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Research Article

APPLYING THE THEORY OF PLANNED BEHAVIOR TO CONSUMER ADOPTION BEHAVIOR OF THE ELECTRIC VEHICLE (EV) INDUSTRY

[1,] *Dr. Govindarajan, P.B., [2]Dr. Radhakrishnan, N., [3]Dr. Jalaludeen, A. and [4]Dr. Veena Christy

[1, 2, 4]Assistant Professor of Management, Directorate of Online & Distance Education, SRM Institute of Science & Technology, Kattankulathur, Tamilnadu – 603203, India
[3]Assistant Professor of Commerce, Directorate OF Online & Distance Education, Srm Institute of Science & Technology, Kattankulathur, Tamilnadu – 603203, India

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Abstract

This study explores the impact of environmental concerns, social influence, and perceived cost on patrons' willingness to transition to electric vehicles (EVs). According to our hypothesis, brand awareness considered as a moderator influencing customers' shift purpose towards EV adoption. We conducted a quantitative study using a structured questionnaire and obtained responses from 318 participants. The data analysis was undertaken using the partial least square regression method. The results of our investigation revealed that both environmental concerns and perceived cost management play a significant role in the transition from migration intention (MI) to EV adoption (EA), directly impacting consumer selection behaviour regarding EV adoption. Brand awareness moderates the shift in behavioural intention, shaping EV adoption behaviour. These conclusions combined to formulate the model that expresses the consumer transition from Gasoline vehicles to EVs. These findings indicate the difficulty in persuading consumers to adopt EV's due to social pressures, consumer attitudes and fiscal aspects play an influential part in EV adoption.

Keywords: Consumer adoption behaviour, Theory of planned behaviour, Electric vehicle industry.

INTRODUCTION

Electric vehicle sales have grown substantially in recent years due to mounting environmental worries and technological advancements. As reported by the International Energy Agency, global EV sales increase by over 10% annually in 2022, although their market share remains small in heavily trafficked areas compared to gas-powered cars. Even people who claim sustainability is important still primarily drive gas-guzzlers for daily commutes. Environmental concern significantly affects consumers' willingness to adopt EVs, according to research by Bühler *et al.* Environmentally conscious consumers are more likely to switch. As explained by Axsen and Kurani, Social impact also shapes migration intentions, as individuals tend to emulate familiar groups' behaviours and society's perceived norms to feel included. Perceived cost control further affects migration intentions and EV adoption behaviour, as reported by Liao *et al.* This implies another pivotal consideration: purchase price, maintenance, and charging expenses. Buyers who believe they can manage these areas amidst EV ownership appear more willing to drop objections to purchasing one. According to Hardman *et al.,* prior studies indicate that migration intentions relate to actual adoption. According to the literature, many consumers are ready to switch to EVs, but their transition is hindered by access, infrastructure and feasibility hurdles. Also according to Heffner *et al.,* brand awareness moderates EV adoption behaviour by influencing trust and name recognition, which can improve prospects for migrating drivers. Here, gaining a greater understanding of consumer migration behaviors that drive electric vehicle adoption offers useful insights to policymakers, automakers, and marketers looking to ease their way into more environmentally friendly forms of transportation. While addressing environmental issues, the pioneers attempted to refine certain modes of travel based on their ecological costs, while also considering the phase out of gas powered cars in favor of electric vehicles. Financial savings, policy incentives, and the environmental benefits of choosing electricity motivate them. However, EV adoption rates remain low despite growing eco-awareness. Weak communication from manufacturers and inadequate policy responses have hindered a broader shift from fossil fuel vehicles to EVs. Consumers who embrace sustainable lifestyles surrounded by environmental worries and peer pressure would be more likely to opt for electric vehicles (EVs). This hints at an interplay between necessity, technology, and environmentally sustainable values. However, further exploration of the specific drivers through a behavioural framework like the Theory of Planned Behavior could deepen our understanding of how these factors influence consumer decision-making and their likelihood of switching to EVs. Pookulangara *et al.* highlighted the relevance of the TPB model in exploring consumer behaviour, particularly in switching behaviours. Madahi and Sukati also applied TPB model in 2012. The influence of each TPB factor may contrast with one another and significantly impact EV adoption behaviour, while others may have little effect. Accordingly, this study will examine consumer migration within the EV sector in relation to TPB, considering environmental concerns, social influence, and perceived cost control. The strength of TPB lies in its ability to predict behavioural actions. This is a key reason TPB has been employed here to compreh ensively assess consumer conduct and the process of behavioural change in EV adoption. The Theory of Planned Behavior appears particularly suited to evaluate change as perceived behavioural control mediates the link between the intention to

Corresponding Author:** ***Dr. Govindarajan, P.B.,
Assistant Professor of Management, Directorate of Online & Distance Education, SRM Institute of Science & Technology, Kattankulathur, Tamilnadu – 603203, India.

switch to EV's and actual adoption behaviour. Ajzen stated TPB should also cover additional dimensions like feelings, social aspects, and information, which could boost its predictive power. This study provides a clear insight into the role of consumer awareness and perceived brand value in consumer migration behaviour in the EV market. Research has examined the influence of consumer awareness on EV purchase decisions, focusing on sustainability-related issues and users' opinions of EVs. Scholars conclude that environmental benefits could motivate the adoption of this innovative technology. In his work, Chen revealed that environmental awareness and sustainability initiatives correlate with attitudes toward EVs. Suki (2016) emphasised that lifestyle shifts and advancing technologies can significantly influence consumer EV adoption. South Korean researchers Kim *et al.* suggested that environmental awareness, cutting-edge innovations, and monetary incentives notably affected consumer migration trends in the EV sector, as analyzed by Geng *et al.* (2018). Another scholar, Yuniarni (2020), reported substantial EV adoption among urban Indonesian customers, stemming from heightened pollution comprehension, rising fuel expenses, and supportive governmental energy transportation policies. While the reviews indicate that customer EV migration is influenced by understanding, lifestyle changes, and ownership costs, EV adoption still lags. As fuel, vehicles spread worldwide; ecologically aware people see EVs' long-term benefits to sustainability and efficiency as key factors in moving away from traditional combustion engines. According to Bühler *et al.* (2014), a buyer's vehicle selection depends on environmental preservation and EV industry's success or failure in automotive markets. Therefore, in light of these, numerous automakers have started to broaden the product portfolio of EVs to address current consumption patterns and regulations and support the sustainable mobility objectives (Liao *et al.* 2017).

The growth of the EV market took off because people became more aware of environmental benefits, they were received government subsidies, and witnessed advances in EV technology. Long-term solutions, such as sustainable transportation are commonly viewed as attractive ways to engage these issues (Axsen & Kurani, 2012). Several studies noted that most of the clients were expected to switch to EV's due to lower costs, improve performance, and increase charging stations (Hardman *et al.,* 2018). Recently, nations such as Indonesia and South Korea have seen nearly 80% of city-dwelling customers express interest in electric vehicles, primarily due to rising fuel costs and environmental concerns (Kim *et al.,* 2018). This dramatic shift signifies consumer migration to EVs, moving beyond a specialised niche and becoming a mainstream choice. Relying on the Theory of Planned Behavior, this analysis investigates the adoption behaviour of EVs considering elements like environmental awareness, social impact, and perceived expense administration. By determining these influences, stakeholders, such as manufacturers and policymakers, can formulate tactics to accelerate EV adoption. Despite growing familiarity and interest in these technologies, little research has been conducted on consumer migration habits related to EV adoption. Most studies on customer switching behaviour have concentrated on service industries (Manrai & Manrai, 2007; Gerrard & Cunningham, 2004; Chakravarty *et al.,* 2004). While these studies provide broader insights into customer retention and switching intentions, they do not specifically examine the key determinants influencing EV adoption. A handful of recent studies have examined consumer shifts from traditional fuel-powered vehicles to EVs. Irianto et al. (2020) studied EV adoption and explored consumer preferences, identifying key influences such as attitudes toward switching, motivation to adopt new technology, and financial incentives. In contrast, transitioning to electric vehicles (EVs) differs from other sustainable technologies because EV adoption involves initial expenses, infrastructure development, and long-term behavioural modifications. It is driven by a variety of economic, technological, and psychological drivers of consumer behaviour (International Energy Agency, 2022). The accelerated penetration of the EV market is driven by supportive policy changes, financial incentives and improvements in battery technologies that have helped reduce range anxiety (Liao *et al.,* 2017). Compared to hybrids or more fuel-efficient gas vehicles, fully electrifying one's vehicle represents a significant lifestyle and environmental shift. This investigation attempts to analyse consumer migration patterns through the Theory of Planned Behavior (TPB)-structured lens had better understand the dynamics of such a transition. This framework assembles various constructs to develop a more holistic explanatory model of the impacts of transitioning to sustainable transportation solutions. Enhancing these influencing mechanisms would help industry stakeholders to comprehend the main reasons of consumers adopting EVs. Such insights could contribute to the design of more effective outreach activities and subsequently optimal refinance strategies that should adjust based on demographic changes and fundamental behaviour drivers, triggering the switching of buyers from gas to electric. New product innovations and service improvements could be enhance through regular tweaks. Some consumers has shown a growing preference for greener automotive technologies and the confluence of innovation in automotive technology and increasing environmental awareness. The emphasis on sustainability in the automotive industry is partly due to newer generations being more inclined to research factors such as a vehicle's carbon footprint or fuel efficiency online (Rezvani *et al.,* 2018).

However, with the nascent EV market in mind, differentiating branding strategies is of utmost importance as the industry tries to determine what comprises the buyer's decision journey. For early adopters in this evolving sector, building a brand's reputation and reliability is crucial for achieving distinctive market positioning (Aaker, 1991). Consumers also tend to stick with brands they are familiar with (Keller, 1993) and brand purchasing choices are extremely sensitive to favourable associations and knowledge structures brands have created (Bennett & Rundle-Thiele, 2005). This research investigates the moderating effect of brand awareness between other behavioural factors (environmental concern, social influence and perceived control of the cost) and consumer migration in the EV market. The purpose is to assess the effect of environmental concern, social influence and perceived cost control on consumer migration intentions of EV adoption, as well as the relationship between migration intentions and actual EV purchase. Brand awareness hypothesised to mediate the relationship between intentions and adoption behaviours. Varieties of viewpoints considered to provide a comprehensive picture. Based on past research, environmental concern investigated as an antecedent to migration intentions. The impact of social influence stemming from others' opinions also assessed. Perceived cost control, or consumers' belief in their ability to manage expenses, is analysed regarding its effect on

intentions. Prior studies found that perceived costs significantly shape decisions to adopt EVs. Additional factors are interconnected. Intentions to transition toward EV usage are associated with real EV purchases. Brand awareness acts as a mediator between intentions and adoption behaviours. Therefore, the study aims to expand the theory of planned behaviour by exploring behavioural, economic, and psychological drivers and barriers behind transitions from gas vehicles to EVs. Results will add to the literature on sustainable mobility and guide policymakers and manufacturers in developing strategies to improve EV adoption rates. A richer understanding of consumer migration dynamics in the EV market sought by considering brand awareness is moderating role and various influential factors' interplay.

LITERATURE REVIEW

The TPB adequately frames the framework above, where intention is the key predictor of consumers' eventual behaviour. Regarding this theory, consumer behaviour based on attitudes, social norms, and perceived cost control, which collaboratively influence the motivation to adopt EVs. Attitude refers to the degree to which one positively or negatively views the behaviour. When choosing EVs, consumers weigh sustainability, expenses, and technological progress (Bühler *et al.,* 2014). However, attitude shifts do not guarantee behavioural changes relying on future perspectives and advantages (Rezvani *et al.,* 2018). Migration intention involves social impact as consumer behaviour expects conformity to subjective standards. Individuals accepting their social group (family, friends, and environmentalists) backing EV adoption leads to favourable switching attitudes (Axsen & Kurani, 2012). Both external pressures and social norms strongly influence decisions irrespective of personal beliefs (Kim *et al.,* 2018). Perceived cost control affects migration intention, involving monetary returns, operating expenses, charging infrastructure, and government incentives (Hardman *et al.,* 2018). Those highly perceiving EV-related investment control better motivate fuel vehicle replacements (Liao *et al.,* 2017). Behavioural purpose strongly forecasts EV adoption according to attitudes, subjective norms, and perceived decision authority over expenses (Ajzen, 1991), manifesting a willingness to engage in intended behaviour. However, intentions remain vulnerable to free-market logic (Halkorts & bitterly, 2020), and intentions do not always translate into actions, as consumer views may change over time (Rezvani *et al.,* 2018). Within consumer behaviour literature, the Planned Behavior Theory substantiates investigating sustainably assisting policymakers, such as product and energy-efficient technologies (Liao *et al.,* 2017). Hence, applying this to EVs explores environmental concerns, social impact, perceived cost control, switching purpose, and brand awareness roles in adopting the behaviour and understanding these aids manufacturers, policymakers, and stakeholders in gaining insights that will foster gradually improved EV use.

The effects of environmental concern, social pressure, and perceived cost control on consumer intentions to adopt electric vehicles

The perspectives of environmental concern, social impact, and perceived cost control influence consumer behavior regarding EV adoption. The Theory of Planned Behavior expounds that behavioural intention principally affected by behavioural, normative, and control beliefs. Whereas Behavioral beliefs reflect an individual's perceptions of EVs and shape attitudes, while normative beliefs involve perceived social pressures, and control beliefs represent an individual's perceived ability to adopt EVs. These consolidated perspectives mirror behavioural aims and key antecedents of real EV adoption behaviour. Environmentally mindful shoppers examine EVs given their supportability benefits and ecological effects. However, perspectives fluctuate; some are sure, and others are not. Learning about maintainable transportation, ideological perspectives on natural issues, and past involvement with maintainable transportation is key. Social effect alludes to shoppers' imagined desires regarding EV utilisation in their social circle. If support is seen, they lean toward EVs. It is one of the fundamental parts of TPB, showing shoppers that they mean to follow their friends in transportation decisions.

Factors such as monetary motivations, reserves, charging foundations, and overall expenses influence consumer perception of control over EV adoption. Supplementing that setting, the expense control data that is applicable and watched by buyers is likewise considered important in affecting their real conduct of receiving EVs. Consumer intentions mediate the effect of perceived cost control on adoption behaviour. When people accept EV selection as excessively costly or foundation accessibility as very poor, the essential relationship between saw expense control and selection conduct becomes progressively subject to conditions. Saw expense control fundamentally impacts purchasers' choices to receive electric vehicles. The prior inquiry investigated various variables affecting EV selection, including monetary contemplations. The consideration recommends high beginning costs, concerns about battery life expectancy, and ambiguities identifying with support costs, which are huge hindrances for potential EV purchasers. Tending to these expense-related measurements is basic for expanding EV selection rates.

Rooted in the TPB system and previous research, we hypothesised the following:

H1. Environmental concern impacts the movement goal toward EV selection.
H2. Social effects impact movement goals toward EV selection.
H3. Perceived cost control impacts the movement goal toward EV selection.
H4. Perceived cost control impacts real EV selection behaviour.

Electric vehicle switching behavior intention

Based upon this conceptual framework, an individual's propensity for adopting EVs is influenced by three dimensions: their positive or negative evaluation of the behaviour as represented by attitudes, societal pressures to engage in the behaviour denoted as subjective norms, and perceived behavioural control over any obstacles. Studies have shown that behavioural intentions reliably predict an actual adoption decision, as the Theory of Reasoned Action theorised. Behavioural objectives have reliably been discovered to be among the most trustworthy prognosticators of real behaviours. This applies similarly to sustainable consumer choices. Experts argue that one's aim to transition to EVs within a plausible timeframe would be the strongest signpost of how they will behave.

H5. Customers' shifting aims toward obtaining an EV influence whether they choose an electric vehicle.

Towards intention relationship and behavior moderation

There is often a disconnect between what consumers say they intend to do and their actions. While many drivers have expressed interest in transitioning to electric vehicles, various external factors can limit putting thoughts into action. Intentions do not always translate directly into behaviours. According to research, this gap arises when influences outside a person's control hinder turning plans into reality. Brand awareness is a key moderating influence shaping the migration mindset and subsequent adoption behaviour. Awareness describes an individual's ability to recall or name a company and product identity. It plays a significant role in choices as shoppers select from EV options. Marketing communications like advertisements, promotions, and word of mouth help increase brand visibility. Naturally, a consumer familiar with a particular automaker will likely consider those vehicles during purchase decisions. Exposure to multiple electric brands allows for a more confident selection with less concern about performance reliability or resale value studies. Previous work demonstrates how positive or negative brand awareness strengthens or weakens migratory intent and propels it forward into actual EV purchasing.

H6. Brand awareness moderates the link between drivers' willingness to transition to electric and their adoption.

All the hypotheses in the proposed conceptual framework in Figure 1 represent the relationships between these constructs.

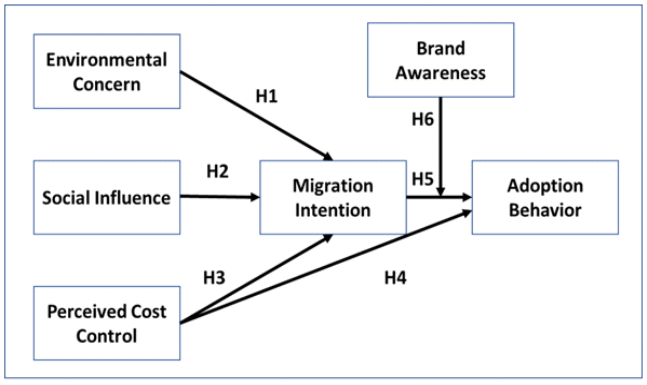

Figure 1. Research Model

RESEARCH METHODOLOGY

This study utilised a survey-based research design incorporating environmental and market factors within the context of EV adoption. The quantitative analysis sought to identify internal drivers influencing consumers' shift from fuel vehicles to electric. Guided by the Theory of Planned Behavior, this research aimed to validate perceptions impacting intentions and behaviours regarding EV purchasing. Those surveyed included both existing EV owners and individuals interested in EV adoption who met the technological field. To refine and confirm the questionnaire's relevance before data collection, a focus group discussion provided insight into consumer perspectives, market challenges, and motivational underpinnings within EV adoption. Following the focus group, data collected through a structured survey.

The survey encompassed three components:

The survey measured demographic characteristics, environmental concern, social influence, perceived cost control, switching intentions, and brand awareness. Consumer responses were analysed to compare current EV users with those considering switching from fuel-powered vehicles. The population consisted of electric vehicle owners and others qualifying for and displaying interest in this research area's focus.

RESULTS AND DISCUSSION

Results

Overall, 318 individuals participated in this research study. Participants were classified based on gender, age, and consideration of purchasing electric vehicles. Table 1 outlines the demographic and other relevant information provided by respondents, offering insight into their migration intentions and EV adoption behaviours.

Table 1. Respondent Characteristics

Variable	Category	N	(%) (Rounded)
Gender	Men	127	40
	Women	191	60
Age	≤20 years	67	21
	21-25 years	158	50
	26-30 years	72	23
	31-39 years	10	3
	>40 years	11	3
EV Adoption Consideration	Considering but not decided	147	46
	Actively planning to purchase	171	54

Overall, 318 individuals participated in this research study. Participants classified based on gender, age, and their intend to purchase electric vehicles. Table 1 outlines the demographic and other relevant information provided by respondents, offering insight into their migration intentions and EV adoption behaviours. Six key variables were evaluated to analyse consumer migration tendencies toward electric vehicle:

(H1) environmental concern and migration intention/EV adoption
(H2) social influence and migration intention/EV adoption
(H3) perceived cost control and migration intention/EV adoption
(H4) perceived cost control and EV adoption behavior
(H5) migration intention and EV adoption behavior, and
(H6) brand awareness and EV adoption behavior.

Responses were collected using a 5-point Likert scale, where 1 represented ‘strongly disagree’ and 5 represented ‘strongly agree’. Thorough exploratory interviews were conducted with participants regarding their intentions and motivations for adopting electric vehicles. The qualitative data provided enhanced understanding of the factors shaping EV consumers' migration behaviours. The Keller (1993) brand awareness scale was adapted, as was the Hardman *et al.* (2018) EV adoption behaviour scale. A pilot study involving 80 respondents was performed to validate the reliability of the questionnaire. Items about each variable were assessed in line with their respective factor loading values following Hair *et al.* (2014) guidelines of exceeding 0.5.

Table 2. Constructs, items, and model results

Code	Constructs, Items, and Model Result	Factor Loading	p-Value
	Environmental Concern (CR = 0.86; AVE = 0.61; Cronbach's Alpha = 0.79)		
EC1	My interest is in the environmental impact of gasoline vehicles.	0.85	<0.001
EC2	I believe it is better to reduce carbon emissions and pollution with EVs.	0.75	<0.001
EC3	My focus is on green forms of transport.	0.77	<0.001
EC4	Owning an EV is in line with my sustainability values.	0.82	<0.001
	Social Influence (CR = 0.88; AVE = 0.64; Cronbach's Alpha = 0.81)		
SI1	Most people close to me agree with adopting EVs.	0.75	<0.001
SI2	My family and friends urge me to think about purchasing an EV.	0.82	<0.001
SI3	Everyone I know thinks using an EV makes sense.	0.74	<0.001
	Perceived Cost Control (CR = 0.87; AVE = 0.63; Cronbach's Alpha = 0.82)		
PCC1	I can afford to buy an EV in terms of finance.	0.88	<0.001
PCC2	Conveniently, this amount is slightly less than you would pay to charge a conventional vehicle fully.	0.86	<0.001
PCC3	I think the long-term savings of EVs are worth the upfront cost.	0.77	<0.001
PCC4	I have enough information about EV incentives and subsidies.	0.70	<0.001
	Switching Intention (CR = 0.91; AVE = 0.76; Cronbach's Alpha = 0.84)		
SI1	I have a gasoline vehicle that I will be converting into an EV soon.	0.84	<0.001
SI2	I want to buy an EV for my next car.	0.84	<0.001
SI3	I am planning to switch to an EV.	0.87	<0.001
	Brand Awareness (CR = 0.90; AVE = 0.61; Cronbach's Alpha = 0.85)		
BA1	When asked to name top EV brands, I can readily name them.	0.71	<0.001
BA2	When I think of buying an EV, offshore brands are the first thing that comes to mind.	0.83	<0.001
BA3	Some EV brands I trust more than others.	0.81	<0.001
BA4	People are always talking about EV brands in my social circles.	0.82	<0.001
	EV Adoption Behavior (CR = 0.91; AVE = 0.72; Cronbach's Alpha = 0.86)		
EAB1	I have done my homework on various EV models and their features.	0.81	<0.001
EAB2	I have explored dealerships or test-driven an EV.	0.84	<0.001
EAB3	I'm ready to spend money on an EV.	0.87	<0.001

Table 3. Hypothesis Testing

Hypothesis	Path	Standardised Path Coefficients	p-Values
H1	Environmental Concern → Migration Intention (EV Adoption)	0.44	<0.001
H2	Social Influence → Migration Intention (EV Adoption)	0.09	0.098
H3	Perceived Cost Control → Migration Intention (EV Adoption)	0.24	<0.001
H4	Perceived Cost Control → EV Adoption Behavior	0.20	<0.001
H5	Migration Intention (EV Adoption) → EV Adoption Behavior	0.43	<0.001
H6	Migration Intention (EV Adoption) → Brand Awareness → EV Adoption Behavior	0.20	<0.001
	R^2 (Migration Intention): 0.418		
	R^2 (EV Adoption Behavior): 0.406		

As shown in Table 2, all factor loading values were exceeded with common benchmark criteria of greater than 0.5, demonstrating strong evidence of validity. Next, a construct reliability test was performed to examine the instrument's internal consistency. Reliability was estimated via composite reliability and Cronbach's alpha. The instrument's reliability was confirmed with Cronbach's alpha values of 0.79 and above and composite reliability scores, as presented in Table 2. This study employed the partial least squares (PLS) approach, a common behavioural research method used to analyse variables' relationships. The findings support five of the six hypotheses, while one hypothesis not confirmed. As shown in Figure 2 and Table 3, environmental concern, perceived cost control, and intention to switch significantly affected migration intention and EV adoption behaviour. Brand awareness also positively impacted EV adoption behaviour.

H1 posited that environmental concern would positively influence migration intention, supported by a beta of 0.44 and a p-value below 0.01. H3 proposed that perceived cost control would positively impact migration intention, confirmed with a beta of 0.24 and significance below 0.01. H4 that perceived cost control would positively affect EV adoption behaviour, was supported with a beta of 0.2 and p-value under 0.01. H5, specifying the intention to switch as positively impacting EV adoption behaviour, received backing from a beta of 0.43 and p below 0.01.

Finally, H6, asserting brand awareness would positively influence EV adoption behaviour, was supported by a beta of 0.2 and a p-value below 0.01.

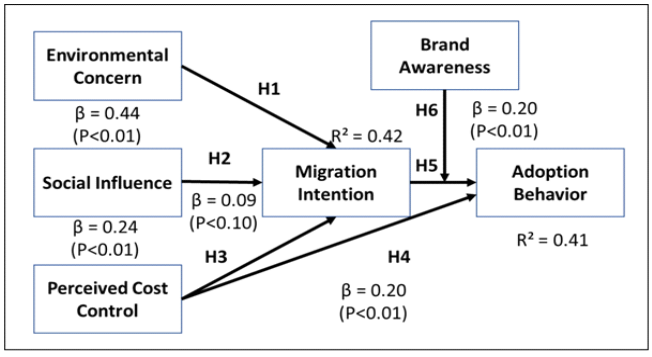

Figure 2. Research model result

The only hypothesis not finding corroboration was H2, proposing social influence would positively affect migration intention. This hypothesis yielded a beta of 0.09 and a p-value of 0.098, indicating a lack of statistical significance. The results suggest that environmental concern and perceived cost control have a significantly positive influence on consumers intention to migrate towards EVs. Perceptions around cost significantly influence consumers' views on switching to EVs. Intention to migrate proves a reliable predictor of EV adoption, underscoring motivation's importance in decision-making.

Furthermore, brand awareness moderates the link between switching intent and EV adoption behaviour such that higher brand awareness strengthens the intention's impact on adopting an EV. The more recognized a brand is, the stronger the translation of intent into adoption.

DISCUSSION

Attitudes often seen as mental constructs that subtly influence perception and decision-making. The beliefs and evaluations of a person shape their attitude toward an object or situation. Over time, we form attitudes associating certain features with objects, but different individuals may hold varied beliefs. Still, attitude consistently plays a role in shaping one's behavioural intentions. In the electric vehicle market, concerns for sustainability and the environment often determine consumers' migration tendencies. Those troubled by carbon emissions and lasting impacts tend to view EV adoption more favourably as a viable option. Previous research confirms the close relationship between attitudes and intentions within the theory of planned behaviour. Increased awareness of EVs' sustainability benefits can strengthen brand loyalty and preference. One study found that positive views towards electric cars correlated with higher adoption intent. Similarly, when attitudes regarding sustainable mobility solutions are positive, individuals prove more inclined to transition to electric mobility. While environmental attitudes significantly affect consumer intentions to adopt electric vehicles, social influences play a limited role. Previous research found subjective norms in planned behaviour theory can have varying or opposing impacts. This limitation only describes a specific consumer group without differentiating regions or industries. The sample largely consisted of young adults aged 21-25 who may not feel social pressure to buy EVs but choose them for personal or financial reasons instead. Technological advances enable younger consumers to independently research products online, reducing the influence of social pressure. Studies suggest that millennials prioritize personal evaluations over peer influence when making purchasing decisions. In this scenario, personal perceptions like costs and eco-concerns appear more influential than social impacts on migration intentions for EV adoption. We add that younger consumers are likelier to switch from gas cars to EVs since they rely on intrinsic motivations to evaluate needs and choose independently rather than socially driven behaviours. This allows considering individual characteristics without assumptions about social expectations.

The results indicate that price fairness positively and significantly impacts behavioural intentions regarding migration to electric vehicles. Bansal and Taylor reported similar findings, stating that people will generally only consider a behaviour if they have sufficient money, knowledge, and ability. Perceived cost control incorporates two primary elements. Control beliefs encompass consumers' perceptions of financial or physical barriers to EV adoption. Perceived strength refers to the degree to which consumers can easily overcome obstacles such as high upfront expenses, charging availability, and long-term maintenance costs. Indeed, perceived cost control affects migration intentions and EV adoption behaviour. Consumers are more inclined to switch from fossil-fueled vehicles if income supports affording an EV. However, when costs seem unmanageably high or uncontrollable, the relationship between perceived control over expenses and actual behaviour weakens.

Therefore, perceived cost control is also an important predictor of EV consumers' behavioural intentions and adoption behaviour. Ajzen proposed that self-behaviour does not directly relate to behavioural intention, as various other factors influence decisions. Brand awareness represents one factor that could play a greater role in influencing consumer decisions in EV adoption research. Brand managers may use smartphone ads and online or media promotions to help consumers recognise the brand, which could impact purchase decisions. While Keller (1993) suggested that consumer familiarity with a brand supports a link between that brand and customer preferences, brand awareness may not always translate into purchases. Consumers often prefer EVs from well-established brands, as familiarity enhances trust and reduces concerns about quality (Rezvani *et al.,* 2018). Nonetheless, increase brand awareness does not guarantee sales. Conversely, low brand recognition presents an obstacle for potential EV buyers. Those most conscious of automotive brands may hesitate when considering a vehicle sporting an unfamiliar logo. In turn, marketers must devise approaches addressing unawareness through informative advertisements, trial drive events, or partnerships developing secondary associations that heighten visibility. As adoption rises with recognition, cultivating an EV brand's profile is valuable for current and future consumers.

CONCLUSIONS AND SUGGESTION

Conclusions

This study contributes to developing a migrated customer evaluation framework for measuring electric vehicle adoption, advancing the customisation of a consumers shift model based on the Theory of Planned Behavior. Hypotheses regarding social influence on intention to migrate towards EV adoption were not supported, while other hypotheses were supported. Findings revealed that environmental concern positively correlates with intention to migrate towards EV adoption. Perceived cost control also significantly impacts migration behaviour and EV adoption behaviour, respectively, indicating that perceived of cost control ability may be crucial in EV adoption decision-making. Additionally, this study identified a direct positive relationship between migration intention and EV adoption behaviour, moderated by brand awareness. Improving brand awareness increases consumers' likelihood of transforming intention into actual EV adoption. Results differed from expectations, showing that social influence is a non-significant factor in migrating intention for EC adoption. Customers may not adopt EVs due to societal pressure but instead on personal, financial, and environmental benefits.

Suggestion

The findings demonstrated the theory of social norms is unsupported. Previous studies revealed most consumers do not consider social influence when adopting EVs, instead focusing solely on environmental issues and financial incentives. Such conduct may arise sustainable behaviours from necessity and self-motivation. Future research should consider this aspect. This research should survey younger customers with better access to EV information and greater independence from social norms. Strategies to increase brand awareness include educating customers on EV benefits, such as transparently and logically explaining technology and financial benefits.

Marketers should connect creatively and emotionally with customers by inspiring the need for sustainable transport. This study did not investigate knowledge and interfamily communication influences on EV adoption behaviour, which could be incorporated into the Theory of Planned Behavior variables in future migration pattern studies for a more precise understanding.

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