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# CONSUMER INTENTION TOWARDS PURCHASE OF ELECTRIC VEHICLES: ARE WE READY TO SWITCH TO ELECTRIC VEHICLES?

Paras Bampal\*; Vaishali\*\*

\*Researcher, School of Management, Doon University Dehradun, INDIA Email id: bampal.paras@gmail.com

\*\*Researcher, School of Management, Doon University Dehradun, INDIA

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#### **ABSTRACT:**

The increase in the pollution and availability of limited fossil fuel has urged towards the adoption of renewable source of energy for automobile sector. Electric vehicles are considered as the suitable fit for succeeding the conventional mode of conveyance. The study aims toward the analysis of the electric vehicle market and the behaviour of the people towards it. This abstract presents an overview of consumer behaviour towards electric vehicles, incorporating references from key research studies. The study constitutes of online survey of 325 respondents. The study was based on PLS SEM and Smart PLS was used for the analysis of the data for hypotheses testing. The result showed that attitude, subjective norms and perceived behaviour control had positive correlations with intention to use the electric vehicles. The study tries to understand the perception of the people towards electric vehicles. As, the world is focussing on reducing the impact of global warming and climate change, the role and essence of Electric vehicles in reducing the global emissions and providing cleaner mobility is considered significant for sustainable development.

**KEYWORDS**: Electric Vehicles, Sustainable Development, Emission.

#### **REFERENCES**

Ab Hamid, M. R., Sami, W., &Sidek, M. M. (2017, September). Discriminant validity assessment: Use of Fornell&Larcker criterion versus HTMT criterion. In Journal of Physics: Conference Series (Vol. 890, No. 1, p. 012163). IOP Publishing.

Ajzen, I. (1991). The theory of planned behavior. Organizational behavior and human decision processes, 50(2), 179-211.

Ajzen, I. (2020). The theory of planned behavior: Frequently asked questions. *Human Behavior and Emerging Technologies*, 2(4), 314-324.

Ajzen, I., &Fishbein, M. (2008). Scaling and testing multiplicative combinations in the expectancy–value model of attitudes. *Journal of applied social psychology*, 38(9), 2222-2247.

ISSN: 2249-7315 Vol. 13, Issue 8, August 2023 SJIF 2022 = 8.625 A peer reviewed journal

- Al Haddad, C., Chaniotakis, E., Straubinger, A., Plötner, K., & Antoniou, C. (2020). Factors affecting the adoption and use of urban air mobility. *Transportation research part A: policy and practice*, 132, 696-712.
- Alzahrani, K., Hall-Phillips, A., &Zeng, A. Z. (2019). Applying the theory of reasoned action to understanding consumers' intention to adopt hybrid electric vehicles in Saudi Arabia. *Transportation*, 46, 199-215.
- Atri, J. K., Chong, W. K., &Askari, M. (2022, October). Purchase Intention Towards Electric Vehicles in India: A Theory of Planned Behavior Perspective. In *HCI International 2022–Late Breaking Papers: HCI for Today's Community and Economy: 24th International Conference on Human-Computer Interaction, HCII 2022, Virtual Event, June 26–July 1, 2022, Proceedings* (pp. 429-439). Cham: Springer Nature Switzerland.
- Choi, D., & Johnson, K. K. (2019). Influences of environmental and hedonic motivations on intention to purchase green products: An extension of the theory of planned behavior. Sustainable Production and Consumption, 18, 145-155.
- Degirmenci, K., &Breitner, M. H. (2017). Consumer purchase intentions for electric vehicles: Is green more important than price and range?. *Transportation Research Part D: Transport and Environment*, 51, 250-260.
- Egbue, O., & Long, S. (2012). Barriers to widespread adoption of electric vehicles: An analysis of consumer attitudes and perceptions. *Energy policy*, 48, 717-729.
- Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G\* Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. Behavior research methods, 39(2), 175-191.
- Fornell, C., &Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics.
- Gallagher, K. S., &Muehlegger, E. (2011). Giving green to get green? Incentives and consumer adoption of hybrid vehicle technology. *Journal of Environmental Economics and management*, 61(1), 1-15.
- Gold, A. H., Malhotra, A., &Segars, A. H. (2001). Knowledge management: An organizational capabilities perspective. Journal of management information systems, 18(1), 185-214.
- Gopi, M., &Ramayah, T. (2007). Applicability of theory of planned behavior in predicting intention to trade online: Some evidence from a developing country. International Journal of Emerging Markets, 2(4), 348-360.
- Hair, J. F., Risher, J. J., Sarstedt, M., &Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European business review*, *31*(1), 2-24.
- Ham, M., Jeger, M., &FrajmanIvković, A. (2015). The role of subjective norms in forming the intention to purchase green food. Economic research-Ekonomskaistraživanja, 28(1), 738-748.
- Haustein, S., & Jensen, A. F. (2018). Factors of electric vehicle adoption: A comparison of conventional and electric car users based on an extended theory of planned behavior. *International Journal of Sustainable Transportation*, 12(7), 484-496.
- He, X., Zhan, W., & Hu, Y. (2018). Consumer purchase intention of electric vehicles in China: The roles of perception and personality. *Journal of Cleaner Production*, 204, 1060-1069.

ISSN: 2249-7315 Vol. 13, Issue 8, August 2023 SJIF 2022 = 8.625 A peer reviewed journal

Henseler, J., Ringle, C. M., &Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, 43, 115-135.

International Energy Agency. (2021). Policy measures to promote electric vehicles: An overview. Retrieved from https://www.iea.org/topics/electric-vehicles/policy-measures-to-promote-electric-vehicles

Jansson, J., Pettersson, T., Mannberg, A., Brännlund, R., & Lindgren, U. (2017). Adoption of alternative fuel vehicles: Influence from neighbors, family and coworkers. Transportation Research Part D: Transport and Environment, 54, 61-73.

Kline, R. B. (2015). Principles and practice of structural equation modeling: Guilford publications. *Principles and practice of structural equation modeling: Guilford publications*.

Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach.

International Journal of E-Collaboration, 11(4), 1–10

Krupa, J. S., Rizzo, D. M., Eppstein, M. J., Lanute, D. B., Gaalema, D. E., Lakkaraju, K., &Warrender, C. E. (2014). Analysis of a consumer survey on plug-in hybrid electric vehicles. *Transportation Research Part A: Policy and Practice*, 64, 14-31.

Lieven, T. (2015). Policy measures to promote electric mobility—A global perspective. *Transportation Research Part A: Policy and Practice*, 82, 78-93.

Ministry of Heavy Industries. (2023, March 28). Three schemes launched and several steps taken by the Centre to promote adoption of electric vehicles in India. <a href="https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1911399">https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1911399</a>

Mohamed, M., Higgins, C., Ferguson, M., &Kanaroglou, P. (2016). Identifying and characterizing potential electric vehicle adopters in Canada: A two-stage modelling approach. Transport Policy, 52, 100-112.

Moon, S. J. (2020). Integrating diffusion of innovations and theory of planned behavior to predict intention to adopt electric vehicles. *Int. J. Bus. Manage*, 15(11), 88-103.

Ng, M., Law, M., & Zhang, S. (2018). Predicting purchase intention of electric vehicles in Hong Kong. *Australasian Marketing Journal (AMJ)*, 26(3), 272-280.

Pan, S., Roy, A., Choi, Y., Eslami, E., Thomas, S., Jiang, X., &Gao, H. O. (2019). Potential impacts of electric vehicles on air quality and health endpoints in the Greater Houston Area in 2040. *Atmospheric Environment*, 207, 38-51.

Pham, H. S. T., &Khanh, C. N. T. (2021). Ecotourism intention: the roles of environmental concern, time perspective and destination image. Tourism Review, 76(5), 1141-1153.

Plötz, P., Schneider, U., Globisch, J., &Dütschke, E. (2014). Who will buy electric vehicles? Identifying early adopters in Germany. Transportation Research Part A: Policy and Practice, 67, 96-109.

Priessner, A., Sposato, R., & Hampl, N. (2018). Predictors of electric vehicle adoption: An analysis of potential electric vehicle drivers in Austria. *Energy policy*, 122, 701-714.

ISSN: 2249-7315 Vol. 13, Issue 8, August 2023 SJIF 2022 = 8.625 A peer reviewed journal

Rezvani, Z., Jansson, J., &Bodin, J. (2015). Advances in consumer electric vehicle adoption research: A review and research agenda. Transportation research part D: transport and environment, 34, 122-136.

Ringle, Christian M., Wende, Sven, & Becker, Jan-Michael.(2022). SmartPLS 4.Oststeinbek: SmartPLS. Retrieved from https://www.smartpls.com

Rivis, A., &Sheeran, P. (2003). Social influences and the theory of planned behaviour: Evidence for a direct relationship between prototypes and young people's exercise behaviour. Psychology and Health, 18(5), 567-583.

Schuitema, G., Anable, J., Skippon, S., & Kinnear, N. (2013). The role of instrumental, hedonic and symbolic attributes in the intention to adopt electric vehicles. *Transportation Research Part A: Policy and Practice*, 48, 39-49.

Shalender, K., & Sharma, N. (2021). Using extended theory of planned behaviour (TPB) to predict adoption intention of electric vehicles in India. Environment, Development and Sustainability, 23(1), 665-681.

Shi, H., Wang, S., & Zhao, D. (2017). Exploring urban resident's vehicular PM2. 5 reduction behavior intention: An application of the extended theory of planned behavior. Journal of Cleaner Production, 147, 603-613.

Simsekoglu, Ö.,&Nayum, A. (2019). Predictors of intention to buy a battery electric vehicle among conventional car drivers. *Transportation Research Part F: Traffic Psychology and Behaviour*, 60, 1-10.

Singh, A. (2023, February 07). *India's EV Economy: The Future of Automotive Transportation*. <a href="https://www.investindia.gov.in/team-india-blogs/indias-ev-economy-future-automotive-transportation">https://www.investindia.gov.in/team-india-blogs/indias-ev-economy-future-automotive-transportation</a>

Skippon, S., & Garwood, M. (2011). Responses to battery electric vehicles: UK consumer attitudes and attributions of symbolic meaning following direct experience to reduce psychological distance. Transportation Research Part D: Transport and Environment, 16(7), 525-531.

Tanwir, N. S., & Hamzah, M. I. (2020). Predicting purchase intention of hybrid electric vehicles: Evidence from an emerging economy. *World Electric Vehicle Journal*, 11(2), 35.

Wang, S., Fan, J., Zhao, D., Yang, S., & Fu, Y. (2016). Predicting consumers' intention to adopt hybrid electric vehicles: using an extended version of the theory of planned behavior model. *Transportation*, 43, 123-143.

Yuriev, A., Dahmen, M., Paillé, P., Boiral, O., &Guillaumie, L. (2020). Pro-environmental behaviors through the lens of the theory of planned behavior: A scoping review. Resources, Conservation and Recycling, 155, 104660.