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Assessing Consumers' Purchase Intention: As Hybrid Car Study in Malaysia

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Abstract: The purpose of the study is to determine the antecedents of consumers' purchase intention toward hybrid car. The study examines the relationships among consumption values, consumers' attitudes and hybrid car purchase intention. This study also examines the role of consumers' attitudes as a mediator of hybrid car purchase intention. Five consumption values have been identified based on theory of consumption values (i.e., functional value, symbolic value, emotional value, novelty value and conditional value). Each item adopted to predict the respective variable is measured using 7-point Likert scale. Quantitative research design is used as data collection method and questionnaire is distributed to consumers in Klang valley. Data was analyzed using Structural Equation Modeling-Partial Least Squares (SEM-PLS). Functional value, conditional value and consumers' attitudes are found to have positive significant relationships with consumers' purchase intention toward hybrid car while emotional value influence consumers' purchase intention toward hybrid car through consumers' attitudes. Based on the findings of this study, marketer should reconsider their marketing strategies and marketing plan through collaboration with government. Comparisons between hybrid car user and non-hybrid car user should take into consideration in future research.

Key words: Hybrid car, partial least squares, purchase intention, structural equation modeling, theory of consumption values

INTRODUCTION

Global warming and climate changes have given a signal of environmental deterioration. Most of the countries in this word are facing the same environmental issue. Over consumption or utilization of natural resources and rapid growth of economy are the main caused of environmental degradation. Consumers' consumption pattern and industry production pattern influences environment directly and indirectly. People now are aware and realized their consumption behavior will reflect to the environmental problems. Environmental issue is affecting developed countries' economy and policies while in developing countries have started their green movement to preserve the environment (Ramayah *et al*., 2010).

Due to the environmental issue, green marketing or environmental friendly concept exist and is consider new in Malaysia. The existence of green marketing, marketers have developed new product which is considered as environmental friendly and is promote in environmental friendly manner. Environmental friendly product also called as green product has become an important product for global sustainability. Green products are products that made from recycled materials which can reduce the waste and can be recycled after used (Mostafa, 2007).

According to a market survey, 80% of Malaysian consumers are willing to pay more for green product while only 60% of Australia and Hong Kong consumers are willing to pay premium price for green product. This shows that Malaysian consumers having positive attitudes in supporting green products. However, study need to be carry out before extra cost and investment incurred in introducing more green products to the market.

The literature on the antecedents of green purchase intention is vast and vary. Researchers have explored to different variables to examine the purchase intention in different context. Over 40 predictors of green purchase intention have been studied. For example, attitudes toward green and sustainable homes, social pressure from family and friends, perceived behavioral control and perceived self-identity (Tan, 2013); health consciousness, environmental attitude, environmental labelling and environmental knowledge (Azizan and Suki, 2013), responsibility feeling, environmental values, environmental knowledge, perception of environmental advertising and perception of environmental friendly product (Yusof *et al*., 2013); attitude, subjective norm, and perceived behavioral control (Hong *et al*., 2013); financial conditions, consumer awareness, quality of vehicle and demographic background (Wong and Mo, 2013), to name

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a few. Thus, this study is carried out to close the gap by examining what the consumers think (consumers' attitude), what caused them to act (consumption values) and how they act (green purchase intention). Besides, this study will concentrate on consumption values as predictors to predict the green purchase intention.

Apart from that, numerous researches have been conducted on attitude-behavioral relationship in various field of study. On the other hand, theories such as theory of planned behavior and theory of reasoned action have included attitudes as the predictor of purchase intention as well as mediator. However, without examining the mediating effect of attitude between value and green purchase intention, it is still unable to provide full picture of consumer purchase decision (Schiffman and Kanuk, 2007).

Researchers and analysts have predicted an increasing demand for green product in Malaysia (Mei *et al*., 2012). However, the actual market trend shows a low-level of actual purchase behavior in Malaysia. Hybrid car is only took up 3% of the market share in Malaysian automotive industry (approximately fifty thousand units sold from 2007-2014). As compared with ASEAN partner, Thailand, in 2013, there are 37,530 units of hybrid car registered in Thailand while only 18,967 units of hybrid car registered in Malaysia (Malaysia, 2003). Hence, this study is carried out with the aims to use theory of consumption values which explain the prediction, description and explanation in affecting consumers' consumption behavior. Apart from that, attitudes was included as a mediator in this study which will contribute as a new dimension for theory of consumption value.

Literature review: Green purchasing is a new concept in Malaysia. Most of the large companies where the headquarters are based in developed countries are promoting green practices while the local small and medium manufacturing having the attitude of "wait and see". Hence, environmental problem are closely associated with the activities of small and medium-sized manufacturer. This is because they are lack of new technology, skills, capital investment, profit margins and productivity).

Purchase intention is how likely or the degree of an individual to purchase a brand, product or service (Belch and Belch, 2003; Phelps and Hoy, 1996). Whereas, green purchase intention is the readiness of consumers to purchase a brand, product or service which is considered as green or environmental friendly (Chan, 2000). Intention is the level of effort required to carry out a behavior (Ramayah *et al*., 2010). There are studies carried out in Malaysia regarding green purchase intention, however, the results are varies and cannot be generalized in Malaysia due to different context and time. Therefore, it is crucial to examine the purchase intention as a proxy for actual behavior.

Attitudes can be defined as "a mental and neural state of readiness which exerts a directing influence upon the individual's response to all objects and situations with which it is related" (Tan and Lau, 2011). Attitudes can be categorized as favorable or unfavorable feelings expressed by consumers toward a specific product or service. Attitudes has become a significant predictor that used to guide, influence, direct, shape or predict actual purchase behavior (Kraus, 1995). However, there was caution that attitude would not always be highly predictive of behavior (Kraus, 1995). Conceptually, attitudes can be divided into specific attitude and general attitude (Sun and Wilson, 2007). Attitudes has been identifies as important predictor to predict behavior, behavioral intention as well as behavior in social psychological literature (Kotchen and Reiling, 2000). Specific attitudes is found as a strong predictor of a single behavior towards a particular object while lower correlation is found between general attitude and behavior (Tan, 2011). Literature have confirmed the relationship between attitude and behavior, however, there are studies show insignificant relationship between attitude and behavior. For example, Wahid *et al*. (2011) found that Malaysian green volunteers' environment attitudes did not influence their intention to purchase green products. Rahbar and Wahid (2011) found that Malaysian consumers' awareness on green product as alternative to non-eco-friendly product is not widely promoted in Malaysia. Therefore, specific attitude is being chosen because of strong correlation between attitude behavior.

Values and attitudes are similar in terms of adaptation, accommodation, organization and integration of environmental information in order to promote interchanges with the environment favorable to preservation of optimal functioning (Homer and Kahle, 1988). However, values and attitudes are different. According to Vaske and Donnelly (1999), values and attitudes are different in four ways. First, values represent single and stable beliefs that individual uses as standard in evaluating attitude and behavior. Secondly, values transcend objects, situations, and issues. Thirdly, the central component of a person's belief system is value and lastly, values tend to be limited to number, while attitudes can be numerous. Values are the most abstract of the social cognition and due to the abstraction attitudes and behaviors are manufactured. Hence, values guide behaviors from abstract values to

attitudes to specific behavior. This shows that attitudes does play a mediating role between values and behaviors.

Value refers as the consumer's overall assessment of a product's benefit on received and given from the product (Zeithaml, 1988). Values might influence individual's attitude and guiding the person purchasing decision to look for objects that will satisfy their value (Grunert and Juhl, 1995; Poortinga *et al*., 2004). Perceived value should be multi-dimensional rather than uni-dimensional (Sheth *et al*., 1991a; Wang *et al*., 2013). Therefore, this study will utilize the multi-dimensional approach theory of consumption values to examine the green purchase intention. The multi-dimension approach as suggested by Sheth *et al*. (1991a) can be categorized as functional, social, emotional, epistemic and conditional.

Functional value is defined as "the perceived utility acquired from an alternative's capacity for functional, utilitarian or physical performance" (Sheth *et al*., 1991a). According to basic of theory of consumption values, functional value is operationalized as price and quality (Sheth *et al*., 1991a). Maintenance cost is added as an additional dimension for functional value in this study.

Symbolic value refers to "the meaning associated with the product and image of the product" (Sheth *et al*., 1991b). Previous study studies social value, self-identity and social influence as each single predictor and found that the social influence and self-identity do not influence green purchase behavior. Therefore, the three dimensions mentioned will be included in this study under symbolic value.

Emotional value is another dimension of consumption values. Emotional value refer to "the perceived utility acquired from an alternative's capacity to arouse feelings or affective states" (Sheth *et al*., 1991a). In other words, it's refer to the benefits obtained from the use of a product in regard to feelings and emotions and the value is consumers' reactions against the product (Sheth *et al*., 1991a; Xiao and Kim, 2009). Human daily life are associated with emotional responses. Thus, emotional value is likely to be a key factor in influence the green purchase intention.

Epistemic value also known as novelty value. Epistemic value is defined as "the perceived utility acquired from an alternative's capacity to arouse curiosity, provide novelty and/or satisfy a desire for knowledge" (Sheth *et al*., 1991a). Epistemic value is the most significant predictor among the consumption values (Lin and Huang, 2012; Lin *et al*., 2010). Knowledge plays an important role in determining consumer behavior (Laroche *et al*., 2001; Alba and Hutchinson, 1987). This study include both environmental knowledge and product knowledge.

Conditional value is defined as "the perceived utility acquired by an alternative is the result of specific situation or set of circumstances facing the choice maker" (Sheth *et al*., 1991a). It refers to the add-ons value to the product or service such as government subsidy, manufacturer promotion or discount. The rose of hybrid car sales in Malaysia was due to the tax exemption (Hong *et al*., 2013) and after the end of tax exemption, the hybrid car sales trend seem to be flat and slow. Hence, government's role as conditional value might influence green purchase intention. From the above literature, eleven hypotheses are formed for this study as below:

- H_1: consumers' attitude towards hybrid car is positively associated with consumers' purchase intention toward hybrid car
- H_2: functional value positively affect consumers' purchase intention toward hybrid car
- H_3: symbolic value positively affect consumers' purchase intention toward hybrid car
- H_4: emotional value positively affect consumers' purchase intention toward hybrid car
- H_5: novelty value positively affect consumers' purchase intention toward hybrid car
- H_6: conditional value positively affect consumers' purchase intention toward hybrid car
- H_7: consumers' attitude towards hybrid car positively mediates the relationship between functional value and consumers' purchase intention toward hybrid car
- H_8: consumers' attitude towards hybrid car positively mediates the relationship between symbolic value and consumers' purchase intention toward hybrid car
- H_9: consumers' attitude towards hybrid car positively mediates the relationship between emotional value and consumers' purchase intention toward hybrid car
- H_{10}: consumers' attitude towards hybrid car positively mediates the relationship between novelty value and consumers' purchase intention toward hybrid car
- H_{11}: consumers' attitude towards hybrid car positively mediates the relationship between conditional value and consumers' purchase intention toward hybrid car

MATERIALS AND METHODS

This study employs a multi-stage sampling where proportionate stratified sampling to determine the sample from each city according to the population in each city and systematic sampling for data collection. Data is collected through self-administered questionnaire in selected showrooms at Klang Valley. Every third

consumer walked out from the selected showroom is intercept to fill up and return the questionnaire on the spot. Klang valley is chosen because of high traffic flow. According to the Cohen's Rules of Thumb (Hair *et al*., 2013), the minimum sample size suggested for six arrows pointing at one construct is 217. According to Nor *et al*. (2014), the response rate for intercept method was about 55% similar with Nor *et al*. (2013) and Jayasingh and Eza (2012). Therefore, 400 questionnaires are distributed in order to achieve minimal sample size of 217.

400 questionnaires are distributed to the selected consumers in Klang valley and 306 questionnaires are returned and usable for this study, giving a response rate of 76.5%. This study used structural equation modeling to analyze the causal relationship between latent variables through Smart PLS 2.0. PLS analysis involve two stages. The first stage involves analysis of measurement model while second stage involves analysis of structural model.

RESULTS AND DISCUSSION

Based on the data collected, this study made up from 147 male respondents and 159 female respondents. The age distributions of this study were: 21-38 years old (73.5%) was the highest scored respondents' age group, followed by 39-49 year old (19.9%) and 50 year old and above (6.5%). Most of the respondents have achieved a qualification level of Bachelor's degree (39.5%), Diploma (28.8%), Secondary school (17.6%), Master's degree (13.1), Primary school (0.7%) and PhD (0.3%).

Convergent validity and realibility: Convergent validity and discriminant validity were carried out in the first stage. Convergent validity can be confirmed if the loadings are greater than 0.5 (Bagozzi and Yi, 1991), composite reliability must be greater than 0.7 and average variance extracted is greater than 0.5 (Hair *et al*., 2013). Eight items (CA_8, CA_11, FV_7, FV_10, SV_1, SV_4, SV_5, SV_9) were deleted due to the loadings below 0.5.

The convergent validity and reliability as shown in Table 1. The values shown in Table 1 are the cut off values, therefore, the measures have sufficient convergent validity.

Discriminant validity: Apart from convergent validity, discriminant validity was also carry out. The criterion for discriminant validity is the value in the diagonal should be higher than the other values in the row and column as shown in Table 2. Therefore, it can be concluded that the measurements have discriminant validity.

Table 1: Convergent validity and reliability of constructs

Construct	Item	Loadings	AVE	CR
Consumers' Attitudes (CA)				
	CA_1	0.879	0.676	0.949
	CA_2	0.879		
	CA_3	0.878		
	CA_4	0.872		
	CA_5	0.842		
	CA_6	0.836		
	CA_7	0.820		
	CA_9	0.671		
	CA_10	0.693		
Conditional Value (CV)				
	CV_1	0.655	0.660	0.906
	CV_2	0.872		
	CV_3	0.846		
	CV_4	0.875		
	CV_5	0.793		
Emotional Value (EV)				
	EV_1	0.860	0.725	0.955
	EV_2	0.889		
	EV_3	0.821		
	EV_4	0.865		
	EV_5	0.848		
	EV_6	0.861		
	EV_7	0.895		
	EV_8	0.769		
Functional Value (FV)				
	FV_1	0.786	0.671	0.942
	FV_2	0.708		
	FV_3	0.875		
	FV_4	0.903		
	FV_5	0.893		
	FV_6	0.898		
	FV_8	0.754		
	FV_9	0.706		
Consumers' purchase intention (Int)				
	Int_1	0.786	0.651	0.918
	Int_2	0.832		
	Int_3	0.793		
	Int_4	0.806		
	Int_5	0.787		
	Int_6	0.836		
Novelty Value (NV)				
	NV_1	0.912	0.792	0.958
	NV_2	0.923		
	NV_3	0.895		
	NV_4	0.901		
	NV_5	0.864		
	NV_6	0.843		
Symbolic value				
	SV_2	0.781	0.615	0.927
	SV_3	0.807		
	SV_6	0.766		
	SV_7	0.705		
	SV_8	0.741		
	SV_10	0.860		
	SV_11	0.868		
	SV_12	0.728		

AVE = Average Variance Extracted; CR = Composite Reliability

Path coefficient and hypothesis testing: After the validity and reliability for each construct have been confirmed, the next is to test structural model. The results are presented in Table 3 and Fig. 1. The R^2 value for consumers' purchase intention is 0.630 while consumers' attitudes is 0.734. This means that 63% of the variance of the

Table 2: Discriminant validity of constructs

Variables	CV	CA	EV	FV	Int	NV	SV
CV	0.812						
CA	0.642	0.822					
EV	0.645	0.757	0.852				
FV	0.537	0.802	0.719	0.819			
Int	0.598	0.759	0.659	0.717	0.807		
NV	0.668	0.609	0.629	0.594	0.571	0.890	
SV	0.600	0.713	0.752	0.758	0.634	0.632	0.784

Table 3: Path coefficient and hypothesis testing

Hypothesis	Relationship	Std.β	SE	t-values	Supported
H_1	CA->Int	0.385	0.0829	4.6448**	Yes
H_2	FV->Int	0.2586	0.0721	3.5872**	Yes
H_3	SV->Int	0.0073	0.0658	0.1116	No
H_4	EV->Int	0.0549	0.0675	0.8138	No
H_5	NV->Int	0.0514	0.0621	0.8279	No
H_6	CV->Int	0.1379	0.0568	2.4265*	Yes
H_7	FV->CA->Int	0.1875	0.0506	9.6332**	Yes
H_8	SV->CA->Int	0.0127	0.0523	0.6329	No
H_9	EV->CA->Int	0.0966	0.0503	4.9852**	Yes
H_{10}	NV->CA->Int	0.0057	0.0453	0.3293	No
H_{11}	CV->CA->Int	0.0725	0.0478	3.941**	Yes

**p<0.01; *p<0.05

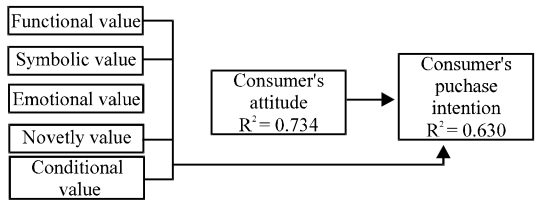

Fig. 1: Structural model analysis results

consumers' purchase intention was explained by consumers' attitudes and consumption values while 73.4% of consumers' attitudes was explained by consumption values. As shown in Table 3, six out of eleven hypotheses were supported.

The study reveals that two consumption values (functional value and conditional value) and consumers' attitudes have significant positive relationships with consumers' purchase intention.Based on the finding, the study found that most of the respondents' intent to purchase hybrid car in near future. This means that the demand for hybrid car tend to be higher, however due to the high price, most of the producers have stopped importing their hybrid car to Malaysia. Additionally, respondents' possess positive attitude towards hybrid car at the same time attitude also act as a mediator in mediating the relationship between values and behaviors. Full mediation was found between emotional value and intention to purchase hybrid car while partial mediation was found between functional value and conditional value with intention to purchase hybrid car.

Apart from price and quality, maintenance cost is added as a new dimension for functional value. This means that different product have different functional value which represent product. Therefore, to promote the hybrid car in Malaysia market, producers or manufacturers should focuses on the functional attributes of hybrid car in terms of price, quality and maintenance cost. On the other hand, producers and government can consider for collaboration to carry out promotion or subsidy for future hybrid car buyer. Government should come out more policies that could support the hybrid car market such as tax exemption.

Symbolic value and novelty value shows insignificant relationships with consumers' purchase intention directly and indirectly through consumers' attitudes.

This is might be because consumers can easily obtain information about hybrid car through internet and consumers seems to have strong personal belief especially for high involvement product such as hybrid car. Therefore, marketer should do promotion that can create consumers' awareness about the product and provide information or details through internet or official websites. If consumers are intents to purchase, they will browse through internet while if consumers have no interest, they will not bother about the information provided. Hence, marketer should first create consumers' awareness, once consumers are aware of the product, functional value and conditional value could help in creating consumers' purchase intention.

CONCLUSION

This study concludes that the factors namely functional value, conditional value and consumers' attitudes directly influences consumers' purchase intention of hybrid car in Malaysia while emotional value influences consumers' purchase intention indirectly through consumers' attitudes. Based on the results, this study can conclude that consumers' purchase intention towards hybrid car tend to be higher and is influenced by functional value, conditional value and consumers' attitudes. One of the reasons consumers are intents to purchase hybrid car is because of environmental issues and they believe that purchasing hybrid car could give a better environment for future generations. Future research should consider to compare the factor influence consumers' behavior between hybrid car users and non-hybrid car users. Besides, researchers should consider to examine the repurchase intention of hybrid car among the existing consumers in future research. This is because consumers will only repurchase if they are satisfied with the product. This means that if consumers' repurchase intention is high, consumers are satisfy with current hybrid car and vice versa.

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