

Factors influence Green Product Consumption Intention in Malaysia: A Structural Approach

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Abstract: - Global warming is arguably one of the most serious dangers facing the world today. The weather is shifting, and catastrophes are occurring in all directions. Additionally, food security has become a significant concern in terms of green behaviour. People are becoming increasingly concerned about environmental protection. Consuming green products, for example, is a critical effort that consumers can do. Numerous studies have been performed in this field, but only a few have been conducted in the Malaysian setting. Thus, the purpose of this research is to determine the variables that influence consumers in Malaysia to consume green goods. The conceptualization and formulation of hypotheses are informed by relevant literature. Seven independent factors were tested to the dependent variable, intention to consume green products: attitude, environmental concern, perceived price, perceived value and quality, environmental knowledge, health consciousness and social influences. The questionnaire was adopted in accordance with previous research. Data were collected using survey method. About 347 data were collected from 500 questionnaires distributed through convenience sampling to respondent who want to consume green product. The data was analyzed using statistical packages for the social sciences (SPSS) version 27 and SMART PLS version 3.3.7. Findings postulates attitude, health consciousness, perceived price and social influences were significant towards intention of green product consumption in Malaysia. In general, the study results will assist green marketers in developing successful marketing strategies that would allow them to reach a larger proportion of customers.

Key-Words: - Intention to consume, attitude, health consciousness, perceived price, social influences.

Received: May 13, 2021. Revised: January 26, 2022. Accepted: February 7, 2022. Published: February 18, 2022.

1 Introduction

Global population growth, along with technological advancements, has developed a set of standards for the betterment of living circumstances. Consumers are increasingly aware of environmental concerns and want to engage in ecologically responsible actions in this scenario. According to [1], environmental difficulties have been a top priority for many governments since the 1990s, and they have increased their attention on resolving the issue. This is seen in the increasing number of ecologically concerned initiatives being implemented globally, such as firms refusing to give plastic bags and prohibiting the use of plastic straws. Not to mention the growing number of environmentally friendly items marketed and labelled. According to [2], environmental buying is increasing as a consequence of consumer concerns and knowledge about the environment. Additionally, [3] propose that as time passes and more information becomes accessible, more environmentally conscious purchases will be made.

This conclusion was bolstered by another research conducted in Malaysia [4], which emphasised consumers' desire to purchase green-based goods (organic food). According to [5], the customer's opinion of the product's quality has a substantial influence on their decision to buy it or not. This illustrates that consumers are driving the expansion of environmentally aware purchasing.

Additionally, green marketing plays a significant role, indicating a rising demand for environmentally and socially responsible goods and services [4]. As a consequence, the purpose of this research is to ascertain the factors that influence Malaysian consumer's intention to consume green product. The relevant literature serves as a guide for the formation and formulation of hypotheses. Thus, this research would enable firms to concentrate on the ways in which they may utilise their goods to enhance their green marketing.

2 Literature Review

2.1 Concept for a Green Product

The advancement of technology has led in an increase in industrial activities that have had a negative impact on the environment [6] [7]. The environment has been over-exploited, resulting in the emergence of numerous negative changes such as climate change, pollution, global warming, and ozone layer depletion [8], all of which have become significant threats to today's world and increased consumer concern about environmental protection [8][9]. This suggests that consumers are growing more knowledgeable and concerned about the environment, resulting in a change in their attitudes toward green living [10]. As a consequence of these pressures, commercial organisations have begun to prioritise environmental considerations in their manufacturing and marketing operations [6]. A new marketing strategy termed "green marketing" is founded on a strong commitment to social responsibility and the reduction of negative environmental consequences.

Green marketing is a hot topic in the corporate world. To ensure that the green product's orientation is effective and has an effect on purchase intention, some elements must be considered in the marketing, including the advertisement's credibility [8]. The administration has taken several measures to avert additional environmental degradation while fostering economic development [11]. Businesses have chosen environmental practises. The first answer to this environmental challenge was the development of products seen to be environmentally friendly and valuable to consumers [12]. By contrast, although firms have resource limits, consumer expectations have increased significantly. Businesses are increasingly seeking to maximise resource use without compromising quality, recognising that customers care about the environment, and green marketing has profited from this emphasis on sustainability [8].

Green businesses will aid in addressing difficulties from a commercial standpoint, and creating awareness is a key first step toward producing an environmentally friendly product [8][13][14]. Recent studies demonstrate that firms have requested more social responsibility in reaction to media reports of an increase in global warming emissions. Manufacturers have begun to adapt and improve some industrial processes in order to enhance environmental conservation [8][15]. With

rising stakeholder expectations, particularly consumer demand to protect the environment, firms go beyond addressing environmental regulatory challenges to provide alternatives such as new environmentally friendly products [16]. Certain firms have developed environmentally conscious packaging and support cases for promotional activities [17][18].

2.2 Intent to Consume Green Product

TPB theory developed by [19] is one of the most influential theories of behavioural decision-making. The theory of reasoned action [20] originated from the theory of reasoned action (TRA), which explains how individual determinants, social environment, and non-volitional factors all affect intention [21]. When three components of the TPB framework are combined: attitude, subjective norm, and perceived behavioural control, a "behavioural intention" is formed that impacts behaviour. Meanwhile, past research has enhanced the TPB model for assessing consumers' green purchasing intentions by including new variables based on the original variables. Additionally, this study used the attitude-behavior-context (ABC) paradigm to examine the influence of consumer behaviour on green purchase intentions [22]. This theory provides a useful framework for examining consumer behaviour [22]. This study proposed attitude, perceived price, environmental concern, perceived value and quality, environmental awareness, health consciousness, and social factors as unique predictors of green consumption intention based on earlier research. Prior studies expected a relationship between these qualities and green purchasing behaviour when the TPB model was enlarged [22] [23][24][25][26].

Thus, this study presents a theoretical framework for influencing consumers' green consumption intentions by combining consumer behaviour theory with an extension of the TPB model and ABC theory. At times, green consumption intention is seen as a crucial prerequisite for motivating and pushing clients to make actual consumption of products and services. Numerous research examine the intentions of consumers in order to identify their actual behaviour. [27] define "green purchasing intention" as a customer's desire to obtain environmentally friendly products. Consumers are buying green products to help preserve the environment or to prevent inflicting damage to it [28].

Additionally, [29] proposed three criteria for assessing green buying intentions: considering green purchases, switching to other brands for ecological reasons, and switching to green versions of current products. Consumers' current and projected purchases of environmentally friendly or green products is a crucial aspect to consider when analysing consumer behaviour. Additionally, it assists in gauging consumer demand for environmentally friendly items.

2.3 Attitudes toward Green Products

Numerous studies have explored the antecedents of green purchase intentions in aggregate, aggregating all green products [31][31][32]. In these research, the TPB serves as the basis for the integrated framework utilised to explore consumption intention of green product. Attitudes, subjective norms, and perceived behavioural control are the three major antecedents of the TPB that influence green product consumption intention [14]. Attitude may be described as a consumer's internal feeling of preference or antipathy toward a green product or marketing campaign. Subjective norms (a subset of social norms) are a consumer's perception of society pressure to engage in environmentally friendly purchasing behaviour (GPB). Finally, perceived behaviour control reflects a consumer's assessment of the ease or difficulty of participating in green purchasing behaviour.

Meanwhile, the TPB makes no consideration for the effect of motivating factors on consumer attitudes toward and consumed of green products [31][33][42]. Study done by [34] examined green consumption in Thailand using the TPB and found that consumer attitudes, subjective norms, and perceived behavioural control all had significant direct impacts on the GPI. Surprisingly, Indian study [35] showed a significant association between client sentiments toward green items and subjective criteria. Additionally, the study demonstrated a relationship between client attitudes toward green consumption intention and perceived behavioural control. In general, past research confirms the TPB model's capacity to effectively forecast green consumption intentions.

2.4 Environmental Concern/ Consciousness

Environmental concern is defined as commitment and awareness towards various environmental problems [36]. Inevitably, the consumption intention towards green products would be affected by the individual's consciousness and concern

towards the environment [37][38]. [39] have examined the purchase intention towards green cosmetics among consumers in the twin cities of Rawalpindi and Islamabad. Their findings show that environmental consciousness is the driven force behind the consumers' purchase intentions of green products. In the same year, [34] have found a significant positive relationship between environment concern and green products purchase intention of young consumers (i.e., those in the age group of 18 – 30 years old) in Thailand.

Likewise, two past studies that employed university students as respondents have further supported the relationship. [40] have found that the environment concern is the predominant factor to influence the purchase intention towards green products (i.e., Ades Mineral Water) among university students in Indonesia. They have stated that those who are likely to practice green behavior have a high degree of awareness for their environment. The findings of study conducted at a university in Iraq has also shown that environmental concern has a significant positive influence on the green [41][43]. In two most recent studies conducted in Java Island and China, environmental concern is also found to have a positive and significant relationship with green product purchase intention [43].

2.5 Perceived Price

Perceived price is defined as consumer's perception or estimation of price which is formed by objective monetary price (i.e., actual price of a product) and perceived non-monetary price (i.e., price encoded by consumers) [44]. In actual fact, the purchase decision making of the consumers is made based on their perceived price which is either "cheap" or "expensive" [44]. The influence of perceived price on the consumers' consumption intention has been examined by several past studies [45][46][47]. A study [45] shown that perceived price fairness has a significant positive influence on purchase intention towards low-cost carriers (LCCs) among Taiwan's travelers. Meanwhile, [46] found that positive perception of price would increase the purchase intention towards low-cost green cars (LCGC), Toyota Agya. The findings of [47] study show that there is a positive and significant relationship between perceive price affordability and purchase intentions of Xiaomi Smartphone consumers in Denpasar City.

Two past studies conducted in Taiwan and China have shown that consumers' price sensitivity has a significant effect on the consumption intention

towards green products [24][48]. [24] found that a greater price sensitivity would have stronger effect on the purchase intention towards green skincare products among university students in Taiwan. The respondents relate the price of the product with their attitude, subjective norm and perceived behavioral control to determine their purchase decision making. Furthermore, [48] found that consumers who are more price-sensitive would perceive the price of organic food product based on its quality which in turn influence their likelihood to purchase.

2.6 Perceived Value and Quality

Perceived value is defined as the consumer's perceived net trade-off between perceived benefits and perceived costs from obtaining a product [49]. While perceived quality is defined as the consumer's subjective judgment about a product's overall excellence or superiority [44] (Zeithaml, 1988). Generally, the consumers will evaluate the quality of a product in order to determine its value before they make the decision to purchase the product. The study by [50] on store brands' purchase intention of Spanish shows that consumer perceived quality influences perceived value and purchase intention. Additionally, [51] Konuk (2018) found that perceived value has a partial mediating effect on the relationship between perceived quality and purchase intention towards organic private label food among consumers in Istanbul, Turkey. In other word, both past studies indicate that consumers who have perceived the product to be of high quality will place a greater value on that product. As a result, the likelihood to purchase the product increases.

Perceived value has also been examined separately in the past studies. The findings of two studies on green food product purchase intention shown that consumer's perceived value is a significant determinant [52][53]. [52] have conducted a study using online survey. Their findings show that consumers' perceived values are significant factors of consumers attitude towards green products, and thus, the consumers' purchase intention. Similarly, [53] study shows that perceived value (i.e., emotional value) is positively and significantly related with purchase intention of organic food among Brazilian consumers. In another study, [54] have also found that perceived value is positively related to consumers' purchase intention towards green electronics. Their study was conducted in two metropolitan cities (Sahiwal and Faisalabad) of the province of Punjab, Pakistan. The positive

relationship between perceived value and purchase intention towards green products is further supported by the findings of recent study by [26], which was conducted via online survey to respondents in Phnom Penh, Cambodia.

2.7 Environmental Knowledge

Environmental knowledge is referring to information related to the environmental impacts such as environmental climates change, pollutions, and waste generation. However, the definition is not limited only to the impacts on the environment but sometimes it could refer to the remediation ways to reduce the environmental impacts [55]. Environmental knowledge sometimes has been used interchangeably with green knowledge is being related to the environmental consciousness that people having will directly influence on their green purchase behaviors [11][48]. Concerning on the environmental issues accumulates the awareness and consciousness of the understanding and knowledge and the effects of environment knowledge is presented significantly related to the behavioral purchase intention [55].

2.8 Health Consciousness

Health consciousness refers to the awareness of people towards their lifestyle and dietary preferences. Studies conducted on health consciousness showed that respondents who are aware or careful in examining their relations towards their lifestyles and eating significantly affecting their green purchase, especially on organic products and food consumptions [4].

Additionally, consumers who know about the social sustainability of their purchase also prefer towards environmentally and green products purchases. From a consumer perspective, if our lifestyle is concerned about green then we are more intent to liaise with company who practicing social responsibility and green and sustainable productions [56].

2.9 Social Influences

Social influences refer to the alteration of behaviors because of the influences of the others [57]. Social influences can be often related to the influence of individual purchase intention causing by the family members, parents, friend, and the crowd. However, according to [58], the study conducted on social influence on in-store purchase behavior by using ecological system of ants showed a different result while consumers reluctant to buy when the in-store

areas is with high traffic. While the study predicted consumers would buy more with high density of people. This shown that the discussion on social influences towards consumer’s intention to purchase is controversial.

3 Methodology

Figure 1 below depicts the conceptual framework of this study based on the discussion of variables in literature review section.



Fig. 1: Research Framework of Intention to Consume Green Product.

A quantitative research designs was utilized in this study. The target population of this study was consumer who want to consume green product in hypermarket and superstore in Kuala Lumpur, Penang, Johor and Kelantan. Consumer’s responses were acquired through a self- administered online questionnaire. An intercept method at the mall and hypermarket was used to get potential respondents. A total of 417 valid questionnaires were collected from targeted customers. From 417, about 64 questionnaires were discarded due to incomplete, suspicious answered and 6 were discarded due to outliers. The scales of the questionnaire were adapted from studies done by previous scholars (See Appendix 1). A five-point Likert scale was employed with a score of “1” indicating “strongly disagree” and “5” indicating strongly agree. A total of 347 data was cleaned from missing cases and outliers. The measurement and structural model of this research were analysed using Smart-PLS version 3.0.

4 Findings

4.1 Demographic Profile

The demographic characteristics of respondents in this research include their gender, age, income, and level of education. The gender difference is significant, since ladies enjoy internet purchasing more than men. Female respondents account for 62.7 percent of the total, while male respondents account for 37.3 percent. Additionally, the respondent's age became a critical indication, indicating that most respondents aged 21-25 prefer to buy online. As a result, respondents aged 21-25 years are the most likely to engage in online purchasing at 66.7 percent. Additionally, respondents were questioned about their monthly income. 73.3 percent of respondents earn less than \$3,000 per month. Only one respondent (0.7 percent) out of 347 had a monthly income more than \$11,000. On the other side, 22.7 percent of respondents reported having a monthly income of \$3001-5000, while just 3.3 percent reported having a monthly income of \$5001-10,000. In term of educational background, majority of respondents (55.3 percent) have a bachelor's degree, followed by high school and diploma holders (14.7 percent) and 13.3 percent, respectively.

4.2 Measurement Model

Table 1 shows the measurement model of intention to consume green product which explained the factor loadings and reliability of the constructs. [59] explained that the reliability of a single observed variable describes the variance of an individual observed which was compared to an unobserved variable by evaluating the standardised outer loadings of the observed variables. Meanwhile, the observed variables with an outer loading of 0.7 or greater are agreed to be acceptable [60], while the outer loading with a value less than 0.7 should be discarded [61]. For this study, the cut-off value accepted for the outer loading is 0.7. There were only 1 item deleted (PP4) as it has loading below 0.7 [60].

Table 1. Reliability and Validity of Constructs
(n=347)

	Items	Loading	AVE	CR
Intention to Consume Green Product (GPI)	GPI 1	0.825	0.716	0.926
	GPI 2	0.850		
	GPI 3	0.863		
	GPI 4	0.843		
	GPI 5	0.849		

Perceived Price (PP)	PP 1	0.953	0.725	0.913
	PP 2	0.838		
	PP 3	0.854		
	PP 5	0.748		
Environmental Concern (EC)	EC 1	0.827	0.708	0.951
	EC 2	0.838		
	EC 3	0.829		
	EC 4	0.815		
	EC 5	0.879		
	EC 6	0.775		
	EC 7	0.880		
	EC 8	0.882		
Attitude (ATT)	ATT 1	0.760	0.628	0.893
	ATT 2	0.827		
	ATT 3	0.800		
	ATT 4	0.851		
	ATT 5	0.793		
Perceived Value and Quality (PVQ)	PVQ 1	0.942	0.868	0.970
	PVQ 2	0.939		
	PVQ 3	0.923		
	PVQ 4	0.925		
	PVQ 5	0.928		
Environmental Knowledge (EK)	EK 1	0.958	0.775	0.945
	EK 2	0.929		
	EK 3	0.858		
	EK 4	0.820		
	EK 5	0.829		
Health Consciousness (HC)	HC 1	0.766	0.657	0.905
	HC 2	0.831		
	HC 3	0.855		
	HC 4	0.849		
	HC 5	0.837		
Social Influence (SI)	SI 1	0.867	0.834	0.962
	SI 2	0.920		
	SI 3	0.932		
	SI 4	0.920		
	SI 5	0.928		

0.851, perceived value and quality (PVQ) is 0.932 and social influence is 0.913. Hence, the value of all indicators loaded on their own construct is higher than on any other which is sufficient.

Table 2. Discriminant Validity of Latent Variables

	ATT	EC	EK	HC	GPI	PP	PVQ	SI
ATT	0.792							
EC	0.612	0.841						
EK	0.070	0.018	0.881					
HC	0.717	0.637	0.028	0.811				
GPI	0.843	0.463	0.057	0.676	0.846			
PP	0.033	0.084	0.284	0.026	-0.049	0.851		
PVQ	0.440	0.543	-0.044	0.558	0.325	0.006	0.932	
SI	0.572	0.576	-0.013	0.556	0.460	-0.003	0.532	0.913

Note: ATT= Attitude, EC= Environmental Concern, EK= Environmental Knowledge, HC=Health Consciousness, GPI= Intention to Consume Green Product, PP= Perceived Price, PVQ= Perceived Value and Quality, SI= Social Influence.

**Bold diagonal elements are the square root of AVE (Average Variance Extracted) which should exceed the off-diagonal inter-construct correlations for adequate discriminant validity.

4.3 Structural Model

A structural model, through the bootstrapping analysis, was constructed (Streukens & Werelds, 2016). A total of 5000 subsamples through bootstrapping were collected as per the results illustrated in Figure 2.

According to [62], the Average Variance Extracted (AVE) should be higher than 0.5. However, even if the AVE is less than 0.5 (0.4 is still acceptable), but the composite reliability is higher than 0.6, the convergent validity of the construct is still adequate [62]. As shown in Table 1, the AVE for all the variables in this study exceeded 0.5 and was validated for the structural analysis. The construct reliability (CR) for all the variables has a value above 0.8.

The discriminant validity of the latent variables in this study as shown in Table 2 illustrates all the bold diagonal elements that exceed the off-diagonal inter-construct correlations which indicate attitude (ATT) is 0.792, environmental concern (EC) is 0.841, environmental knowledge (EK) is 0.881, Health consciousness (HC) is 0.811, Intention to consume green product (GPI) is 0.846, perceived price (PP) is

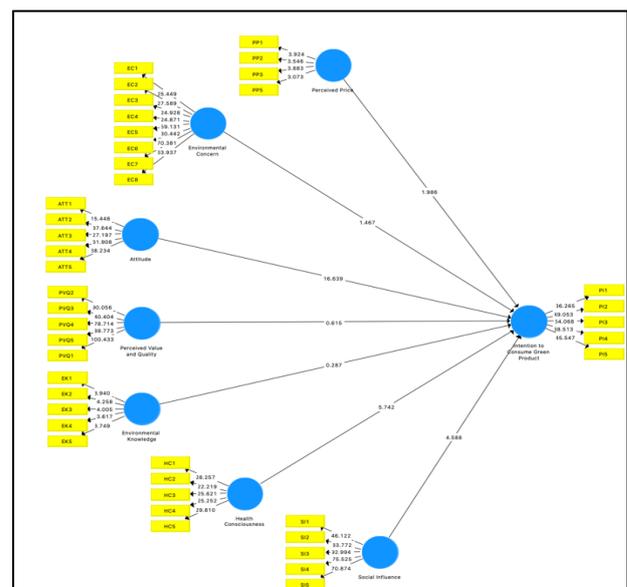


Fig. 2: Structural Model for Intention to Consume Green Product

Table 3 illustrates the findings of the direct hypotheses of this study. Of the 7 hypotheses, only 4 hypotheses were accepted.

Table 3. Direct Hypotheses Result of Structural Model

	B	T Value	P Values
H1: Attitude → GPI	0.742	16.639	0.000
H2: Environmental Concern → GPI	-0.087	1.467	0.142
H3: Environmental Knowledge → GPI	0.011	0.287	0.774
H4: Health Consciousness → GPI	0.492	5.742	0.000
H5: Perceived Price → GPI	-0.083	1.986	0.047
H6: Perceived Value and Quality → GPI	-0.031	0.615	0.539
H7: Social Influence → GPI	-0.318	4.588	0.000

Attitude was found to be positively significant with green product consumption intention ($\beta = 0.742$, $t = 16.639$, $p < 0.01$). Health consciousness also was found to be positively significant with green product consumption intention ($\beta = 0.492$, $t = 5.742$, $p < 0.01$). In contrast, perceived price was found to be negatively significant with green product consumption intention ($\beta = -0.083$, $t = 1.986$, $p < 0.05$) and social influence was found to be negatively significant with satisfaction ($\beta = -0.318$, $t = 4.588$, $p < 0.01$). Findings also shown that environmental concern do not influence green product consumption intention ($\beta = -0.087$, $t = 1.467$, $p > 0.01$). Environmental Knowledge also was found to be not significant with green product consumption intention ($\beta = 0.011$, $t = 0.287$, $p > 0.01$), and perceived value and quality was found to be not significant with green product consumption intention ($\beta = -0.031$, $t = 0.615$, $p > 0.01$). Hence, hypotheses H1, H4, H5, and H7 were accepted whereas hypotheses H2, H3, and H6 were rejected.

5 Discussion and Conclusion

Customers' green purchase intentions are primarily influenced by three types of variables, according to consumer behaviour theory, according to this study. These include cognitive factors, consumer individual attributes, and social factors. Meanwhile, this study presents a theoretical framework for influencing consumers' green purchasing intentions by merging the TPB and ABC models. Several research have produced conflicting results, and there is a lack of consensus on how to analyse the factors that influence customers' green purchasing intentions in previous studies. When faced with the

restrictions of a normalcy issue and a small sample size, this study turned to PLS analysis to reconcile contradictory results in the investigation of the factors influencing consumers' green product consumption intentions, which was conducted in this study.

According to the results, attitude, health awareness, and social influence were the most powerful positive factors on intention to eat green products, but perceived price was the most powerful negative influence on intention to consume green products. The results imply that the assumptions behind the research were correct. The findings of this study contribute to the theoretical foundation for understanding customers' consumption intentions for green products by introducing new methodologies and concepts for examining the elements that influence green product purchasing intentions, as well as new concepts for understanding customers' consumption intentions for green products. The conclusions of this study, in the meanwhile, may be utilised as a reference for business marketing and government propaganda about environmental preservation. Using the results of this study, enterprise marketers may enhance their marketing efforts, while government agencies can emphasise the advantages of green products and educate consumers about environmental stewardship

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