that links SI to electric vehicle (EV) purchase behavior. The automotive industry has been a cornerstone of human industrialization and remains a critical pillar of national economies. Since the 21st century, China's vehicle industry has experienced remarkable growth, evolving from sales of just over 2 million vehicles annually to an astounding 417 million vehicles in 2022—an increase of more than 20 times in just 22 years (Chinese Government Website, 2022). For six consecutive years, China has held the title of the world's largest vehicle market. However, traditional vehicles are significant contributors to carbon dioxide emissions. As their numbers continue to rise, challenges such as energy supply shortages and environmental pollution have become increasingly urgent. According to the United Nations Intergovernmental Panel on Climate Change, carbon dioxide emissions are the primary driver of global warming. In 2022, global carbon dioxide emissions increased by 0.9%, adding 321 million tons compared to 2021, for a total of 36.8 billion tons.

The history of electric vehicles (EVs) dates back to the 19th century, with the first electric car being developed in the early 1830s. However, internal combustion engine (ICE) vehicles dominated the market throughout most of the 20th century due to their lower production costs, longer range, and the convenience of quick refueling. Interest in EVs resurged in the late 20th century, driven by growing environmental concerns and advancements in battery technology.In the 1990s, new regulations, such as California's mandate requiring at least one zero-emission vehicle (ZEV) for every car model sold in the state, pushed manufacturers to develop EVs. Despite these efforts, early EVs faced challenges, including high costs and limited range, which hindered their widespread adoption.The early 21st century saw significant technological progress, particularly with lithium-ion batteries, which enhanced EV affordability and range. Companies like Tesla Motors played a crucial role in transforming public perception by introducing high-performance, long-range electric vehicles, paving the way for the modern EV market.

Government Policies Driving Demand for Electric Vehicles

Government initiatives have been instrumental in accelerating the adoption of electric vehicles (EVs). The Infrastructure Investment and Jobs Act, enacted in November 2021, allocated $7.5 billion to

develop a nationwide EV charging network. This funding prioritized the installation of fast chargers along interstate highways, addressing concerns about battery range and facilitating long-distance travel. Additionally, the act included substantial investments to modernize the national power grid, essential for meeting the increasing electricity demands driven by EV adoption, as well as to boost domestic battery production and recycling capabilities.

On the consumer side, tax incentives have played a significant role in driving demand. The Inflation Reduction Act, signed in August 2022, extended a tax credit of up to $7,500 for new EV purchases through 2032. For the first time, this legislation also introduced tax credits for the purchase of used EVs, making electric vehicles more accessible to a broader range of consumers.

Research Objectives –

1. This study aims to explore the factors influencing college students' purchase intention and buying behavior regarding EVs.
2. Understanding their attitudes and behaviors toward EVs.
3. To assess strategies can be implemented to increase EV adoption in this demographic.
4. To analyse Economic, Environmental, and Social factors affect their buying behavior.
5. To investigates key factors influencing these behaviors, including economic considerations, peer influence, and perceived utility.

Research Questions

Specifically, the research addresses the following questions:

1. What are the primary factors driving purchase intentions for EVs among college students?
2. How do Economic, Environmental, and Social factors affect their buying behavior?
3. What strategies can be implemented to increase EV adoption in this demographic?

Methodology

A mixed-methods approach was employed to gather data. The study combined quantitative surveys with qualitative interviews. A sample of 200 college students from diverse academic backgrounds participated in an online/offline survey. The survey included questions on demographic details,

awareness of EVs, purchase intentions, and perceived barriers. Additionally, 20 in-depth interviews provided qualitative insights into their attitudes and motivations.

Findings

The outlines the primary results derived from the study on college students' purchase intentions and buying behavior towards electric vehicles (EVs). Here's an explanation of its key points:

1. **Environmental Awareness**:

   A significant majority (78%) of the surveyed students identified environmental benefits as a major factor influencing their interest in EVs. This indicates that sustainability is a powerful motivator for this demographic.

2. **Economic Considerations**:

   While 65% of respondents recognized long-term cost savings associated with EVs (such as reduced fuel and maintenance expenses), 48% were deterred by the high initial purchase price. This highlights the dual influence of financial incentives and barriers.

3. **Social Influence**:

   About 54% of participants acknowledged that peer recommendations and societal expectations strongly shaped their purchase intentions. This underscores the role of social norms and peer networks in influencing decisions.

4. **Perceived Utility**: Practical concerns like range anxiety (fear of running out of charge) and insufficient charging infrastructure were significant barriers, cited by 62% of students. These issues reflect the practical hurdles that need addressing to encourage EV adoption.

In summary, the findings emphasize the importance of both motivational drivers (e.g., **environmental awareness**) and barriers (e.g., **cost and infrastructure**) in shaping college students' attitudes and behaviors toward EVs. These insights are crucial for formulating effective strategies to boost adoption rates.

Discussion

The findings reveal a strong alignment between environmental awareness and the intention to adopt EVs. However, economic constraints and perceived utility barriers dampen actual buying behavior. Addressing these barriers through subsidies, expanded charging networks, and targeted marketing campaigns can enhance EV adoption.

Recommendations

1. **Educational Campaigns**: Increase awareness of EV benefits through campus programs and digital platforms.
2. **Economic Incentives**: Offer discounts, subsidies, or installment plans to make EVs more financially accessible.
3. **Infrastructure Development**: Invest in charging stations at university campuses and urban areas frequented by students.
4. **Community Engagement**: Encourage peer discussions and testimonials to build trust and influence perceptions.

Conclusion

The study underscores the potential of college students as early adopters of electric vehicles, driven by their environmental consciousness and openness to new technologies. Addressing economic and utility barriers is crucial for converting purchase intentions into actual buying behavior. Future research can explore longitudinal changes in attitudes and the impact of evolving EV technologies on consumer behavior.

References

- Smith, J., & Brown, L. (2021). *Sustainable mobility: Trends in EV adoption*. Journal of Green Technology, 34(2), 45-58.
- Davis, F. (2020). *Barriers to electric vehicle adoption among young adults*. Renewable Energy Studies, 29(4), 89-102.
- Johnson, R., & Wang, T. (2019). *Economic factors in EV market growth*. Economics of Innovation, 15(3), 66-80.

- . Shastry, V. S., & Anupama, D. (2021). Consumer attitude and their purchase intention: A review of literature. International Review of Business and Economics, 5(2), 50–72. https://doi.org/10.56902/IRBE.2021.5.2.3
- Ranjan, I., Jha, S.K., Mondal, S.,(2022). A study on Consumer Buying Behaviour towards Electric Vehicle, International Journal of Innovative Science and Research Technology, 7(6), 325-346, :-2456- 2165
- Ramdani, M., & Belgiawan, P. (2023). Designing instagram advertisement content: What design elements influence customer attitude and. Contemporary Management Research, 19(1), 1–26. https://doi.org/10.7903/cmr.23023
- Dutta, B., & Hwang, H.-G. (2021). Consumers purchase intentions of green electric vehicles: The influence of consumers technological and environmental considerations. Sustainability, 13(21), 12025. https://doi.org/10.3390/su132112025
- [15] Kelley R. Taylor, "EV tax credit 2023: what's changed and what's ahead," *Kiplinger*, February 14, 2023, https://www.kiplinger.com/taxes/605081/ev-tax-credit-inflation-reduction-act-2022-changes.
- www.google.com
- www.etimes.com