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# Understanding the Adoption and Public Intention to Buy Electric Vehicles in India Using UTAUT

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***Abstract:** In this research an opinion of the citizens from India is carried out to get to know what do they really think of an electric vehicle over a conventional I.C. engine vehicle. To get an answer for that a survey questions is generated considering various parameters like maintenance, overall driving cost (fuel/charging), convenience to drive, pollution (noise/air), social trend, purchase intention, safety to the driver and passenger, boot carrying capacity, weight comparison, performance and mileage/range of the vehicle. The following mention parameters is converted into questions in a Google form to with 5 options from 1-5 in which 1 being strongly disagree and 5 being strongly agree for the asked questions. About 100 responses is considered for this survey from the people of various age, gender and location. In this study opinions of the people were collected to get a clear view of an electric vehicle as it is a new technology in automotive sector and what's their mentality when it comes to comparison of electric vehicles to a conventional I.C. engine as I.C. engine has been driven since so long and people have adapted to them and what do they really think of an electric vehicles.*

## I. INTRODUCTION

According to international energy agency, automobile sector will hold a stake of about 50% of the total greenhouse gas emissions by the year 2030 (IEA 2018). Rapid modernisation and an increase in the number of the vehicles sold, resulted an increased traffic and congestion in addition to an elevated pollution level. The estimated digits clearly indicate that the framework model of transportation is not suitable and is craving for the need of a makeover. (Sovacool and Hirsh 2009; Dhar et al. 2015; Jansson et al. 2017). In terms of carbon dioxide emissions India is ranked 3rd globally. The $CO_2$ emissions increased by 4.8% which was near to 2.9 billion tonnes in 2018. Unfortunately, the automobile sector held a major stake nearing to 87% of the total emissions (PIB 2019). Air pollution levels is the major concern on which a country like India has to concentrate on, as a report from world health organisation said that 14 out of 20 most polluted cities from the world are from India (CES 2018). Hence it is very obvious to say that India needs energy-efficient and cleaner vehicles for a sustainable automobile sector thereby helping the country to reverse the global climatic change (Axsen et al. 2010; Noel et al. 2017; Shalender and Yadav 2018).

Electric vehicles are cleaner and less harmful compared to their partners; the conventional vehicles (Dhar et al. 2015; Jansson et al. 2017; Shalender and Yadav 2018). Accepting the environmentally friendly face of the EVs, the government of India declared National Electric Mobility Mission Plan in the year of 2013. The government of India had set an aspiring target of holding a stake of 30% of the total vehicles to be EVs (DHI 2017). Further in this scheme the government allotted a total sum of 264 corers for, "Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (PIB, 2018)." Regardless of the strong push by the government, share of electric vehicles automobile market continues to remain insignificant. In India only 25000 electric vehicles were sold in the year 2016-2017 out of which 92% were two wheelers. 25000 might sound good in terms of numbers but unfortunately it was less than 2% of the total number of vehicles sold, which clocked to about 25 million (SIAM 2017). All these statistics show that only a push from the government is not enough, they will also have to study the customer's purchase intension which is equally important to widen the EVs reach and adoption.

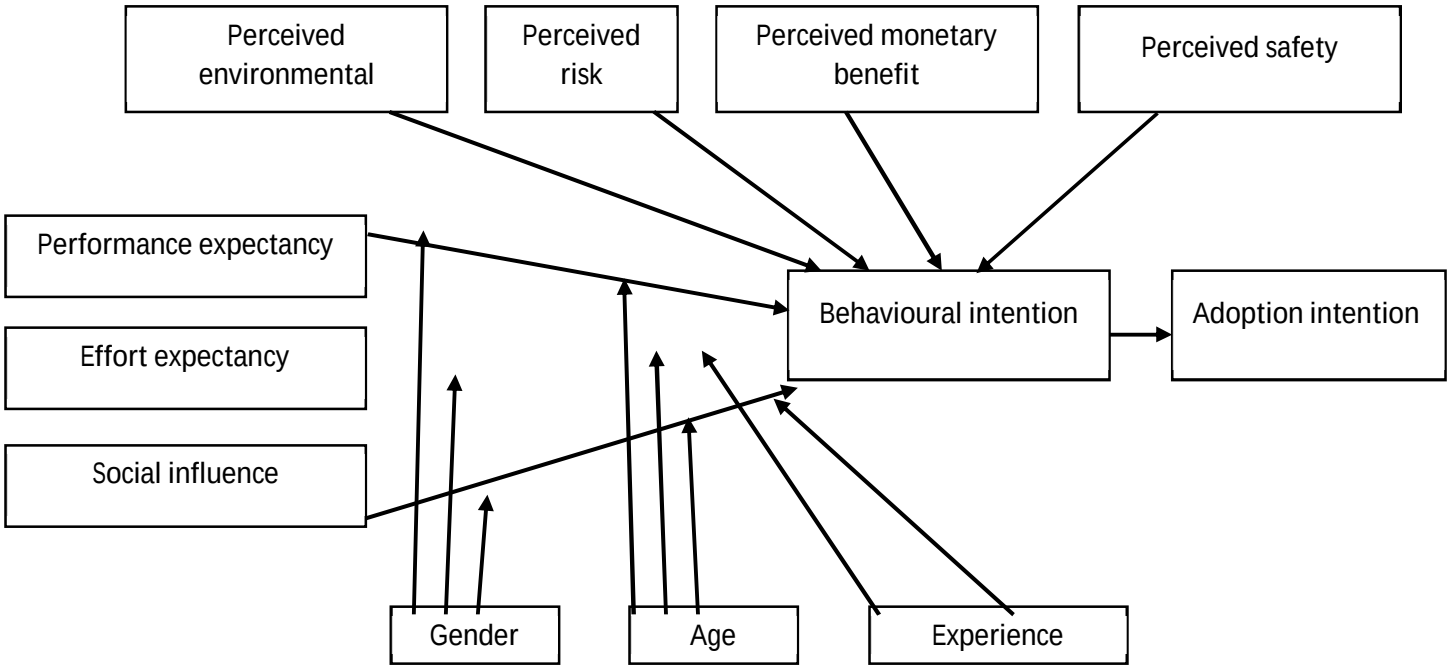
The concept of electric vehicles is still at an embryonic stage. At the moment there are on hybrid and electric vehicles in the Indian automobile industry. Other variants like plug-in hybrids are yet to make an appearance in the Indian automobile sector. The Indian government is yet to explore the behaviour and attitude of the consumers toward the EVs. In this background of the global focus on e-mobility and Indian government policy for promotion of electric vehicles, it is vitally crucial to survey elements influencing Indian consumers to purchase intention towards electric vehicles. The current study examines the Indian population's behaviour and purchase intention towards electric vehicles in comparison to internal combustion engine-based vehicles and showcases a testable framework of consumer purchase intention based on UTAUT (unified theory of acceptance and use of technologies), TPB (theory of planned behaviour) and SCT (social cognitive theory).

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The main purpose of this paper is to understand the role of performance expectancy, effort expectancy, perceived risk, social influence, perceived safety, behavioural intentions, perceived monetary benefits, and perceived environment on the purchase intention of the India population towards the EVs. Purchasers won't receive EVs except if they discover execution and monetary advantages, satisfactory foundation backing and cost of proprietorship. This examination is basic in the current economic situation of India, as there is a tremendous push from government to receive EVs and there is an absence of late investigations on this subject in India, which involves a hole in the logical writing.

Research Model




## II. LITERATURE REVIEW

### *A. Performance Expectancy*

Performance expectancy (PE) is the degree to which an individual believes that using a system or a product will help him increase his job performance (Venkatesh et al., 2003). This build discovers its underlying foundations in saw value from the theory of planned behaviour, extraneous inspiration from the motivational model, and results desired from Social cognitive Theory. Performance expectancy is an ocean that is made by the entries of these 5 streams (the constructs): Perceived usefulness, job-fit, outcome expectations, extrinsic motivation and relative advantage. A lot of studies have found and proved that performance expectancy held a noteworthy role in intention to adopt a technology (Zhenhua Yu et al., 2019; Sandra M.C.Loureiro et al.; Jian-LiangChen ; Mansour Naser Alraja1 et al.). Form the automobile EV prospective it can be said that, it is the client's recognition that the utility degree of their day by day arrangement of exercises has been improved when the individual uses an electric vehicle out and about.

### *B. Effort Expectancy*

Effort expectancy (EE) is referred to as the degree of ease associated with the consumer's use of technology (Venkatesh et al (2003)). Numerous analysts found that effort expectancy has a noteworthy impact on intention to adopt new technology (Chang et al., 2007; Alraja, 2015; Schaper and Pervan, 2007; Al-Shafi, 2009 Gupta et al., 2008; Zhenhua Yu et al., 2019). In the investigation of Venkatesh et al (2003) he found that the exertion hope is huge just in beginning phase of innovation appropriation. As an electric vehicle relies on the driver to use only the brakes and the accelerator paddle to drive it. It completely eliminates the manual gear box because of which the driver may not feel comfortable to drive an EV initially. Also, electric cars have a high initial acceleration compared to conventional cars which the driver will again have to learn how to control. So, in such a case it becomes very important for the driver to learn and master the driving skills of driving an EV before driving it on the road.

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*C. Social Influence*

Social influence (SI) refers to the degree to which an individual perceives that how important others [e.g., family and friends] believe that he or she should use the new system Venkatesh et al (2003). As social individuals, consumers are effortlessly affected by the companions, family, commercials and social patterns around them. It discovers its underlying foundations in ideas, for example, abstract standards from the Theory of Reasoned Action and the Theory of Planned Behaviour, social variables from the Theory of Human Behaviour, and picture in Innovation Diffusion Theory (Lucas and Spitler (1999)). Social impact alludes to the degree to which the earth around the consumer incorporates the help of family members and companions for driving electric vehicles out and about. This construct was also used to prove the hypothesis in (Zhenhua Yu et al. (2019), Spears, R., & Lea, M. (1992), Scott W. Campbell & Tracy C. Russo (2010)

*D. Perceived Risk*

Perceived risk (PR) refers to the degree to which users are worried about situations that will occur while using the stated technology Venkatesh et al (2003). Numerous scientists found that perceived risk affects the client's reception expectation of another innovation (Zhenhua Yu et al. (2019), Mauricio S.Featherman Paul A.Pavlou, Andrew Lepp, Heather Gibson (2003), Madfis, E. Erratum(2016). In this paper perceived risk refers to the challenges the owner might face while using an electric vehicle. In a country like India where electric vehicles have not yet made a big presence in the automobile market. The owner must be afraid thinking that if my electric vehicle breakdowns in the middle of the road, will I be able to find a technician to get the problem solved?

*E. Behavioural Intentions*

Behavioural intention (BI) is defined as a person's perceived likelihood or "subjective probability that he or she will engage in a given behaviour" Ajzen I. (1985). Many researchers found that behavioural intentions have a significant influence on the user adoption intention of a new technology (Seuwou P et al. (2020), Jin-Soo Lee et al. (2010). In this paper behavioural intention refers to how the owner feels while driving the electric vehicle.

*F. Perceived Monetary Benefits*

Perceived monetary benefits (PMB) refers to the consumer's perception of saving money from the given system. Buyers may contrast the cost of advancement and that of the options when choosing to receive such development, and they would shape view of the charge of the development dependent on this correlation. Earlier examinations showed that perceived fee is one of central point for purchasers' protection from advancements (Egbue et al. 2017: Luar and Lin, 2005: Adepetu and Keshav, 2017). In this paper, perceived fee is characterized as purchaser view of the cash that customers need to pay for embracing EVs. (Xiuhong He et al. 2018)

*G. Perceived Environment*

The perceived environment (PEN) is defined as consumer perception of the positive outcomes of using a technology for the environment (Bandura, A. (1986)). The factor is affecting in getting the behavioural change the clients towards the earth agreeable items/strategies (Hines et al. 1987; Bamberg 2003; Ajzen and Fishbein 1980; Mohamed et al. 2016). The studies by Daziano and Bolduc (2013) and Kaplan et al. (2016) affirmed the job of ecological worry towards influencing the appropriation behaviour of the clients towards earth agreeable items. With natural decay, purchasers give more consideration to ecological qualities of items and think about ecological impacts of the conduct.

*H. Purchase Intension*

Purchase intentions (PI) are a measure of the respondent's attitude towards purchasing a product or availing a service. For example, notwithstanding versatility, vehicles have emblematic implications of self-articulation of people. Customers buy a vehicle dependent on instrumental traits and emblematic worth (Xiuhong He et al. 2018). Other researchers showed that understanding the purchase intention becomes very important and has a significant impact on the sales of that product, (Harris, L.C. and Goode, M.M.H. (2010), XiaWang et al. (2012), Oliver, J.D. and Lee, S.

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*I. Questionnaire Method*

| Sr. No. | Conditions for questions | Questions |
|---|---|---|
| 1 | Performance expectancy | 1. Riding an electric vehicle on the road has improved my quality of life and performance.<br>2. Riding an electric vehicle on the road can help me accomplish what I want to do more quickly.<br>3. I think electric vehicles are quicker. (As they are lighter due to absence of engine and transmission).<br>4. I think it is convenient for me to ride an electric vehicle on the city road. |
| 2 | Effort expectancy | 1. I think it is easy to ride an electric vehicle on the road. (No manual gear shifting is required)<br>2. I think it is easy to operate an electric vehicle (e.g., starting the vehicle, changing the speed while driving and parking the car).<br>3. I do not find it difficult to ride an electric vehicle on the city road (e.g., flexible movement in traffic as only accelerator and the brake have to be controlled).<br>4. I think it is easy to master how to ride an electric vehicle. |
| 3 | Social influence | 1. My family is very supportive of me riding an electric vehicle on the road.<br>2. Advertising and media campaigns will make me want to ride an electric vehicle on the road.<br>3. I think riding an electric vehicle on the road is in line with the social trend and looks very fashionable. |
| 4 | Perceived safety | 1. I think EVs are safer than conventional vehicles. (No fuel lines are spread along the length of the vehicle. Since the system is not subjected to fuel it should be safer.)<br>2. I think EVs are safer than conventional vehicles. (In EVs the batteries are fitted along the floor thereby keeping a big percentage of the vehicle's weight low. Therefore, the centre of gravity is low and the vehicle does not topple in severe accidents.)<br>3. I think EVs are safer than conventional vehicles. (Since there is no engine in an EV the availability of crumple zone increases so there is more space to absorb the impact of the accidents.)<br>4. I think EVs are safer than conventional vehicles. (Since there is no engine in an EV there will be no high operating temperatures making the vehicle safer.) |
| 5 | Perceived risk | 1. I am worried about an electric vehicle breaking down on the road. (Since the technology is new not all mechanics will be able to diagnose the fault).<br>2. I am afraid that I will encounter roads or sites that are not suitable for an electric vehicle (e.g., uneven roads, water clogged roads or roadblocks).<br>3. I am worried about the high traffic risk of riding an electric vehicle on the road (e.g., collisions with pedestrians and vehicles).<br>4. I am afraid that the travelling distance of EV cannot meet my expectation. |
| 6 | Behavioural intensions | 1. I think it is good to ride electric vehicles on the road. I would like to ride an electric vehicle on the road.<br>2. If I have needs related to work and everyday life, I would like to ride an electric vehicle on the road.<br>3. I would like to recommend to others that they should ride electric vehicles on the road. |
| 7 | Perceived monetary benefit | 1. Driving electric vehicles will help me spend less on fuel.<br>2. Owning electric vehicles will give me other government incentives. (Government provides subsidies on electric vehicles).<br>3. Considering all costs, driving electric vehicles is no cheaper than driving conventional cars. |
| 8 | Perceived environment | 1. Driving an EV reduces the effects of climate change.<br>2. Driving an EV reduces the carbon footprint.<br>3. Driving an EV preserves the environment.<br>4. Driving an EV reduces pollution level.<br>5. Driving an EV reduces the consumption of natural resources. |
| 9 | EV adoption intention: | 1. Next time I buy a car, I will consider buying an electric car.<br>2. I expect to own an electric car in the near future.<br>3. I have the intention to test drive an electric car in the near future. |

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## III. RESULT & DISCUSSION

To understand what the people think of electric vehicles a survey was conducted using google forms to get the opinions or a perspective from various people. During the survey initially these were the questions asked to the surveyor age, gender and their qualifications to get a statistical overview who is filling the form. Total 100 responses were successfully taken from the survey and for the initially asked questions there are 76% of people form age group 18-25, 17% from age group 26-35, 6% from age 36-60 and 1% from the age above 60 in which 89% are male and 11% females from which 78% are qualified till HSC and higher studies. Also, one basic and important questions were put on have they driven any electric vehicles in which 60% was a “No” and 40% as “Yes”. In this research a Unified theory of acceptance and use of technology (UTAUT) is used to understand the intention of the user to use that particular information and also their behaviour towards that information.

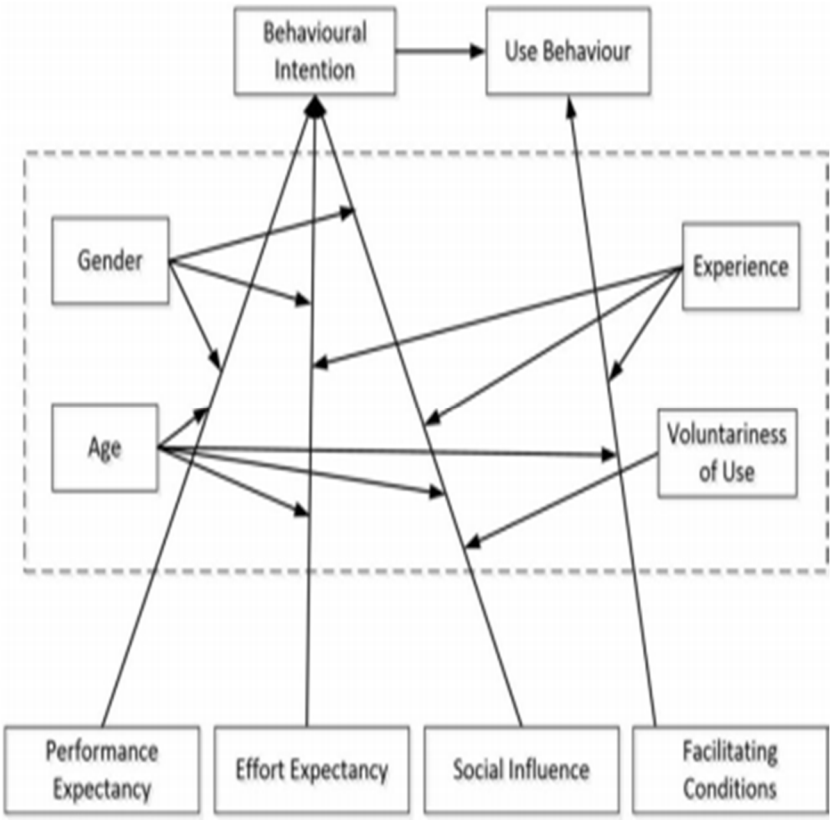



Fig. 1.Unified theory of acceptance and use of technology (UTAUT)

From the survey questions related to improvement in quality of life, better performance and the quickness in the work after using electric vehicles came up to 63% as strongly agree. From the survey report mostly the youngster are interested in buying an electric vehicles also, many other people prefer an electric vehicle over a I.C. engine vehicles as it is much more safer due to no use of volatile fuel, it is lighter in weight, saves lots of money compared to fuelling a vehicle, they are more aesthetic appealing, have a good boot/trunk carrying capacity due to absence of engine compartment, are more balanced due to the placement of batteries at the chassis with less chance of topple over, it’s a new trend and people love to follow that, convenient to operate and easy to master it, much more safer in a situation of accident as there is more space for crumple zone also no chance of any explosion, electric vehicles are cleaner with no emissions or any carbon footprints keeping the environment clean and easy to breathe with no climatic changes and using a electric vehicles reducing consumption of natural resources. In the figure 1 denotes as strongly disagree and 5 denotes as strongly agree.

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Figure 2 Few of the Questions asked in Survey

## IV. CONCLUSION

In the survey various types of parameters are considered to get a clear and a realistic opinion and their intention with comparison to a conventional I.C. engine vehicles. From the number of questions asked following 67, 59, 70, 79, 79, 81, 77, 81, 67, 70, 70, 77, 73, 71, 68, 81, 80, 75, 85, 85, 79, 84, 87, 90 is the percentage for using an electric vehicle over I.C. engine and calculating the average of them comes to 76% of people consider taking an electric vehicle over conventional I.C. engine vehicle in India which means people prefer an electric vehicle more due to many parameter as discussed. Even being a new technology in automotive sector many people from India are drawn towards it due to its advantage over conventional I.C. engine vehicles and also, it's a new trend which is much more quitter, lighter and very clean for the environment too.

## REFERENCES

[1] Axsen, J., Kurani, K. S., & Burke, A. (2010). Are batteries ready for plug-in hybrid buyers? Transport Policy, 17(3), 173–182.
[2] CSE (2018) WHO Ranking of Polluted Cities Explained, Bad News for India. https://www.cseindia.org/2018-who-ranking-of-polluted-cities-explained-bad-news -for-india-8673
[3] Department of Heavy Industries. (2017). National Electric Mobility Mission Plan 2020. https ://dhi.nic. in/userv iew/index ?mid=1347. Accessed 22 January 2019.
[4] Dhar, S., Shukla, P. R., & Pathak, M. (2015). Transport scenarios for India: Harmonising development and climate benefits. UNEP DTU Partnership.
[5] IEA. (2018). Transport. https ://www.iea.org/renew ables 2018/trans port/. Accessed 16 August 2019. Jakovcevic, A., & Steg, L. (2013). Sustainable transportation in Argentina: Values, beliefs, norms and car use reduction. Transportation Research Part F: Traffic Psychology and Behaviour, 20, 70–79.
[6] Jansson, J., Nordlund, A., & Westin, K. (2017). Examining drivers of sustainable consumption: The influence of norms and opinion leadership on electric vehicle adoption in Sweden. Journal of Cleaner Production, 154, 176–187.
[7] Mishra, S. and Malhotra, G. (2019) Is India Ready for e-Mobility? An Exploratory Study to Understand e-Vehicles Purchase Intention. Theoretical Economics Letters, 9, 376-391. https://doi.org/10.4236/tel.2019.92027
[8] Noel, L., Brodie, J. F., Kempton, W., Archer, C. L., & Budischak, C. (2017). Cost minimization of generation, storage, and new loads, comparing costs with and without externalities. Applied Energy, 189, 110–121.
[9] PIB. (2018). FAME-India Scheme. http://pib.nic.in/newsi te/Print Relea se.aspx?relid =18627 7. Accessed 15 February 2019.
[10] PIB. (2019). VP calls for a public transport-centric approach to combat growing vehicular pollution. http://pib. gov.in/newsi te/Print Relea se.aspx?relid =18992 5. Accessed 17 August 2019.

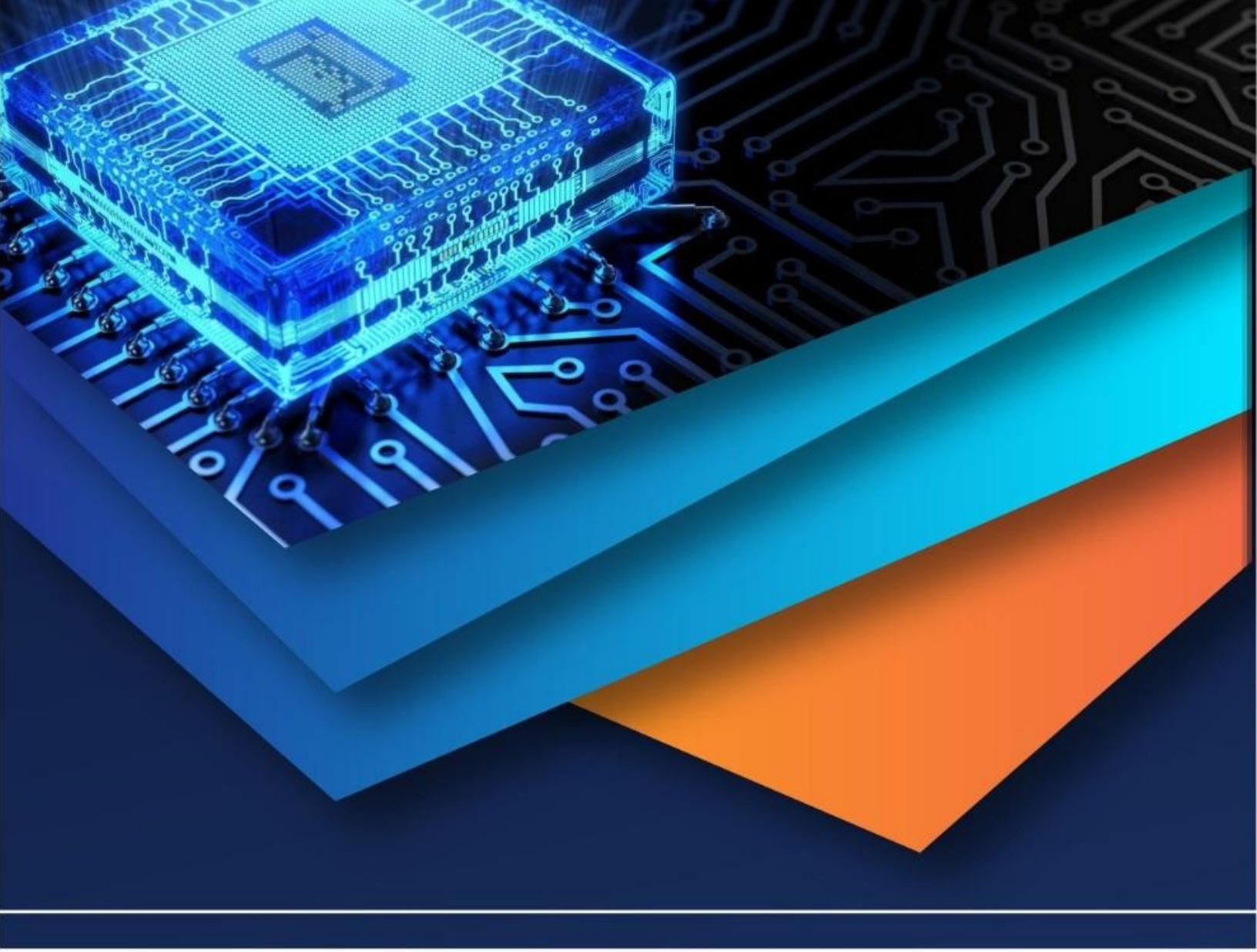
©IJRASET: All Rights are Reserved

[11] Shalender, K., & Yadav, R. K. (2018). Promoting e-mobility in India: Challenges, framework, and future roadmap. Environment, Development and Sustainability, 20(6), 2587–2607.
[12] Shalender, K., Sharma, N. using extended theory of planned behaviour (TPB) to predict adoption intention of electric vehicles in India. Environ Dev Sustain (2020). https://doi.org/10.1007/s10668-020-00602-
[13] SIAM. (2017). White paper on electric vehicles. http://www.siam.in/uploa ds/filem anage r/114SI AMWhi tePap eronE lectr icVeh icles .pdf. Accessed 28 January 2019.
[14] Sovacool, B. K., & Hirsh, R. F. (2009). Beyond batteries: An examination of the benefits and barriers to plug-in hybrid electric vehicles (PHEVs) and a vehicle-to-grid (V2G) transition. Energy Policy, 37(3), 1095–1103. Stern, P. C., Dietz T., Abel T., Guagnano G. A., & Kalof L. (1999). A value-belief-norm theory of support for social movements: The case of environmentalism. Human Ecology Review, 6(2), 81–97.
[15] V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis, User acceptance of information technology: toward a unified view, MIS Q. 27 (3) (2003) 425–478.
[16] Zhenhua Yu, Z., Feng, Z., Jiang, K. et al. Riding personal mobility vehicles on the road: an analysis of the intentions of Chinese users. Cogn Tech Work (2019). https://doi.org/10.1007/s10111-019-00617-9
[17] Sujin Oh, Xinran Y. Lehto, Jungkun Park, Travelers' intent to use mobile technologies as a function of effort and performance expectancy, J.
[18] H.C.J. Lucas, V.K. Spitler, Technology use and performance: a field study of broker workstations, Decis. Sci. 30 (2) (1999) 291–311.
[19] Sandra M.C.Loureiro[a]LuisaCavallero[b]
[20] Mansour Naser Alraja1*, Samir Hammami2, Billal Chikhi3, Samia Fekir4
[21] Jian-LiangChen https://doi.org/10.1016/j.compedu.2011.02.009
[22] Alraja, M.N., Malkawi, N.M. (2015), E-business adoption in banking sector: Empirical study. Indian Journal of Science and Technology, 8(27), 406-413
[23] Chang, I.C., Hwang, H.G., Hung, W.F., Li, Y.C. (2007), Physicians' acceptance of pharmacokinetics-based clinical decision support systems. Expert Systems with Applications, 33(2), 296-303.
[24] Schaper, L.K., Pervan, G.P. (2007), ICT and OTs: A model of information and communication technology acceptance and utilisation by occupational therapists. International Journal of Medical Informatics, 76(1), S212-S221.
[25] Gupta, B., Dasgupta, S., Gupta, A. (2008), Adoption of ICT in a government organization in a developing country: An empirical study. The Journal of Strategic Information Systems, 17(2), 140-154
[26] Al-Shafi, S.H. (2009), Factors Affecting E-government Implementation and Adoption in the State of Qatar. London: Brunel University.
[27] Mauricio S.Featherman[a]Paul A.Pavlou[b] https://doi.org/10.1016/S1071-5819(03)00111-3
[28] Schuitema, G., Anable, J., Skippon, S., & Kinnear, N. (2013). The role of instrumental, hedonic and symbolic attributes in the intention to adopt electric vehicles. Transport Research Part A: Policy and Practise., 48, 39–49.
[29] Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behaviour. Englewood Cliffs, NJ: Prentice-Hall.
[30] Hines, J. M., Hungerford, H. R., & Tomera, A. N. (1987). Analysis and synthesis of research on responsible environmental behaviour: A meta-analysis. Journal of Environmental Education, 18(2), 1–8.
[31] Bamberg, S. (2003). How does environmental concern influence specific environ-mentally related behaviors? A new answer to an old question. Journal of Environment Psychology, 23(1), 21–32.
[32] 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.
[33] Daziano, R. A., & Bolduc, D. (2013). Incorporating pro-environmental preferences towards green automobile technologies through a Bayesian hybrid choice model. Transportmetrica A: Transport Science, 9(1), 74–106.
[34] Kaplan, S., Gruber, J., Reinthaler, M., & Klauenberg, J. (2016). Intentions to introduce electric vehicles in the commercial sector: A model based on the theory of planned behaviour. Research in Transportation Economics, Climate Change Targets and Urban Transport Policy, 55, 12–19.
[35] Ajzen I. (1985) From Intentions to Actions: A Theory of Planned Behavior. In: Kuhl J., Beckmann J. (eds) Action Control. SSSP Springer Series in Social Psychology. Springer, Berlin, Heidelberg
[36] Liu, F., Zhao, X., Chau, P.Y.K., Tang, Q., 2015. Roles of perceived value and individual differences in the acceptance of mobile coupon applications. Internet Res. 25, 471e495.
[37] Egbue, O., Long, S., Samaranayake, V.A., 2017. Mass deployment of sustainable transportation: evaluation of factors that influence electric vehicle adoption. Clean Technol. Environ. Policy 19, 1927e1939
[38] Luarn, P., Lin, H.H., 2005. Toward an understanding of the behavioral intention to use mobile banking. Comput. Hum. Behav. 21, 873e891.
[39] Adepetu, A., Keshav, S., 2017. The relative importance of price and driving range on electric vehicle adoption: Los Angeles case study. Transportation 44, 353e373. Bagozzi, R.P., Yi, Y., 1988. On the evaluation of structural equation models. J. Acad. Mark. Sci. 16, 74e94.
[40] Xiuhong He [a], Wenjie Zhan [b,*], Yingying Hu [b](2018) consumer purchase intention of electric vehicles in China: the role of perception and personality.
[41] Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall.
[42] Andrew Lepp, Heather Gibson (2003) Tourist roles, perceived risk and international tourism
[43] Madfis, E. Erratum to: "It's better to Overreact": School Officials' Fear and Perceived Risk of Rampage Attacks and the Criminalization of American Public Schools. Crit Crim **24,** 467 (2016). https://doi.org/10.1007/s10612-016-9323-x
[44] Seuwou P., Chrysoulas C., Banissi E., Ubakanma G. (2020) Measuring Consumer Behavioural Intention to Accept Technology: Towards Autonomous Vehicles Technology Acceptance Model (AVTAM). In: Rocha Á., Adeli H., Reis L., Costanzo S., Orovic I., Moreira F. (eds) Trends and Innovations in Information Systems and Technologies. WorldCIST 2020. Advances in Intelligent Systems and Computing, vol 1159. Springer, Cham
[45] Spears, R., & Lea, M. (1992). Social influence and the influence of the 'social' in computer-mediated communication. In M. Lea (Ed.), Contexts of computer-mediated communication (p. 30–65). Harvester Wheatsheaf.
[46] Scott W. Campbell & Tracy C. Russo (2010) the social construction of mobile telephony: an application of the social influence model to perceptions and uses of mobile phones within personal communication networks https://doi.org/10.1080/0363775032000179124
[47] Jin-Soo Lee , Li-Tzang (Jane) Hsu , Heesup Han & Yunhi Kim Understanding how consumers view green hotels: how a hotel's green image can influence behavioural intentions https://doi.org/10.1080/09669581003777747

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[48] Harris, L.C. and Goode, M.M.H. (2010), "Online servicescapes, trust, and purchase intentions", Journal of Services Marketing, Vol. 24 No. 3, pp. 230-243.
[49] XiaWang, ChunlingYu, YujieWei (2012) Social Media Peer Communication and Impacts on Purchase Intentions: A Consumer Socialization Framework
[50] Oliver, J.D. and Lee, S. (2010), "Hybrid car purchase intentions: a cross-cultural analysis", Journal of Consumer Marketing, Vol. 27 No. 2, pp. 96-103.
[51] Sancheng Peng, Aimin Yang, Lihong Cao, Shui Yu, Dongqing Xie, Social influence modeling using information theory in mobile social networks, Information Sciences (2016), doi: 10.1016/j.ins.2016.08.023
[52] Stanislaw Wrycza and Michal Kuciapski(&) Determinants of Academic E-Learning Systems Acceptance https://doi.org/10.1007/978-3-030-00060-8_6

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