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SUSTAINABLE GREEN TRANSPORTATION UTILISATION: A GENERATIONAL COMPARATIVE STUDY ON FACTORS INFLUENCING MALAYSIAN ELECTRIC VEHICLE ADOPTION INTENTION

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Abstract

As climate change intensifies, the Malaysian government is promoting SDGs to mitigate the impacts through carbon emission reduction, renewable energy, and adaptation strategies. This study explores factors influencing EV purchase intention among Generation X and Y in Klang Valley, Malaysia. Specifically, it examines the roles of environmental concern (EC), social influence (SI), perceived economic benefits (PEB), and perceived ease of use (PEOU), with perceived usefulness (PU) as a mediating factor. Multigroup analyses were employed to investigate gender differences in the model. Findings revealed that EC significantly affects PU, indicating that environmentally conscious individuals view EVs as more beneficial. Moreover, PU mediates the relationship between EC and purchase intention, suggesting that concern for the environment enhances the PU of EVs, thereby increasing purchase likelihood. SI and PEB also significantly impact EV purchase intention. Gender does indeed play a moderating role, with significant differences between men and women. These findings support an extended TPB framework and offer practical insights for policymakers and industry players. By aligning environmental values with tangible benefits, stakeholders can more effectively promote EV adoption among Malaysian consumers, particularly in targeted generational groups.

Keywords: Payment for Ecosystem Services, Economic Valuation, Contingent Valuation, Forest Policy, Malaysia

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INTRODUCTION

In recent years, Malaysia has been confronted with increasingly severe challenges of air pollution and carbon emissions. In addition, Malaysia's greenhouse gas emissions have been continuously rising. In 2024, energy-related carbon dioxide emissions reached 296.3 million tons (Mt), setting a new historical record. Malaysian CO₂ emissions grew 2% annually in the past decade (Energy Institute, 2025). The energy structure is still dominated by fossil fuels, with natural gas and oil accounting for 73% of the total supply, while the proportion of renewable energy is less than 2%. Despite net-zero targets for 2050, Malaysia remains locked into fossil fuel dependency (CREA, 2025). The most significant factor among them is the transportation system's high reliance on fuel-powered vehicles. By 2025, Malaysia had 36.3 million registered cars, mostly ICE vehicles (RimbaWatch & CREA, 2025). Without accelerating green transportation, Malaysia risks missing its 2030 and 2050 climate goals. The Malaysian government plays a pivotal role in fostering the EV sector (Sulaiman et al., 2023; Noorzai, M. Q., Hosni, N., & Pashton, N., 2026). Government initiatives like the National Automotive Policy 2020 (NAP 2020) and the Low Carbon Mobility Blueprint (LCMB) 2021–2030, alongside plans for 10,000 charging stations by 2025, are fostering EV adoption (MMR, 2023; Chawla et al., 2023).

Malaysians from Generation X and Y, comprising individuals aged 28–59, are a significant demographic in Malaysia. Their financial capacity and dominant presence in the labour market position them as key target populations for studying EV adoption, making them ideal for this research. Despite the global growth of the EV market, adoption in Malaysia remains minimal, comprising just 0.4% of vehicle sales (International Trade Administration, 2023). This highlights the urgent need to investigate factors influencing purchase intentions, particularly among Gen X and Y in the Klang Valley. Moreover, Malaysian consumers tend to be price-sensitive (International Trade Administration, 2024), necessitating a deeper understanding of economic-related factors on EV purchase intention. Range anxiety and charging time remain key functional concerns raises questions about whether the ease of use of EVs will influence their purchase intentions. Thus, this research aims to address these factors comprehensively, offering insights into the unique drivers and barriers shaping EV purchase intention in Malaysia.

LITERATURE REVIEW

Theoretical Background

The Theory of Planned Behavior (TPB), an extension of the Theory of Reasoned Action (TRA), enhances purchase intention models by incorporating attitude, social norms, and perceived behavioural control (Ajzen, 1991). While TPB is robust, incorporating additional constructs can increase its relevance in specific

contexts (Moon, 2021; Yeğın & Ikram, 2022). Accordingly, this research extended the TPB as the underpinning framework. Existing research by Moon (2021) extended the TPB in his research on EV purchase intention in Korea. The study discovered that the extended factors, environmental propensity and consumer innovation propensity, had substantial indirect impacts on EVs' purchase intention, which are mediated by attitude, subjective norms, and perceived behavioural control. This suggests that the extended TPB model is relevant and applicable in this research context.

Purchase intention

Purchase intention, rooted in the 1980 work of Ajzen and Fishbein, is defined as the probability that an individual will engage in a specific behaviour linked to decision-making, with higher intention increasing the likelihood of purchase (Dodds et al., 1991; Schiffman and Kanuk, 2007). It reflects consumer sentiment towards goods or services (Soebagyo, 2014).

Environmental concern, Perceived usefulness and Purchase intention

Environmental concern (EC), initially defined by Dunlap and Van Liere (1978) in the New Ecological Paradigm (NEP) scale, encompasses concern for specific environmental issues like waste disposal or water pollution, as well as broader ecological problems and attitudes towards the human-environment relationship. This concern is closely linked to individuals' understanding of environmental issues and their willingness to support solutions (Khasanov et al., 2026). In the EV context, Yeğın and Ikram (2021) and Sukma et al. (2023) used the extended TPB to demonstrate that EC positively influences EV purchase intentions in Turkey and Indonesia, respectively. However, limited research has explored the mediating effect of perceived usefulness in the EV sector, highlighting a gap, particularly in specific demographics like Gen X and Y in Klang Valley, Malaysia. Based on these insights, two hypotheses were developed:

H₁: Environmental concern has a significant impact on perceived usefulness among Gen X and Y in Klang Valley, Malaysia.

H₂: Perceived usefulness mediates the relationship between environmental concern and EV purchase intention among Gen X and Y in Klang Valley, Malaysia.

Social influence and Purchase intention

Social influence (SI), as defined by Turner (1991), occurs when individuals adjust their ideas, attitudes, or actions in response to cultural and social cues. Societal perspectives and peer group interests significantly influence purchasing behaviour, as evidenced by Khazaei's (2019) study on EV purchase intention

among lecturers, postgraduate students, and employees in Malaysia. However, variability exists in this domain; Lim et al. (2019) observed that SI did not significantly affect EV purchase intentions among Malaysian consumers in Penang and Kuala Lumpur. These highlight the need for localised investigations, leading to the hypothesis:

H3: Social influence has a significant impact on EV purchase intention among Gen X and Y in Klang Valley, Malaysia.

Perceived economic benefits and Purchase intention

Perceived economic benefits (PEB) refer to the financial advantages individuals believe they will gain from specific decisions, encompassing subjective perceptions of cost savings and value (Verhaegen et al., 2014). In the context of EVs, these benefits include lower purchase, maintenance, and operational costs, as well as savings from government subsidies and zero fuel expenses (Ghadikolaie et al., 2021). Similarly, Wang et al. (2024) demonstrated a significant positive impact of PEB on consumer satisfaction and purchase decisions. However, contrasting findings by Khurana et al. (2020) in India showed no significant relationship between perceived economic benefits and EV adoption intentions, highlighting the need to account for contextual differences. To address these variations, the following hypothesis is proposed:

H4: Perceived economic benefits have a significant impact on EV purchase intention among Malaysians from Gen X and Y.

Perceived ease of use, Perceived usefulness, and Purchase intention

Perceived ease of use (PEOU) encompasses factors like the simplicity of operating an EV, the availability and proximity of charging infrastructure, recharging time, and durability assurance (Prabaharan & Selvalakshmi, 2022). Hasan and Erni (2024) further emphasise that PEOU not only shapes perceptions of usefulness but also indirectly influences purchase intention through the mediating role of perceived usefulness. This underscores the dual role of ease of use in enhancing PU and influencing decision-making. Based on these insights, the following hypotheses are proposed:

H5: Perceived ease of use has a significant impact on perceived usefulness among Gen X and Y in Klang Valley, Malaysia.

H6: Perceived usefulness mediates the relationship between perceived ease of use and EV purchase intention among Gen X and Y in Klang Valley, Malaysia.

Perceived usefulness and Purchase intention

Perceived usefulness (PU), introduced in the TAM by Davis (1986), refers to the extent to which a user believes a technology enhances productivity, effectiveness, and performance. Research highlights its role in shaping EV purchase intentions, as shown by Alberto and Riza (2023) in Jakarta, Zhang et al. (2023) in China, and Liu et al. (2023) in Beijing. Saleh et al. (2024) similarly confirmed its significance, though Krishnan and Koshy (2021) found no impact in a different context, highlighting market-specific variations. To explore its role in Malaysia, the following hypothesis is proposed:

H₇: Perceived usefulness significantly impacts EV purchase intention among Gen X and Y in Klang Valley, Malaysia.

The Moderating Role of Gender

In the field of EV adoption research, gender has been treated in various ways, ranging from a control variable to a mediator or moderator (Bhasin & Srivastava, 2024). Empirical findings indicate that Jaiswal et al. (2025) found males to have significantly stronger behavioural intentions toward adopting electric vehicles than females, while Bhasin and Srivastava (2024) confirmed a significant role of gender in influencing electric vehicle adoption intention in the Indian context.

H₈: Gender serves as a moderating variable in the model among Gen X and Y in Klang Valley, Malaysia.

RESEARCH METHODOLOGY

Figure 1 illustrates the research framework of the study based on the extended TPB. It focuses on how consumers' purchase intentions towards EVs are directly influenced by PEB, PEOU, and PU. Meanwhile, the mediating role of PU is explored in the relationship between EC and PI, as well as in the relationship between SI and PI. All questions were contextualised to the research context.

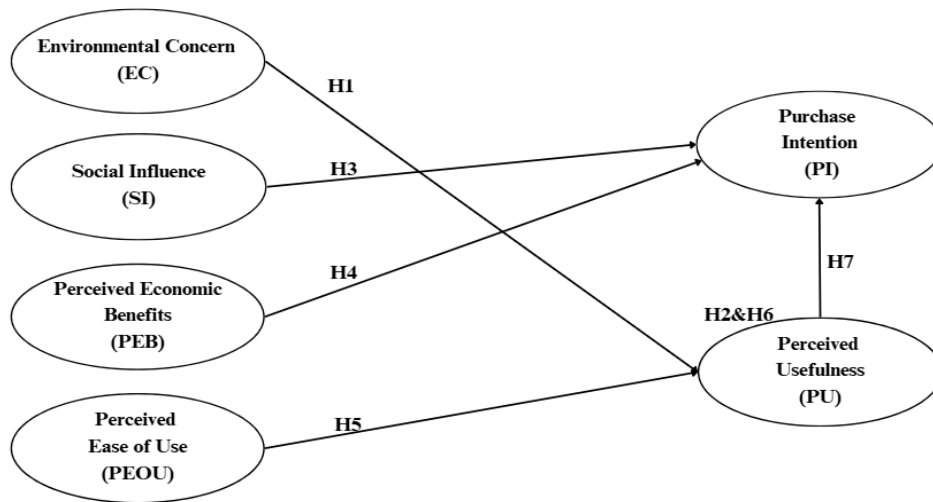


Figure 1: Research Framework

Research Design

Convenience sampling was used to collect samples. The first section on demographic information. The second section consisted of 29 question items for formal measurement of the constructs, with four to six items for each construct. The majority of the population in the Klang Valley is of Gen X (born 1965-1980) and Gen Y (born 1981-1996). According to the DOSM Malaysia (2024), there are about 4.92 million inhabitants in the Klang Valley aged between 25 and 59 years. Since the population is more than 1 million, a minimum sample size of 384 is recommended according to Krejcie and Morgan (1970). The questions were systematically quantified using a five-point Likert scale. Partial Least Squares Structural Equation Modelling from SmartPLS version 4 used for data analysis.

RESULTS AND FINDINGS

A total of 384 valid questionnaires were obtained after excluding 27 non-Klang Valley samples. Table 1 presents a comprehensive view of the demographic data of the respondents with categories such as gender, age group, education level, and income level. The gender distribution was balanced, with 51% female and 49% male, providing for gender subgroup analyses. Gen Y was in the majority (89%), with the younger generation tending to favour sustainability and innovation, while Gen X (11%) provided the perspective of an older cohort with different priorities (e.g., family needs and practicality).

Table 1: Profiles of Respondents.

Items	Category	Frequency	Percentage
Gender	Female	196	51%
	Male	188	49%
Age Group	Gen Y	340	89%
	Gen X	44	11%
Education Level	Primary School	3	1%
	Secondary School	15	4%
	Higher or Further Education	36	9%
	Undergraduate Degree	201	52%
	Postgraduate Degree	129	34%
Income Level	Below RM1,000	38	10%
	RM1,001 - RM3,000	99	26%
	RM3,001 - RM5,000	115	30%
	RM5,001 - RM7,000	78	20%
	Above RM7,000	54	14%

Source: Own Survey (2025)

The majority of respondents have an undergraduate (52%) or graduate degree (34%), and this higher level of education is likely to make them more knowledgeable about environmental and technology issues. Income levels were mixed, with 30% of respondents earning between RM3,001 and RM5,000 and 26% earning between RM1,001 and RM3,000, representing the middle-income group of the potential audience for EVs.

Measurement Model Assessment

As can be seen in Table 3, all factor loadings exceeded the critical value of 0.5, while the AVE values of the constructs all exceeded 0.50, demonstrating good convergent validity (Hair et al., 2022). In addition, the CR values of the constructs were in the optimal range of 0.7 to 0.95 (0.840 to 0.944), demonstrating good internal consistency (Hair et al., 2017). The Cronbach's alpha values (0.774 to 0.928) were categorised as excellent reliability. It is worth noting that EC had the lowest AVE, CR, and Cronbach's alpha values, which may be due to the low factor loadings of items EC3 and EC5 (0.596 and 0.621, respectively).

Table 3: Measurement Model Evaluation.

Construct	Items	Loadings	AVE	CR	Cronbach's Alpha
EC	EC1	0.830	0.517	0.840	0.774
	EC2	0.657			
	EC3	0.596			
	EC4	0.852			
	EC5	0.621			
SI	SI1	0.850	0.703	0.922	0.895
	SI2	0.830			
	SI3	0.840			

Construct	Items	Loadings	AVE	CR	Cronbach's Alpha
PEB	SI4	0.847	0.622	0.867	0.795
	SI5	0.825			
	PEB1	0.837			
	PEB2	0.815			
	PEB3	0.807			
PEOU	PEB4	0.686			
	PEOU1	0.774	0.681	0.914	0.883
	PEOU2	0.795			
	PEOU3	0.856			
	PEOU4	0.844			
	PEOU5	0.853			
PU	PU1	0.814	0.737	0.944	0.928
	PU2	0.902			
	PU3	0.870			
	PU4	0.903			
	PU5	0.849			
	PU6	0.808			
PI	PI1	0.879	0.786	0.936	0.909
	PI2	0.834			
	PI3	0.910			
	PI4	0.921			

Source: Own Survey and Author's Calculation

Table 4: HTMT ratio.

	EC	PEB	PEOU	PI	PU	SI
EC						
PEB	0.689					
PEOU	0.612	0.800				
PI	0.666	0.768	0.789			
PU	0.561	0.777	0.698	0.751		
SI	0.693	0.810	0.709	0.802	0.808	

Structural Model Assessment

Figure 2 provides a comprehensive understanding of the research analysis structure and results. Factor loadings and p-values, path coefficients and p-values, and model R² and Q² values are included in the figure.

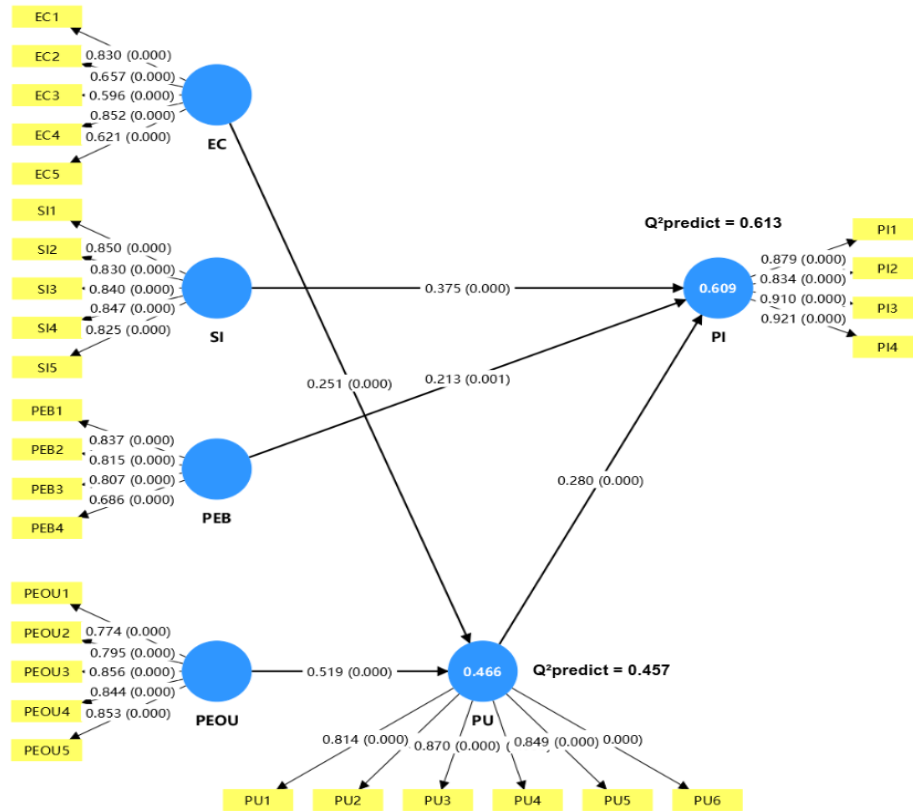


Figure 2: Overall Model Overview

From Table 5, the VIF (internal model) values are between 1.358 and 2.570, which are all less than the suggested value of 5. Therefore, according to Hair & Alamer (2022), it can be stated that there is no problem of covariance between the constructs.

Table 5: Collinearity Assessment

Relationship	VIF
EC → PU	1.358
SI → PI	2.570
PEB → PI	2.120
PEOU → PU	1.358
PU → PI	2.485

Table 6: Hypothesis Testing of Direct Effect

Hypothesis	Relationship	Std Beta (β)	Sample mean	Std Error	T-value	P-value
H ₁	EC -> PU	0.251	0.254	0.044	5.659	0.000
H ₃	SI -> PI	0.375	0.373	0.061	6.153	0.000
H ₄	PEB -> PI	0.213	0.216	0.062	3.450	0.001
H ₅	PEOU -> PU	0.519	0.519	0.043	11.974	0.000
H ₇	PU -> PI	0.280	0.280	0.061	4.625	0.000

Source: Own Survey and Author's Calculation

Table 6 summarizes the results of the structural model. The data indicate that all hypothesized relationships are supported at the 5% level. H₁ is supported, and Environmental Concern (EC) has a significant positive effect on Perceived Usefulness (PU) ($\beta = 0.251$, $t = 5.659$, $p < 0.001$). H₃ was supported ($\beta = 0.375$, $t = 6.153$, $p < 0.001$), with Social Influence (SI) as the first influential factor significantly predicting Purchase Intentions (PI). H₄ is supported ($\beta = 0.213$, $t = 3.450$, $p = 0.001$), with Perceived Economic Benefits (PEB) positively influencing Purchase Intentions (PI). H₅ is supported by the data ($\beta = 0.519$, $t = 11.974$, $p < 0.001$), with Perceived Ease of Use (PEOU) as the strongest influencing factor, strongly influencing PU. Finally, H₇ was supported ($\beta = 0.280$, $t = 4.625$, $p < 0.001$), with PU significantly influencing PI. Overall, Social Influence (SI) and Perceived Usefulness (PU) are the key determinants of purchase intention for EVs, while Perceived Ease of Use (PEOU) plays the most important role in shaping Perceived Usefulness (PU).

Table 7: R-squared and Explanatory Power

	R-square	R-square adjusted	Explanatory power
PU	0.466	0.463	Moderate
PI	0.609	0.606	Strong

Source: Own Survey and Author's Calculation

As can be seen from Table 7, in terms of model explanatory power, the model explained 46.6 % of the variance of the PU ($R^2 = 0.466$), which has moderate explanatory power (Sarstedt et al., 2021). For Purchase Intentions, the model explains 60.9 % of the variance and is considered to have strong explanatory power (Sarstedt et al., 2021).

Table 8: f-Square and Effect Size

Hypothesis	Relationship	f ²	Effect size
H ₁	EC -> PU	0.087	Small
H ₃	SI -> PI	0.140	Small
H ₄	PEB -> PI	0.055	Small
H ₅	PEOU -> PU	0.371	Large
H ₇	PU -> PI	0.081	Small

From Table 8, the results of the effect size analysis show that PEOU has the largest effect on PU ($f^2 = 0.371$). While the effect sizes of the other paths are defined as small effects (Hair et al., 2013). The robustness of the model is further ensured by the results of the prediction-related Q^2_{predict} . From Table 9, the Q^2 values for both PU and PI exceeded the threshold value of 0, indicating the model's solid predictive ability. The Root Mean Square Error (RMSE) and Mean Absolute Error (MAE) values for both PI (RMSE = 0.628, MAE = 0.463) and PU (RMSE = 0.742, MAE = 0.571) illustrate acceptable prediction accuracy (Sarstedt et al., 2021).

Table 9: Predictive Relevance of the Model

	Q^2_{predict}	RMSE	MAE
PI	0.613	0.628	0.463
PU	0.457	0.742	0.571

Source: Own Survey and Author's Calculation

Mediating Effect

Table 10: Hypothesis Testing for Indirect Effect

Hypothesis	Relationship	Std Beta (β)	Sample mean	Std Error	T-value	P-value
H ₂	EC → PU → PI	0.070	0.071	0.020	3.436	0.001
H ₆	PEOU → PU → PI	0.145	0.146	0.036	4.050	0.000

Source: Own Survey and Author's Calculation

Table 10 summarises the results of the mediation effect, with both mediation paths accepted. H₂ is supported by the data ($\beta = 0.093$, $t = 3.660$, $p < 0.001$), with PU significantly mediating the relationship between EC and PI. H₆ was also supported ($\beta = 0.145$, $t = 4.050$, $p < 0.001$), showing the significant mediating effect of PU in the relationship between PEOU and PI.

Multi-Group Analysis

Table 11: Results of MICOM

Constructs	Equal Mean Assessment			Equal Variance Assessment			Full Measurement Invariance Established
	Differences	Confidence Interval	Equal	Differences	Confidence Interval	Equal	
EC	0.001	(-0.216, 0.199)	YES	-0.188	(-0.302, 0.298)	YES	YES
SI	-0.146	(-0.213, 0.194)	YES	-0.017	(-0.273, 0.259)	YES	YES
PEB	-0.166	(-0.198, 0.193)	YES	-0.043	(-0.247, 0.244)	YES	YES
PEOU	-0.237	(-0.198, 0.187)	NO	0.167	(-0.296, 0.317)	YES	NO
PU	-0.025	(-0.202, 0.186)	YES	0.018	(-0.237, 0.249)	YES	YES
PI	-0.084	(-0.206, 0.196)	YES	0.069	(-0.330, 0.334)	YES	YES

Source: Own Survey and Author's Calculation

In order to test the moderating effect of gender on the hypothesised relationships in the model, a multi-group analysis was conducted. From Table 11, MGA results showed significant gender differences for three direct pathways (H_{8c} , H_{8e} , H_{8g}). H_{8c} was supported by the fact that there is a significant difference between males and females on the relationship between SI and PI, with the effect being stronger among male respondents ($\beta_{\text{female}} = 0.255$, $\beta_{\text{male}} = 0.487$, $\Delta\beta = -0.232$, $p = 0.047$). H_{8e} was supported by the fact that men and women reflect a significant difference in the relationship between PEOU and PU, with the effect being stronger in the female group ($\beta_{\text{female}} = 0.604$, $\beta_{\text{male}} = 0.426$, $\Delta\beta = 0.179$, $p = 0.034$). H_{8g} was supported, and there was a significant difference between males and females on the relationship between PU and PI, with a stronger effect for female respondents ($\beta_{\text{female}} = 0.496$, $\beta_{\text{male}} = 0.070$, $\Delta\beta = 0.426$, $p < 0.001$). However, H_{8a} (EC to PI) and H_{8d} (PEB to PI) were not supported, and the gap between men and women on these two paths was not statistically significant. The mediating paths were also analysed by gender subgroups. This suggests that the mediating effect of PU on the relationship between EC and PI is more significant for females. H_{8f} was also supported that the indirect path effect of PEOU to PU to PI was stronger among female respondents ($\beta_{\text{female}} = 0.300$, $\beta_{\text{male}} = 0.030$, $\Delta\beta = 0.270$, $p < 0.001$). This finding suggests that this indirect path of easy-to-use feelings translating into PU and then ultimately into purchase intentions is more effective in the female cohort.

Table 12: Multi-Group Hypothesis Testing for Direct Effect3

Path Coefficient (β)				Confidence Interval (2.5%; 97.5%)	p-Value (2-tailed)	
Relationship	Female	Male	Difference ($\Delta\beta$)			Moderation Supported
H_{8a} . EC $\rightarrow$ PU	0.222	0.286	-0.064	(-0.170; 0.175)	0.457	NO
H_{8c} . SI $\rightarrow$ PI	0.255	0.487	-0.232	(-0.248; 0.230)	0.047	YES
H_{8d} . PEB $\rightarrow$ PI	0.136	0.291	-0.155	(-0.239; 0.264)	0.206	NO
H_{8e} . PEOU $\rightarrow$ PU	0.604	0.426	0.179	(-0.171; 0.163)	0.034	YES
H_{8g} . PU $\rightarrow$ PI	0.496	0.070	0.426	(-0.236; 0.242)	0.000	YES

Source: Own Survey and Author's Calculation

ANALYSIS AND DISCUSSION

H_1 reveals that Environmental Concern (EC) has a significant positive effect on Perceived Usefulness (PU). Emphasising EVs' environmentally friendly attributes can increase their appeal. Additionally, H_2 reveals that perceived usefulness serves as a mediator in the relationship between environmental concern and EV purchase intention, supporting research by Gawshinde and

Alaflak (2024) that reveals how environmentally conscious consumers form purchase intentions by perceiving green products as more useful. This emphasises how peers, family, and community affect choices, especially in Malaysia's tradition of collectivism, where communal views frequently take precedence over individual preferences. It is in line with findings by Abbasi et al. (2021) and Cui et al. (2021). Additionally, EV purchase intentions are significantly influenced by PEB, which is consistent with Wang et al. (2024). Complex systems can discourage potential buyers by lowering their PU. The relationship between ease of use and EV purchase intentions is then mediated by PU, which is consistent with Hasan and Erni (2024). It emphasises presenting EVs' features and benefits as competitive substitutes for conventional automobiles. Gender does play a moderating role in the TPB model. Specifically, SI had a stronger effect on men, indicating that their purchase decisions are more susceptible to peer and community opinions, consistent with Malaysia's collectivist culture. In contrast, women were more strongly influenced by PEOU and PU, suggesting that usability and functional value are particularly salient to female consumers. These findings align with Bhasin & Srivastava (2024) and Jaiswal et al. (2025), which emphasise gender differences in technology adoption and the need for gender-sensitive marketing strategies in Malaysia's EV sector.

In addition, the results indicated that the study predominantly captures insights from Gen Y, who are often more inclined towards sustainability, technology adoption, and innovation, which are key factors that influence EV purchase intention. This group is typically more tech-savvy and receptive to new trends, making their purchase behavior particularly relevant to this study. The smaller representation from Gen X, as of 2026, means Gen Xers are aged between 46 and 61, making them mature drivers in making an EV purchase decision. Ultimately, their perspective adds insights from a slightly older demographic, who may have different considerations regarding EV adoption, such as family needs, practicality, and financial stability. This age distribution ensures that the study reflects both youthful enthusiasm for technological advancements and the more measured approach of middle-aged consumers, offering a comprehensive understanding of EV purchase intention across these two generational groups.

CONCLUSION

Remarkably, this study extends the TPB model by utilising different variables to explore its application in the context of electric vehicle consumer purchasing behaviour. In Addition, this study sets the research context in the Klang Valley, Malaysia, to explore the importance of cross-cultural research in understanding consumer decision formation based on the unique geographical context. The findings provide important insights into understanding the consumer perceptions and decision-making process of Gen X and Y towards EVs. As an extension

study, this study explored gender differences in EV purchase intentions using multicohort analyses. Males were more likely to translate being influenced by the social environment into PIs. In contrast, women are more likely to convert PEOU into PI, and are more significantly influenced by PU. Therefore, marketing to women can emphasise hands-on experience, test drives, clear explanations of features, and after-sales service.

Limitations

There are obvious limitations to the convenience sampling method, which may introduce bias due to non-random sampling. Convenience sampling ranges from individuals who are easily accessible. The target group of the study was narrowly focused and consisted of 89 % Gen Y respondents and 11 % Gen X respondents, thus limiting the richness of the study and its representation of Gen X. Future studies could target Gen X to fill this gap.

Suggestions for Future Research

As a suggestion, future research on EV purchase intentions in Malaysia could benefit from other exploratory models such as the S-O-R model, which emphasises functional and non-functional values, and the Consumer Value Theory (Zamil et al., 2023). Additionally, age, education level, and income level could be used as extended moderating variables to explore the differences in purchasing behaviours they cause to better understand their role in shaping EV purchase intentions. In conclusion, this study addressed are crucial perspectives for automakers, dealerships, and investors to tap into the latent market potential.

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