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RESEARCH ARTICLE

To Study the Contribution of Price Factor Towards the Purchase Intention of EV Market in Malaysia Among Generation Y Consumers

Yeoh Wee Win[1]

[1]School of Business, INTI International College, Penang Malaysia

Corresponding Author: Yeoh Wee Win; meekyeoh@yahoo.com
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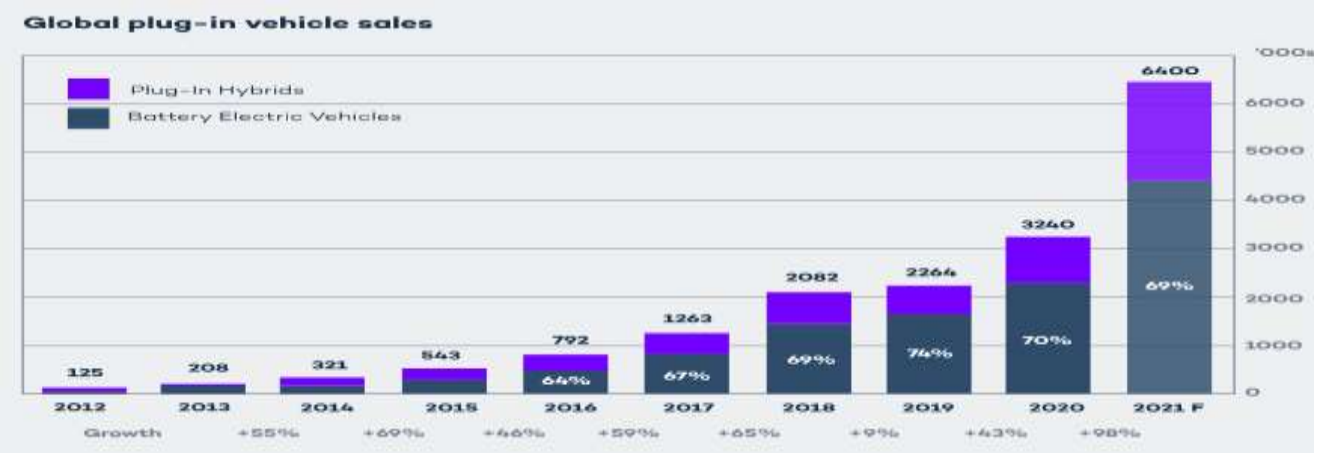
Abstract
The increasing demand towards the electric vehicle (EV) had prioritize the importance of the study towards the understanding on the purchase intention of the consumer market for the EV in Malaysia among the generation Y consumers. The previous study had suggested that the major contribution shift towards the EV market had been motivated by the environmental conscious for the individuals leading to higher purchase intention among the individuals. The suggestion on the previous study had suggested the evidence pointing to the significant positive relationship between the environmental conscious against the purchase intention of the consumers. The methodology of the research design had observed the quantitative method to put into picture to conduct the quantitative analysis based on the data input from the collection of sample size of 150 respondents from the distribution of the questionnaire from the target population of the Generation Y consumers. The findings had pointed out the evidence suggesting the presence of the significant positive correlation and regression relationship between the two variables indicting the similar findings as the previous research study. This had led to the achievement of the objective of the research drawing the significance of the study to conclude the outcome of the research.

Keywords: Electric vehicle; Generation Y; Malaysia; environmental conscious; purchase intention

Introduction

The electric car market is still in its early stages, while gasoline-powered and hybrid vehicles dominate the automotive sector. Despite the efforts of companies like Tesla, it will take time for the market demand for EVs to grow as consumers build trust in the technology and begin to convert their preferences to EVs (Carlucci, Cira & Lanza, 2018). Figure 1 shows that there is a rising global demand for EVs, indicating a large untapped market potential that should eventually translate into a rising sales trend. EVs only held 9.1% of the global market in 2021, according to data from that year, so there is clearly room for expansion (Zhou & Li, 2018). But there is still a paucity of understanding of the factors that motivate people to buy EVs (Doleschal, Rottengruber & Verhey, 2021).

Figure 1: Global Plug-in Vehicles Sales



In response to concerns about climate change and the depletion of natural resources, electric vehicles (EVs) were introduced to the market (Austmann, 2021). The performance of EVs is also projected to deliver higher sustainability as well as a quieter and more pleasant driving experience compared to conventional gasoline motor cars, therefore they are recognized to bring better experience to the users (Dumortier et al., 2015). In light of the need to address environmental concerns, electric vehicles (EVs) are widely seen as the sector's future standard of transportation (Fan, Huang & Wang, 2021). Accordingly, the industry must quickly implement the transformation by recognizing the change in legislation and market trend and encouraging the EV market to customers.

As Generation Y gradually enters the consumer market, they will be the primary target audience for electric vehicles. As a result, the proportion of millennials among car buyers is expected to rise. Consumer market "adults" are the persons currently in their 30s and 40s who were born between 1981 and 1994. (Guo et al., 2020). However, the generation Y consumer's thinking and expectations will become the central research subject as different generations are exposed to the generation gap and its possible effects on consumer preferences (Austmann, 2021). The millennial generation, for instance, places a higher value on the car's unique features and design than on its basic technical specifications (Zhou & Li, 2018). In general, members of Generation Y are portrayed as a spending-happy generation with lofty lifestyle expectations. This generation will widen the wealth gap between its predecessors and itself (Golob & Kronegger, 2019). As a result, this research was prompted to delve deeper into the potentially significant factors that will affect consumer behavior in purchasing the EVs market in the automotive industry market, as this would pressure the automotive industry to adopt the market shift in the consumer behavior for the rising of generation Y.

It was obvious why we were concentrating on the millennials; they represent the demographic that will be driving cars into the foreseeable future. In addition, the preferences of future consumers will be impacted by the interconnectedness between generation Y and the dwindling natural resources and the changing environment (Golob & Kronegger, 2019). As a result, members of Generation Y are more concerned about the effects of climate change on future generations, and this has prompted a shift toward greener products like electric vehicles (Zhou & Li, 2018). Further, the EV product's innovation had been enhancing its design and creativity, which grabbed the attention of the younger generation (Guo et al., 2020). Consequently, the primary focus of this research will be on gaining an understanding of the target demographic of generation Y by delving into the reaction and preference that leads to the motivation of the buy intention. Thus, it is important to investigate why millennials are interested in buying electric vehicles.

EVs were introduced to the market to minimize carbon emissions from motor cars as well as usage of fossil fuels, which are blamed for natural resource depletion (Austmann, 2021). Furthermore, EVs are recognized to provide a superior experience to consumers because their performance is projected to provide greater sustainability as well as a quieter and more comfortable driving experience when compared to regular gasoline motor cars (Dumortier et al., 2015). With the resolve of environmental concerns, EV are predicted to become the future of motor vehicles in the automotive sector, as a change in energy source is believed unavoidable (Fan, Huang & Wang, 2021). To achieve this goal, it is critical for the industry to adapt the shift as soon as possible, with the promotion of the EV market towards consumers and accepting the shift in policy and market trend.

Literature Review

Studying consumer behavior from the viewpoints of attitude, subjective norm, and perceived behavioural control is central to the theory of planned behavior (TPB). Within the TPB model, these three convictions are identified as the key drivers that establish the individual's intent when it comes to preference and decision making. In this study, the TPB will be used to learn how millennials' attitudes, subjective norms, and perceived behavioral control all play a role in their decision to buy an electric vehicle (Bosnjak, Ajzen & Schmidt, 2020). When it comes to a person's frame of mind, the observable response they exhibit in a given setting in relation to a certain aim is what the behavioural observer will focus on (Hsu & Huang, 2010). Subjective norms characterize the attention paid to the application of normative beliefs, when those beliefs are shaped by the individual's own perceptions of the normal norm and of his or her peers (Ajzen, 2020). It is important to consider the individual's sense of control while trying to explain why they may be unable to accomplish a given behavior.

The factor of price determines whether or not a certain product or service is within a customer's financial reach, it ultimately becomes the deciding element in how the customer chooses to use the product or service. As electric vehicles (EVs) are currently sold at premium pricing, cost has become a more important consideration in the buying process (Hagman et al., 2016). According to Dumortier et al. (2015), the higher initial purchase price of electric vehicles compared to conventional gasoline vehicles is a major contributor to the higher total cost of ownership, which in turn may have an effect on consumer behavior. It is expected that as electric vehicles (EVs) continue to improve and new manufacturers, like Tesla, introduce cutting-edge EVs to the market, EV sales will rise.

Nonetheless, the EV's high operating costs will raise new problems within the pricing category. (Lin, 2014). Customers may be put off by the product's expensive entry price and ongoing maintenance fees, prompting them to go elsewhere.

Because depleting natural resources like gas and oil of petroleum has become one of the most significant climate concerns on the market, Hagman et al. (2016) had emphasized the need for a shift in the alternative market, where the EV market had been rising in importance and popularity among the consumer market. However, the price of EVs continued to be high, which was an additional barrier to the growth of the EV market; this was because the high production costs of EVs were being passed on to consumers in the form of higher prices, which in turn became a major motivating factor in whether or not people planned to buy EVs. As Bashash et al. (2011) pointed out, the introduction of the EV market has made electric vehicles the future of the automotive industry, and the EV model has been shown to be beneficial in decreasing energy and resource use. While the initial purchase price of an electric vehicle may be higher than that of a conventional vehicle, the long battery life and low operating costs of EVs are likely to be viewed as a positive selling point by buyers. Nonetheless, Hagman et al. (2016) had made it obvious that despite the positive effects stemming from the use of EV, skepticism was sparked where the pricing for the EV would continue as premium above the gasoline car, which would become an issue on the affordability for the consumer. The increased cost may now play a role in discouraging EV purchasing intent. According to Hagman et al. (2016), the rising cost of EVs will become a major deterrent for consumers considering making a purchase in the sector. On the other hand, it is theorized that the younger generation of consumers may have a different perspective, with the tendency for younger consumers to have a favorable buy intention for EVs notwithstanding the price.

H0: There is no significant of positive impact of price towards the purchase intention within the EVs market for generation Y

H1: There is significant of positive impact of price towards the purchase intention within the EVs market for generation Y

Methodology

Quantitative methods were used to collect and analyze the research's data. By establishing empirical proof through exact measurement and numerical information, the results of the study's data analysis can be taken more at face value, thanks to the advantages offered by the quantitative analysis (Zikmund et al, 2013). Not only that, but quantitative techniques permit the examination of very large samples (Apuke, 2017). The use of deduction will be central to this quantitative investigation. The goal of using deductive reasoning in research is to arrive at a conclusion after first formulating a hypothesis that will be evaluated using a set of observations (Zikmund et al, 2013).

Both main and secondary information may be uncovered throughout the course of data collection. There are good and bad aspects to both types of information. It is recommended that primary data collection, in which information is gathered from the original source itself, be prioritized in the context of this study (Sekaran & Bougie, 2016). Questions will be sent out to Malaysia's millennials to gather information for this study.

Convenience sampling, a form of non-probability sampling, will be employed to select participants from the study community. According to the definition of "convenience sampling," a researcher chooses a subset of the study population whenever it is most convenient for them to do so. Using convenience sampling can help a researcher save time and money while still gathering useful data for their study (Sharela, 2016). According to the sample size reference, the study will collect 150 samples from the target demographic (the typical range for a research study's sample size is between 150 and 200 samples).

The quantitative study approach will be used in this study's application of the research methodology; SPSS will be used to generate the research's output, and its statistical results will include a factor analysis to confirm the accuracy of the questionnaire's responses, as well as a reliability analysis to check for inconsistencies and establish confidence in the results (Sharela, 2016). The study's outcome and goals will be drawn from the results of a combination of a correlation analysis and a regression analysis designed to shed light on the strength of any beneficial association between environmental consciousness and customers' propensity to make purchases (Sekaran & Bougie, 2016).

Discussion and Findings

The quantitative analysis will be proceeded to observe the significant in the data analysis in the statistical output as performed by the output from the SPSS software.

Table 1: Factor Analysis for Price

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.745
Bartlett's Test of Sphericity	Approx. Chi-Square	237.136
	df	3
	Sig.	.000

Table 1 displayed the factor analysis result for the data set received from the questionnaire distribution on the variable of environmental consciousness. The factor analysis produced a KMO value of 0.734, which above the benchmark KMO value of 0.5 as specified in the study's research methodology, indicating that the data set is substantial enough to be used for further quantitative analysis.

Table 2: Reliability Analysis for Price

Reliability Statistics	
Cronbach's Alpha	N of Items
.878	3

Table 2 displays the reliability analysis result for the variable of environmental consciousness based on the data set collected from the questionnaire. Cronbach's Alpha was 87.8%, which exceeded the standard of 70% provided in the study's research methodology, indicating that the data set is credible.

Table 3: Correlation Analysis

	EC	PI
EC		0.913
PI	0.913	

EC => Environmental Conscious

PI => Purchase Intention

Table 3 had demonstrated the output for the correlation analysis testing the variable between the environmental conscious against the purchase intention for the consumers. The Pearson Coefficient Correlation had recorded 0.913 with the p-value of 0.000 had been showing strong evidence to suggest the presence of the positive correlation between the two variables. The strength of the positive correlation had been strong where the increase or decrease of the degree for the environment conscious will be followed by the almost the similar impact on the purchase intention of the consumer towards the EV market.

Table 4: Summary of Linear Regression Model

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.198	.128		1.543	.125
	EC	.656	.125	.649	5.232	.000
a. Dependent Variable: PI						

EC => Environmental Conscious

PI => Purchase Intention

The Table 4 demonstrate the final output of the linear regression model as derived from the independent variable of environmental conscious against the dependent variable on the purchase intention of the consumers in the EV market. Based on the summary for the regression analysis reference to Table 4, the p-value recorded for the variable of environmental conscious had shown 0.000 which provide the indication that the influence from environmental conscious is significant towards the change in purchase intention among the Generation Y consumers as the p-value fall below the tolerance level of 5%.

With reference to the result output in Table 4, the presence of the significant in the positive relationship between the environmental conscious against the purchase intention of the consumers in the EV market has posed the suggestion to reject the null hypothesis at H0 and accept the alternate hypothesis at H1 as proposed in the previous literature review for the study.

H0: There is no significant of positive impact of price towards the purchase intention within the EVs market for generation Y

H1: There is significant of positive impact of price towards the purchase intention within the EVs market for generation Y

Lin and Chang (2020) stated that consumers' environmental consciousness will motivate them to acquire products that deliver better green advantages to the environment. According to Mishal et al. (2017), environmental consciousness will provide incentive to help the environment in any way as long as the goal does not

negatively impact the ecosystem. According to the empirical evidence, the study's findings indicate that being environmentally conscious will have a substantial positive impact on Gen Y customers. This could imply that climate change has become a more worrisome element, and that with EV becoming the image for the green environment, more Gen Y are supporting the purchase of EV in order to save the environment for the future. Lin and Chang (2020) stated that environmental consciousness had been addressed in conjunction with climate change, where the rising concern on environmental topics had become the spotlight for the consumer market, and where the sense of responsibility to contribute to the environment had become the factor that would influence and steer the consumer's preference towards the green environment product for the market. Mishal et al. (2017) are referencing a prior study in which there is a strong suggestion that the rising number of EV purchases are being contributed by the rising trend towards greener motor vehicles on the roads. This demonstrated that environmental consciousness remained a strong driver for the intention to acquire EV models in the Malaysian market, particularly given the Malaysian government's emphasis on encouraging the market to support the green environment.

Conclusion

To begin, the research contributed to the academic study by identifying new knowledge from the study's findings, which triggered an understanding of the potential important in the elements influencing the shift in buy intention on the consumer behavior toward the EV among Gen Y. This will be a significant contribution to narrowing the gap in the literature review where the empirical evidence may be cut down to improve the contribution to the breadth of research area.

Furthermore, the study's findings will make a significant contribution to the automobile industry, particularly at a time when the sector is actively attempting to gradually phase out gasoline motor cars for the consumer market. Based on the findings of this study, the strategic team will need to develop an effective marketing strategy based on the significant driving factors of Gen Y consumers, where the study found that quality and environmental consciousness remained as the top priorities for Gen Y consumers when it came to purchasing an EV.

Furthermore, the study on the EV market will be crucial for the automobile industry since it will allow the sector to grasp the potential significance of the acceptability level for the consumer market when it comes to launching new products into the market. The development of the EV model had resulted in a significant shift in industry expectations. In terms of the future trend in the car business, the hydrogen vehicle has risen to the forefront, with the industry hopeful about the development of futuristics motor vehicles that will eliminate the usage of batteries and be more environmentally friendly for the environment. As a result, this study will become an important reference that will be able to provide higher refence for the preparation of the future market shift and change with the introduction of future items into the sector.

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