

Green Products Buying Decision among Young Male and Female Malaysian Consumers

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Abstract

Consumers' growing awareness of environmental impact has influenced them to be more discerning when making purchasing decisions. The purpose of this study is to investigate the effect of environmental consciousness, environmental attitude, and green marketing tools on green product purchase decisions among young Malaysian male and female consumers. A total of 431 samples were achieved nationwide through young consumers aged between 18 to 30 years. To examine the comparison between these groups, statistical analysis using SPSS 26 was used. The independent t-test revealed a statistically significant difference between males and females. Additionally, the findings indicated that female consumers were more optimistic than male consumers when it came to making green product purchasing decisions. These findings may be useful to Malaysian policymakers in making decisions about green product purchases by young consumers, as well as to marketers in tailoring their marketing campaigns to young target consumers through strategic environmental promotional and marketing programmes.

Keywords: Environmental Attitude, Environmental Consciousness, Gender, Green Marketing Tools, Green Product Buying Decisions, Malaysia

Introduction

Consumption patterns towards environmentally friendly products have improved because of the rise of environmental consciousness since the 1970s (Alwitt and Pitts, 1996). As a result of increased awareness and concern for the environment and society, a "sustainable development" movement has been established, which emphasises the importance of promoting sustainable consumption to reduce the negative impact of human activity on the environment and society. Consumers will embrace sustainable consumption patterns if they have a basic awareness of environmental and social issues. A wider understanding of the outcomes of non-responsible consumption might be more effective in shifting to green purchase products and simultaneously practicing green consumption behaviour. Therefore, the current method of spreading information to assure consumers of the benefit of green products is important in ensuring them to keep on consuming and buying

green products. A customised label and medium that specifies the product's long-term sustainability can be used to display this information. Consequently, sustainable development is aggressively encouraging the growth of eco-innovation and environmentally friendly consumption patterns. Over the last two decades, there has been a significant increase in environmental awareness throughout the world. This has led to an intense influence on consumer behaviour, by expanding green products in the market. Conversely, consumers' green purchase behaviour benefited green marketers. Globalisation has compelled organisations to prioritise public interest to compete effectively. Thus, being green has evolved into a marketing trend, with marketers increasingly offering their own green product brand - also known as environmentally friendly products. Since then, businesses have been competing with one another to create green products and to use green products as a strategy for competitive advantage.

The younger generation is critical because it represents the future community's customers. They are materialistic and more adaptable as compared to earlier generations. Thus, the millennials are more likely to investigate things before making a purchase. Additionally, the younger generation is more receptive to novel ideas, socially engaged, and environmentally conscious than previous generations (Hume, 2010). These characteristics have distinguished them as the most influential and promising segment of the customer base. Indeed, Goh and Wahid (2015) concurred that the younger generation in Malaysia is the group that will eventually break into the green sector.

Therefore, it is critical for marketers to conduct research on the youth by developing and understanding their green purchasing behaviours and the factors that influence them. As a result, marketers will be able to develop marketing strategies that effectively target this consumer group. However, before marketers can introduce their green products to the market, they must first identify young consumers who exhibit pro-environmental behaviour and then segment them as the "greener" consumer segment. In profiling the greener consumers according to their pro-environmental purchasing behaviour, elements such as environmental consciousness, environmental attitude, and green marketing tools namely, eco labelling and green advertising seem to be more appropriate for characterizing the young consumers' green product buying decisions. These variables can be attributed to socio-demographic characteristics to gain a better understanding of the greater influence of green product purchasing decisions and purchasing habits in these green market segments.

Literature Review

Environmental Attitude

Attitude is defined as a state of readiness that affects an individual's ability to react to a variety of conditions and objects (Allport, 1935). Similarly, Lee (2008) depicted environmental attitude as an individual who, based on cognitive judgment, makes an ecological protection decree. Environmental attitudes play an imperative function in the minds of the consumers towards environmental responsibility. Irland (1993) observed that consumers frequently base their purchasing decisions on their environmental attitudes. Thus, consumers with a positive attitude towards what environment would protect the environment because they could prevent or lessen the environmental damage by buying green products. In fact, Chan (1999) discovered that environmental attitudes positively affect pro-environmental behaviour. Noor et al (2012) denoted that Malaysians acknowledge environmental problems in Malaysia, the benefits of green products, and their willingness to spend the time and money to buy green products. Additionally, their study confirms the

positive correlation between environmental attitudes and green purchasing behaviour. On the other hand, there is a robust possibility that Malaysians possess a pro-environmental attitude, and yet whether this attitude is in line with the behaviours is not yet determined.

A result from a study by Yazdanpanah and Forouzani (2015) to predict Iranian students' intention to purchase organic food revealed that although the students recognise the gravity of environmental issues, their environmental views do not inevitably lead to green shopping. Eventually, prior studies have clearly proven that their environmental attitudes do not necessarily lead to green purchasing (Bray et al., 2011). Chen and Chai (2010) identified this discrepancy or gap as 'green purchasing inconsistency' or 'green attitude-behaviour gap'. This shows that the positive attitude of consumers on green products does not always end up with the action of buying the products (Joshi and Rahman, 2015). Similarly, Chen and Chai (2010) research discover that there was no significant difference in opinions toward green products between male and female undergraduate students at a prominent private university in Malaysia. A year later, they conclude that environmental attitude is not a significant contributor to green purchase behaviour (Tan and Lau, 2011). Nonetheless, according to Salleh et. al (2010), Malaysian consumers tend to have more positive attitudes towards green food when they are more concerned about environmental issues. In terms of gender, Chen, Chen and Tung (2018) discovered that females are more environmentally friendly than males in purchasing green products. Furthermore, in the same study, the researchers also identified that having a positive attitude about the environment has a positive impact on purchasing intention of green products.

Surprisingly, Thang and Kumarasamy (2006) study on 100 Form five Malaysian students, discovered that regardless of gender, the respondents have generally positive attitudes towards the environment whereby they were concerned about the environment and willing to do anything to preserve it.

Environmental Consciousness

Environmental consciousness is a psychological factor that decides an individual's tendency for pro-environmental behaviour (Zelezny and Schultz, 2000). Mainieri et. al (1997) asserted that consumers with a higher level of environmental consciousness are more likely to purchase products based on their environmental claims and social responsibility. According to Angelovska et al (2012), it is critical to raise environmental consciousness to promote pro-environmental concerns among consumers, and females exhibit a greater level of environmental consciousness regardless of their income level. In the last two decades, customers are more aware of the seriousness of environmental deprivation, which creates environmental consciousness and a desire to buy environmental products and services, as well as supporting organisations that support environmental practices (Kalafatis et al., 1999; Laroche et al., 2001). Environmental consciousness is a multidimensional construct that would impact one's knowledge, intentions, actions, attitude, and behaviour (Sharma and Bansal, 2013). Ma, Rau and Guo (2018), on the other hand suggested that environmental consciousness comprises environmental attitude, environmental concerns, environmental knowledge, and perceived consumer effectiveness. Boztepe (2012) noticed that environmental consciousness and green promotional activities are among the factors which will positively influence green consumer buying behaviour along with the moderating effect of demographic characteristics on green purchasing behaviour. Kinnear et al (1974) established that environmental concerns have always been a significant factor in assessing consumer environmental consciousness in relation to their ecological responsibilities.

Consumers' level of environmental concern is related to their willingness and ability to purchase eco-friendly products (Kianpour et al., 2014).

Eco Labelling

Eco-labels or eco labelling is a useful mechanism for promoting environmental product information from the producer to the consumer. Okunuga (2019) defined eco labelling as a communication process through a symbol that indicates (the) product being offered obeys certain ecological requirements. The goal of eco labelling is to inform consumers about a product's green attributes and encourage them to buy green items (Young et. al., 2010). Unfortunately, consumer illiteracy in recognising eco-labels, as well as the rules that allow corporations to place labels on their products without having to prove whether they are genuine or not, has created a big difficulty in green product purchasing, leading to scepticism of eco labelling (Lyer, 1999). Similarly, Nittala (2014) identified that people who do not believe in the information included in the eco-labels will continue to doubt with the production, labelling, and accreditation processes of the products. This demonstrates that using eco labelling on product packaging does not guarantee positive reactions from the consumers. Nevertheless, (Joshi and Rahman, 2015; Mondelaers et al., 2009) recommended that for eco labelling to be reliable information, it should be delivered in a straightforward and user-friendly manner that spell out detailed information about the products' environmentally sustainable attributes that may be to inculcate consumer trust and promote a more sustainable buying (Wahid et a l., 2011). Eco labelling provides essential information on the performance of environmentally friendly items, that can help young customers make more informed purchasing decisions (Kumar and Kapoor, 2017).

Thus, if the consumers' green purchasing decisions are unaffected by environmental labelling, and they do not trust the information supplied on environmental labels, this would reduce the effectiveness of eco labelling. In the same way, Mei et al (2012) implied that eco labelling has no substantial correlation with Malaysian green customer intentions. Concomitantly, customers tend to have a different understanding of the information provided about the product because of the ambiguous meaning of eco labelling which leads to deficiency of information. Therefore, to avoid this pressure buying experience and to help consumers make informed decisions about purchasing any eco labelling scheme must ensure that consumers are aware of, read, recognize, trust, and use eco labelling information efficiently (Taufique et al., 2016). Findings from Okunuga (2019) about green product and consumer purchase decision indicates that there is a strong link between environmental labelling and customer purchasing decisions. Correspondingly, (Joshi, and Rahman, 2015; Song et al., 2019) also ascertain that eco labelling is a crucial element of green products to impact consumers' buying decisions. Grankvist, Dahlstrand and Biel (2004) observed that graduate and young female respondents displayed a positive attitude toward eco labelling products in his study examining the effect of environmental labelling on consumer desire. Finally, Thøgersen et al (2010) discovered that female is more sensitive than male to detect new eco labelling and understand what it means. As for Khan and Larsson (2012), the possible influence of gender on the selection of eco labelled products is unclear and needs more research.

Green Advertising

Green advertising which is part of green promotional tools has been used to catch customers' responsiveness toward sustainable goods and services. It is also comprising of

communication about the entire life cycle of the purchase, consumption, and disposal of the green product. Green advertising, thus, is a specific type of advertising that is centered around the promotion of factors having to do with the environment. Eventually, green advertising claims have become an important component of much commercial marketing in response to increased customer demand for environmentally friendly items (Segev et al., 2016). Communication medium with enough information plays a vital role in green advertising (Song et al., 2019). Schlegelmilch et al (1996) recommended for those businesses targeted to increase market penetration of the current green products must introduce a green advertising campaign focused on raising environmental quality concerns among consumers. Regardless of whether the product is green or non-green, product features such as brand name, price, and quality are among the most important elements that consumers would consider when deciding to buy a product. Thus, businesses should highlight the significance of environmental protection in their business advertising, bulletins to attract people to tolerate with the environment in promoting their environmentally friendly products.

Haytko and Matulich (2008) disclosed that people who are more proactive with environmental behaviour will probably portray a better attitude concerning green advertising. In their study on green advertising and ecologically responsible consumer behaviours, they also found that females had more positive attitudes toward green advertising and exhibit more environmentally responsible behaviours than males. Nevertheless, green advertising would be more effective only if the consumers are presently involved in green behaviours (Haytko and Matulich, 2008).

Green Product Buying Decision

McCarty and Shrum (2001), considered green buying behaviour as a person who participates in ecological behaviour as a result of their desire to resolve the ecological problems that will lead them to become the role models and confidences in doing so help them to care for the environment. Joshi and Rahman (2015) defined consumer behaviour for green purchases in terms of the readiness or intention of the consumer to purchase the green product and that mindful or intentional behaviour is ultimately converted into their buying decision for such products to maintain the environmental sustainability. Lai and Cheng (2016) categorized green product buying decision circles around consumers that are environmentally conscious who consider the effects of their consumption behaviours on the public. Thus, to understand green consumers decision to buy green products, Young et. al (2010) suggested that the green consumer purchasing model consists of five stages:

1. General Green Values and Knowledge

Green consumer value is influenced by the motivation to continue buying products that meet the green criteria. Consumer knowledge of related issues and previous purchasing experiences strongly influence this first stage (Young et. al., 2010).

2. Green Criteria for Purchase

Consumers will conduct additional research/searches on the product using a combination of primary and secondary green criteria derived from product or manufacturer ethics research. This process entails consumers communicating with family and friends, as well as seeking out additional pertinent information. Regardless of what consumers value, environmental product performance will be the primary criterion used by consumers.

3. Barriers and Facilitators

Consumers are impacted by a variety of barriers and facilitators throughout the purchasing process. Assuming one barrier is excessively strong, this may interfere with the consumers' green criterion. Facilitators could include the eco labelling of products, accessibility, or consumer guilt. The impediments could be the product's price or a lack of information.

4 & 5. Product Purchase & Feedback

Each purchase process provides feedback on the consumer's value, and the knowledge acquired will influence subsequent consumer purchases (Young et. al., 2010).

In comparison to Dewey (1910) non-green purchase process model, as cited in Bruner and Pomazal (1988), also consists of five stages, namely:

1. Need recognition
2. Information search;
3. Evaluation of alternatives;
4. Purchase decision; and
5. Post-purchase behaviour

When contrasting the two types of purchasing processes, some distinctions and similarities emerge. The stage of need recognition is required in all types of basic purchase processes. In both processes, the consumer's internal factors such as values influence the decision. What benefit(s) will consumers derive from the products. Both models benefit from soliciting feedback from friends and family when making purchase decisions. Therefore, it is essential for consumers to develop a greater awareness of the environmental impact of the products they purchase. Indeed, at this stage, marketers can influence consumers' choice of green products through eco labelling and green advertising. The final stage, feedback / post-purchase behaviour, is critical for future purchases in both processes because it influences consumers to make additional purchases and eventually become loyal customers. At this stage, consumers' decisions are heavily influenced by the values they seek in products. How the product would satisfy the customers without having any cognitive dissonance feelings.

Although the trend toward green behaviour is increasing, the available literature indicates that little is known about how consumers react or think when it comes to purchasing green products in their daily lives (Liobikienė and Bernatoniene, 2017). Thus, this study aims to determine which of the predictors tested has a significant effect on the green product purchasing decisions made by young male and female consumers in Malaysia. Based on the above literature review, the following hypotheses are developed.

Hypothesis 1: There is a significant difference between male and female consumer's environmental consciousness in their buying decision of green products.

Hypothesis 2: There is a significant difference between male and female consumers eco labelling in their buying decision of green products.

Hypothesis 3: There is a significant difference between male and female consumers attitudes towards the environment in their buying decision of green products.

Hypothesis 4: There is a significant difference between male and female consumers perception of green advertising in their buying decision of green products.

Hypothesis 5: Female consumers would engage in green product buying behaviour more than male consumers.

Hypothesis 6: There is a significant relationship between environmental consciousness and buying decisions of green products among male and female consumers.

Hypothesis 7: There is a significant relationship between eco labelling and buying decisions of green products among male and female consumers.

Hypothesis 8: There is a significant relationship between environmental attitude and buying decisions of green products among male and female consumers.

Hypothesis 9: There is a significant relationship between green advertising perception and buying decisions of green products among male and female consumers.

Methodology

Sample and Data Collection

This study was carried out online utilising a quantitative approach that included self-reported survey questionnaires that were made available on the internet. 24 items were taken from existing questionnaires and operationalized using 7-point Likert scales ranging from 1 to 7, with 1 indicating strong disagreement and 7 indicating strong agreement. The independent sample t-test and multiple regressions were employed to answer the hypotheses using the Statistical Package for the Social Sciences (SPSS) version 26. Overall, 431 responses were obtained.

Demographics Profile of Respondents

There were 326 female respondents (75.6%) and 105 male respondents (24.2%) among the 431 people who took part in the survey. The age groups of 18-20 years old (58.2%) and 21-23 years old (30.4%) make for the largest share of the sample, followed by ages of 24-26 years old (8.8%) and 27-30 years old (2.3%), respectively. The majority of those polled (97.7%) were single. In terms of educational attainment, 57.3 percent of respondents had a diploma, 27.9% had a bachelor's degree, 38.7% had a master's degree, and 4.2 percent had a high school diploma. The majority of those who responded were students. Many of the respondents made less than RM999.00 per month (85.5 percent).

Table 1

Respondents' demographic profile (N=431)

Respondents' Demographic Frequency			%
Gender	Male	105	24.2
	Female	326	75.6
Age	18-20	251	58.2
	21-23	131	30.4
	24-26	38	8.8
	27-30	11	2.3
Marital Status	Married	10	2.3
	Single	421	97.7
Level of Education	High School	18	4.2
	Diploma	248	57.3
	Bachelor Degree	165	38.3
Occupation	Employed	40	9.3
	Self-employed	2	.5
	Student	389	90.5
Monthly Income	Below RM999.00	368	85.5
	Between RM1000.00-RM2999.00	44	10.2
	Above RM3000.00	19	4.4

Respondents' Experience with Green Products

Table 2 defined the respondent's activities in order to protect the environment such as recycling of newspaper (i.e. 82.4 percent), recycle bottles, cans or glasses (i.e. 82.6 percent), use recycle paper (i.e. 79.2 percent), bring my own bags to supermarkets (i.e. 74.7 percent) and purchase products made from recycle materials (65.4 percent). As presented in Table 3, almost majority of the respondents have previously purchased green products. (i.e. 90.3 percent) and about less than 10 percent of them are regular buyers of green products. Concerning the category of green products purchased, 84.2, 79.8, 69.8 and 58.5 percent of the respondents have purchased organic fruits, vegetables, green tea, and energy saving electrical appliances, respectively. Whereas the smallest percentage purchased organic products are laundry detergent, dishwashing soap and natural cereal (see Table 4).

Table 2

Respondents' action in protecting the green environment

Behaviour		Frequency	%
Recycle newspaper	Yes	355	82.4
	No	76	17.6
Purchase products made from recycle materials	Yes	282	65.4
	No	149	34.6
Recycle bottles, can or glasses	Yes	357	82.8
	No	74	17.2
Bring my own bags to supermarkets	Yes	322	74.7
	No	109	25.3
Use recycle paper	Yes	336	79.2
	No	95	22.0

Table 3

Green purchasing experiences and regularity of purchasing green

Behaviour	Frequency	%
Have you ever bought green products?		
Yes	389	90.3
No	42	9.7
If "Yes", how frequent do you buy green products		
Extremely infrequent	27	6.3
Quite infrequent	63	14.6
Slightly infrequent	70	16.2
Neither infrequent nor frequent	108	25.1
Slightly frequent	73	16.9
Quite frequent	44	10.2
Extremely frequent	4	0.9
Not applicable	42	9.74

Table 4

Kinds of green products bought by respondents

Kinds of green products		Frequency	%
Laundry detergent	Yes	155	36.0
	No	276	64.0
Dishwashing soap	Yes	169	39.0
	No	263	61.0
Organic Vegetables	Yes	344	79.8
	No	87	20.2
Organic green tea	Yes	252	58.5
	No	179	41.5
Natural cereal	Yes	192	44.5
	No	239	55.5
Organic fruits	Yes	363	84.2
	No	68	15.8
Organic coffee	Yes	120	27.8
	No	311	72.2
Energy saving electrical appliances	Yes	301	69.8
	No	130	30.2

Gender Differences in Green Product Buying Decision Variables

Several t-tests were used to see if there were any statistically significant differences between the two groups of cases, such as male and female respondents, where a series of t-tests were used to compare mean ratings. As presented in Table 5 less than half of constructed items tested in green product buying decision (GPBD) showed significant differences between the different gender groups. "I will benefit from the decisions that I make on green purchasing" (mean=5.61, t=2.739, p-value=0.006) "there is a need for me to make green purchasing decisions" (mean=5.41, t=2.684, p-value=0.008) are somewhat more important to female than male while "I am interested in making green purchasing decisions" (mean=5.14, t=2.157, p-value=0.032) and "advertising leads me to be more socially responsible in making green purchasing decisions" (mean=5.34, t=2.369, p-value=0.018) are slightly more important to male than female. On the other hand, both male and female verified equally essential in terms on "the green product that I decide to purchase will be safe for me to use", "the green purchasing decisions will improve the quality of my life" and "the certification of the green product will guide me in my decision to purchase the green product" which is significant at 5 percent. Nevertheless, the remainder of 17 items are found to be less insignificant.

Table 5

GPBD and gender

	Male			Female			Independent Sample t-test	
Variable	Mean	SD	Ranking	Mean	SD	Ranking	t-statistics	Sig.
Environmental issues such as air pollution, water pollution, waste disposal and deforestation influence my purchasing decisions of the green product	5.26	1.30	13	5.24	1.33	17	.140	.889
The seriousness of Malaysia's environmental problems such as air pollution, water pollution, waste disposal and deforestation influence my purchasing decisions of the green product	5.22	2.21	14	5.18	1.26	21	.273	.785
The awareness of the environmental responsibility such as recycling to protect our environment influences my purchasing decisions of the green product	5.19	1.15	16	5.39	1.10	13	-1.575	.116
The support on environmental protection such as government's environmental policies and non-government organisation's voluntary activities makes me feel that I am environmentally	5.18	1.15	18	5.20	1.14	20	-.144	.885

responsible in making decisions to purchase green products								
I will benefit from the decisions that I make on green purchasing	5.29	1.15	4	5.61	1.03	2	-2.739	.006*
The green product that I decide to purchase will be safe for me to use	5.46	1.16	1	5.76	1.11	1	-2.590	.010*
There is a need for me to make green purchasing decisions	5.06	1.27	6	5.41	1.16	5	-2.684	.008*
The green purchasing decisions will improve the quality of my life	5.31	1.16	3	5.58	1.09	3	-4.304	.000*
I am interested in making green purchasing decisions	5.14	1.16	5	5.34	1.06	6	-2.157	.032*
My knowledge of the labelling contents on the green product will influence my decision to purchase it	5.15	1.15	20	5.40	1.10	12	-1.577	.111
The certification of the green product will guide me in my decision to purchase the green product	4.93	1.25	7	5.14	1.12	7	-2.038	.043*
I will recognise the eco-label when deciding to purchase the green product	5.21	1.1	15	5.27	1.08	15	-1.626	.105
I will trust the environmental-friendly messages on the eco-label in making green purchasing decisions	5.32	1.04	10	5.30	1.10	14	-.471	.638

I will trust the recycling information on the eco-label in making green purchasing decisions	5.16	1.10	19	5.45	1.09	11	-.216	.829.
Advertising leads me to be more socially responsible in making green purchasing decisions	5.34	1.12	2	5.51	1.10	4	-.2.369	.018*
Advertising is a good source of information for me in making green purchasing decisions	5.34	1.12	9	5.51	1.10	9	-1.365	.173
I plan to switch to the product that is advertised as green product in making green purchasing decisions	5.31	1.07	12	5.22	1.08	19	-.749	.454
I believe that the claims made on advertising are truthful in making decisions to purchase the green product	5.08	1.10	23	5.24	1.10	18	-1.329	.184
Advertising presents a true picture to me in making decisions to purchase the green product	5.09	1.15	22	5.25	1.10	16	-1.308	.191
I will frequently buy the green product on a regular basis in the future	5.11	1.12	21	5.15	1.12	22	-.311	.756
I only buy the green product that I believe will reduce waste disposals (made by recycled content)	5.18	1.27	17	5.11	1.15	23	.557	.578

I buy the green product that I trust will minimise environmental impacts such as air pollution, water pollution and land pollution	5.31	1.12	11	5.48	1.13	10	-1.273	.204
I buy the green product to increase my sense of satisfaction	4.88	1.28	24	5.06	1.23	24	-1.305	.193
I buy the green product that I believe will minimise human health problems such as cancer because it contains fewer toxic materials	5.47	1.14	8	5.58	1.14	8	-.886	.376

Identify Significant Predictors of Male and Female Respondents' Green Product Buying Decisions

The researchers used multiple regression to find significant determinants of green product buying decisions among male respondents. The model with four factors was significant, $F(4,100) = 101.1$, $p < .001$, $R^2 = 0.79$. However, only green advertising was found to be significant among the male respondents. Similarly, another multiple regression was carried out to find significant determinants of green product buying decisions among female respondents. The model with four factors was significant, $F(4,321) = 179.6$, $p < .001$, $R^2 = 0.68$. In contrast, all the variables; environmental consciousness, eco labelling, environmental attitude, and green marketing were significant to the female respondents as compared to the male respondents.

Data Analysis & Results

Hypothesis 1 - 5: Independent Sample T-Test

The independent sample t-test was performed in the first section of the research to see whether there were any gender differences in green product purchasing decisions. Table 6 presents the gender t-test results and their significance in green product buying decisions. Based on SPSS results, there is a huge gap in environmental attitude between male and female which support hypothesis H3 ($p < 0.05$). However, in the rest of the green product buying decision variables, there is no significant difference between males and females. Surprisingly, 7 out of 24 items tested in green product buying decision showed significant differences in gender in which females tend to engage slightly better in their green product buying decision than their male counterpart.

Table 6

Green product buying decision variables and gender

Variable	Male		Female		Independent Sample t-test	
	Mean	SD	Mean	SD	t-statistics	Sig
Green product buying decision (GPBD)	25.95	4.76	26.37	4.72	-.795	.427
Environmental consciousness (EC)	20.84	4.17	21.00	4.00	-.343	.732
Eco labelling (EL)	25.76	4.69	26.45	4.56	-1.337	.182
Environmental Attitude (EA)	26.16	4.88	28.00	4.59	-3.509	.000*
Green Advertising (GA)	25.80	4.74	26.67	4.74	-1.645	.101

Note: *Significant at 5 percent level

Hypotheses 6 - 9: Multiple Linear Regression

To test hypotheses 6 to 9 on four independent variables (environmental consciousness, eco labelling, environmental attitude, and green marketing) towards green product buying decision (dependent variable) multiple linear regression was used. The outcome of the regression can be seen in Tables 7 and 8 respectively. The results from the regression model (see Table 7) indicated only GA (independent variables) was found to be significant to GPBD (dependent variable) for male respondents. Whereas all the independent variables (EC, EL, EA, and GA) were found to be significant to the dependent variable (GPBD) for the female as compared to male (see Table 8). The adjusted R square value of the four variables (EC, EL, EA, and GA) contributed for male 79.8% ($R^2 = 0.798$) and female 68.6% ($R^2 = 0.686$) to the dimension of a green product buying decision.

Table 7

Result of multiple regressions tested among the male

Variable	β	t	Sig.
Environmental consciousness (EC)	.06	.87	.386
Eco labelling (EL)	.11	1.61	.110
Environmental Attitude (EA)	.15	1.82	.072
Green Advertising (GA)	.64	7.681	.000*

Note: *significant, $p < .05$

Table 8

Result of multiple regression tested among the female

Variable	β	t	Sig.
Environmental consciousness (EC)	.12	2.60	.000*
Eco labelling (EL)	.13	2.66	.008*
Environmental Attitude (EA)	.24	4.54	.000*
Green Advertising (GA)	.43	.8.06	.000*

Note: * significant, $p < .05$

Discussions

This study examines young male and female Malaysian consumers' purchasing decisions regarding green products. The findings indicate that there is a significant difference between males and females when it comes to purchasing green products and that these differences are associated with environmental consciousness, eco-labelling, environmental attitude, and green advertising. As expected, and in contrast to a previous study conducted in Malaysia, there is a significant difference in the results of a green product purchasing decision between male and female respondents, and indeed, the environmental attitude was a significant factor for female respondents, as opposed to male respondents, for whom green advertising was a significant factor in green product purchasing decisions. According to Haytko and Matulich (2008), commonly females possess a more positive attitude towards green advertising and display more responsible behaviour for the environment than men in their studies on green advertising and consumer behaviour responsible for the environment.

In the case of hypotheses 1–4, the results indicate a significant difference in environmental attitudes between male and female respondents, which supports hypothesis H3 ($p < 0.05$). The females have a slightly stronger environmental attitude (mean=28.00) than males (mean=26.16). This is similar to Chen, Chen and Tung (2018), who discovered that females have a more environmentally conscious attitude than males but contradicts Chen and Chai (2010) research on undergraduate students in Malaysia, which found no significant difference in environmental attitudes between males and females, as well as Thang and Kumarasamy (2006) study on 100 Malaysian high school students., regardless of gender, the respondents have generally positive attitudes towards the environment. However, there is no significant difference between males and females in the environmental consciousness, eco labelling, and green advertising of the green product buying decision variables. Therefore, hypotheses H1, H2, and H4 were not supported with a p-value of .732, .182, and .101 respectively.

Hypothesis 5 is supported by a discovery that showed female consumers (mean = 26.37) are slightly involved in the results of buying green products compared to men (mean = 25.95). Females socialise more than males; they frequently have a stronger ethic and exhibit more supportive and selfless behaviour. The result is comparable to a study conducted in Malaysia, where a majority of well-educated, young adult women with more disposable income and general awareness of environmental issues gained through school and community education programmes (Tang, 2014). Conclusively, previous research indicates that females are more likely than males to make a green purchase (Wahid et al., 2011; Rezai 2011; Ahmad and Juhdi, 2010).

Hypotheses 6–9 demonstrate a significant difference between male and female respondents when it comes to predicting environmental consciousness, eco labelling, environmental attitude, and green advertising as predictors of green product purchase decisions. As for male respondents, green advertising is the significant predictor of green product buying decisions. On the other hand, all the variables namely, environmental consciousness, eco labelling, environmental attitude, and green advertising are significant predictors of green product buying decisions among the female respondents. This finding is consistent with [51] study, which discovered that environmental consciousness, ecolabelling, and green advertising all have a direct correlation with green product purchasing decisions among young consumers in Malaysia. Similarly, this study demonstrates that young consumers' purchasing decisions regarding green products are directly related to environmental consciousness, eco labelling, environmental attitudes, and green advertising, with young female consumers being more engaged than male consumers. Concomitantly, Tan et al (2019) concluded that environmental attitudes are a significant predictor of green purchasing behaviour and that the age group of 20 years and under (adolescence) plays a greater role in green purchasing behaviour than any other age group. Finally, consumers who have a positive attitude toward the environment and a high level of concern for the environment are more likely to purchase green products (Wahid et al., 2011).

Conclusion

Buying green products will help solve ecological problems. Motivating consumers to buy green products will lead to a productive life and a clean environment for the community. However, awareness of ecological and social issues alone may not be sufficient to persuade consumers to make green product purchasing decisions. Companies that produce eco-friendly products to meet the customers' needs and satisfaction must understand how customers' attitudes toward the environment can drive consumers to buy green products. Creating environmental consciousness apparently is very important to make people be more concerned and try to participate in solving ecological problems. Consumers need to realise that their purchasing behaviour and consumption patterns have a direct impact on the environment. Additionally, they require a more nuanced understanding of the consequences of their purchasing decision. Specifically, green labels with more information would enable them to be more aware of the existence of green products. Additionally, emphasising more precise information on eco labelling would enable them to differentiate between green and conventional products. In short, most consumers are unlikely to believe in eco labelling or green product awareness. Thus, to make eco labelling the deciding factor in their purchasing decision, marketers must ensure that the eco labelling is informative and trustworthy, compelling them to consider the environmental impact of a product they wish to purchase. Apart from eco labelling, an appropriate medium such as green advertising should be used to broadcast additional information that educates customers about sustainability issues, assists them in identifying various eco labelling, and persuades consumers about the benefits of green product purchasing decisions (Liu et. al., 2012). According to Yue et. al (2020); Okunuga (2019) emphasised the importance of organisations promoting more green products through various media channels. Additionally, it is prudent for marketers and retailers selling green products in Malaysia to investigate and develop appropriate green advertising and communication strategies aimed at increasing their target consumers' awareness of issues such as environmentally sustainable products, incorporating eco labelling into the product design process, and connecting it to environmental stewardship.

This research also has policy implications. Policymakers can integrate environmental education into the national education system to cultivate environmental values by properly addressing the relationship between humans and nature to improve green purchasing decisions. Meanwhile, policymakers can raise environmental awareness and attitudes through a variety of communication channels, such as the news media (television and radio) and social media (Facebook, Twitter, Instagram, and YouTube).

Limitation and Future Research

This study specifically investigates the differences of the young gender on the results of green product purchasing behaviour. It seems that this user's generation has a significant gender difference in which females show more positive green product behaviour towards environmental awareness, environmental attitudes, and green marketing tools. Future research should delve deeper into the underlying causes of the factor and its implications for marketers. Additionally, the effects of demographic factors are not considered in this study which may elucidate why there are such differences. Thus, future research can also focus on additional variables that contribute to inconsistency in green purchasing behaviour across genders to gain a better understanding of green consumerism among younger generations, particularly in Asian markets. Nonetheless, samples from other or broader green products in different countries must be investigated to investigate the mechanisms of the general influence of environmental consciousness and attitudes on green purchasing decisions. Future research can explore the possibility of other green product availability, ease of purchase, and neglected policy interventions and integrate these factors into consideration.

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