

MALAYSIAN GREEN CONSUMERS DEMOGRAPHICAL SEGMENTATION

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ABSTRACT: *The purpose of this paper is to segment the Malaysian consumers based on the demographical characteristics. This descriptive and hypothesis testing study was conducted to explain the difference between groups within the context of green consumers. Center of attention is given to the consumers' decision to purchase green products. Self-administered questionnaires were employed to obtain meaningful data from 230 consumers at major shopping malls in Melaka, Malaysia from September 2015 until February 2016. Based on the analysis, there is no significant difference between male and female consumers in their green purchase decision. However, variables such as age, education and level of income have shown a significant difference between groups and the effects are somewhat large. Generally, results from this study helps the marketers to be more focused upon designing their promotional activities. In the future, marketers should concentrate on the consumers aged 40 years old and above, possessed at least a bachelor degree and income of above RM5000 to promote green products. This study adds to the literature in green marketing. It represents findings from developing country that can be used for future comparative studies related to green market segmentation. The findings have strong implications to both academic and industry, particularly on the aspect of consumers' readiness to accept green products as their future way of life.*

Keywords: Green Consumers, Green Marketing, Demographic Segmentation, Green Purchase Decision

1. INTRODUCTION

Green marketing is becoming a popular terminology used by many companies around the globe [1][2] to promote products that are less harmful to the environment and health. Nowadays, consumers have shown their greatest concern about environmental protection and green purchase activities [3,4]. The popularity of going green has inspired many companies to adopt this idea for future marketing strategy and business sustainability [5,6]. Such efforts bring into a new dimension of relationship between consumers and companies. Recent studies have shown an increasing trend of consumers' awareness due to the massive green campaigns and activities done by companies that are very concern about environment and consumer needs [7]. To this regards, consumers' environmental concern can be recognized from their purchase involvement [8,9]. Therefore, this study attempts to segment the consumers based on their behavioural attitude towards environmental protection and decision to purchase green products. It starts with the overall view of a green marketing and its common characteristics. The importance of green segmentation will be discussed along with the relevant criteria to differentiate each category of consumers. The research methodology, analysis and findings, as well as implications were also highlighted to better understand the green segmentation.

2. LITERATURE REVIEW

Green Marketing, Green Products and Green Consumers

Green marketing can be generally defined as the management process that identifies, anticipates and satisfies the needs and wants of customers and society in a profitable and sustainable way [10]. Studies about green marketing can be traced back as early as 1970s [11]. During the time period, focus was given on the environmentally friendly consumers. Since then, the issue of protecting the environment and green consumerism have becoming the centre of attention among academic researchers [12]. In due course, many countries started to impose legislations on the environmental protection

[13]. Thus far, the topic of green marketing focuses on the factors affecting the environmental consciousness, acceptance of green products and purchase decisions.

Relating to its offerings, green product could be seen as a product developed to minimize or eliminate the harmful effect on human's health and the environment via the minimisation of non-renewable resource usage, avoidance of toxic materials and lastly the usage of renewable resource will take place in accordance to their rate of replenishment [14]. Green products are not limited to the food and beverages, but also applicable to the electrical appliances and vehicles. To this extent, consumers who take into account the environmental impact on their consumption pattern and willing to change their purchasing behaviour can be regarded as green consumers [8,15,16]. These consumers have the tendency to purchase green products and feel proud to be associated with green activities.

In marketing, green consumers appear to be an important element that must be considered by companies [17,18]. Furthermore, the increasing number of green companies has made market segmentation becoming more important especially during the early phase of developing an effective market targeting and brand positioning [19]. Although some studies against the idea of segmenting the green consumers [20], this topic remains important from a business perspective, especially towards the establishment of a future marketing strategy.

Characteristics of Green Segmentation

Market segmentation recognizes the grouping process based on the consumers' identical characteristics such as demographic, psychographic and behavioural segmentation [21]. However, apart from certain demographical characteristics (i.e. gender and age), the task to segments the market is a daunting process. Therefore, it is argued that an adoption of existing observable descriptive characteristics is essential to understand the consumers' perception towards green products and their intention to purchase.

Gender: Gender segmentation can be described as the process of dividing a consumer market into different segments based on male or female. It has been used in many consumerism studies to understand the consumers' interest towards different types of products such as merchandize, consumable goods and electronic gadgets [21]. Due to the advancement of social interaction and workforce diversity, many researchers claimed that women have a greater tendency to portray their 'green' behaviour than men [22]. Previous studies depicted that women possess a greener mind-set and more concern about the environmental protection [23]. They purchase green products and practice the 3R (Reuse, Reduce and Recycle) in their daily life [24]. However, men on the other hand, were found to be very active in conservation activities and non-governmental movements [25]. Therefore, it can be hypothesized that:

H1: There is a significant difference in the mean of green purchase decision scores for male and female consumers.

Age: Many previous marketing and behavioural studies discussed about age among general consumers [26,27]. Age segmentation is the activity of segregating a consumer market into different age and lifecycle groups. Previous studies have shown that consumers' preferences can be influenced by age. Due to that reason, many companies create their offerings and design the promotional campaign based on the age segmentation. Within the context of consumer behaviour, mixed results can be traced from the relationship of age and the next course of action (i.e. attitude, knowledge and behaviour). While some studies found that there is a positive relationship between those two variables [28][29], others claimed that the direction of the relationship is negative [30]. Hence, it can be hypothesized that:

H2: There is a significant difference in the green purchase decision scores for a different level of consumers' age.

Education: Consumers with a proper educational background and having an easy access to the information will show a greater concern and act in favour towards the environment [29,18]. Education segmentation can be described as the process of dividing consumers market based on the highest level of education [21]. Educated consumers normally prefer quality products and value for money because they have prior knowledge about the process of creating products' value and benefits. Some studies have found that there is a positive relationship between the level of education and consumers' tendency to perform green activities for the purpose of protecting the environment [28,31,32]. Therefore, it can be hypothesized that:

H3: There is a significant difference in the green purchase decision scores for a different level of consumers' education.

Income: The level of education usually portrays the household income of a family. This is due to the reason that, consumers who possess a higher education level will secure a chance to go for a better position and obtain higher salary than those at the lower levels. This segmentation has long been used by many companies that sell products and services such as cars, houses, financial products and travelling packages [21]. Income segmentation involves the process of dividing the consumers based on their level of income [21]. Within the context of green marketing, it is believed that the consumers' who obtain a better income has a positive effect

on their actual behaviour to purchase green products and keeping the environment clean and green [18]. The bases for this statement derived from the notion that consumers' with higher level of income can afford to purchase green product that is well-known for its expensive price [28]. They are also very keen to contribute money for the environmental movement [29]. Hence, it can be hypothesized that:

H4: There is a significant difference in the green purchase decision scores for a different level of consumers' income.

3. METHODOLOGY

Previous studies have shown that consumers have different types of knowledge and attitude towards green products and environmental concern. The aim of this study is to classify the different types of Malaysian green consumers. Due to its nature, the researchers have decided to give a special attention to the consumers' demographical characteristics and their decision towards purchasing green products. This is based on the justification that these variables have significantly becoming relevant predictors to the consumers' future behavioural action (i.e. purchase decision or protecting the environment).

The survey was conducted at major shopping malls in Melaka, Malaysia from September 2015 until February 2016. The selection of sample was determined based on the convenience sampling method [33]. The self-administered questionnaires were distributed in a non-contrived setting to ensure fair view responses. This cross-sectional study managed to obtain 230 valid responses. Measured items in the questionnaire were segregated into two sections. The first section collected the consumers' demographic information such as age, gender, academic qualification and level of income. The second section collected data about respondents' attitude towards green product purchase decision. Prior to the distribution of questionnaires, the pilot test was done to validate the measured items. The Cronbach's Alpha ($\alpha = 0.739$) indicated that all measured items used in this study were reliable. The data were then analysed using SPSS Version 21.0. Due to its nature, the gender variable was analysed using an Independent Sample t-Test. On the other hand, all remaining variables were tested using Analysis of Variance (ANOVA) to understand the significant difference of related variables.

4. ANALYSIS & FINDINGS

Findings of the demographical data are somewhat varies, but interesting to be pondered. The analyses start with demographical variables to understand their relationships with the decision to purchase green products.

Gender: **Table 1.0** shows the relationship between the mean scores of the decision to purchase green products for male and female consumers. The significance level of Levene's test is larger than 0.05 ($p = 0.058$) and did not violating the assumption of equal variance [34]. Therefore, the researchers used the equal variance assumed to report the t-value. The value in the Sig. (2-tailed) column is greater than 0.05 ($p = 0.102$) thus indicating that there is no significant difference in the mean scores of green purchase decision between the two groups, male ($M = 3.929$, $SD = 0.610$) and female consumers ($M = 4.333$, $SD = 0.594$; $t(228) = 4.648$, $p = 0.102$, two-

tailed). Also, it can be traced that the effect of the differences (Mean Difference = 0.405, 95% Confidence Interval: - 0.576 to 0.233) was moderate (Eta Squared = 0.087) [34]. Therefore, Hypothesis 1 is not supported.

Table 1.0 Independent Sample Test between the Green Purchase Decision and Gender

Group	Mean	SD	t	p
Male	3.929	0.610	4.468	0.102
Female	4.333	0.594		

Note: Levene’s Test for Equality Variances (F = 3.618; $p > 0.05$); Mean Difference = 0.40476; 95% CI = -0.57635 (Lower), 0.23317 (Upper)

Age: Analysis of variance (ANOVA) was conducted to explore the impact of age on the consumers’ decision to purchase green products. The respondents for this study emanated from five different ranges of age (G1: 21-30 years old, G2: 31-40 years old, G3: 41-50 years old, G4: 51-60 years old, G5: 61 years old and above). As shown in **Table 2.0**, there is a significant difference at $p < 0.05$ in the decision to purchase scores for the five different level of age (F: 4, 225 = 66.058, $p = 0.000$). Though indicating statistically significant results, the magnitude of difference between groups was large (Eta Squared = 0.45) [34]. Further analysis on the Post-hoc comparisons using Tukey HSD revealed that the mean score for G1 was significantly different from G2, G3, G4 and G5 where the highest mean score indicated by G3 (M = 4.38, SD = 0.64), G4 (M = 4.01, SD = 0.59) and G5 (M = 4.17, SD = 0.61). Therefore, Hypothesis 2 is supported.

Education: Within the context of education level and green purchase decision, the respondents for this study involved six different level of education (G1: Secondary school or below, G2: Certificate, G3: Diploma, G4: Bachelor Degree, G5: Masters and G6: PhD). As shown in **Table 3.0**, there is a significant difference at $p < 0.05$ in the decision to purchase scores for the six different level of education (F: 5, 224 = 24.387, $p = 0.000$). Further analysis discovered that the effect of difference between groups was considerably large (Eta Squared = 0.35) [34]. Further analysis on the Post-hoc comparisons using Tukey HSD revealed that the mean score for G1 was significantly different from G2, G3, G4, G5 and G6, where the highest mean score indicated by G4 (M = 4.10, SD = 0.64), G5 (M = 4.75, SD = 0.606) and G6 (M = 4.15, SD = 0.59). Therefore, Hypothesis 3 is supported.

Table 2.0 ANOVA of Consumers’ Age and Green Purchase Decision

Group	Mean	SD	F	p
G1: 21-30 years old	3.5737	0.5130		
G2: 31-40 years old	3.5600	0.5590		
G3: 41-50 years old	4.3800	0.6410	66.058	0.000
G4: 51-60 years old	4.0100	0.5914		
G5: 61 years & above	4.1708	0.6055		

Note: df = 4 (Between Groups), 225 (Within Groups); Sum of Squares = 41.225 (Between Groups), 50.200 (Within Groups)

Income: Another analysis of variance (ANOVA) was conducted to assess the relationship between the mean scores of the consumers’ green purchase decision and their level of

income. Respondents for this study were grouped into four different levels of income (G1: RM1000 – RM3000, G2: RM3001 – RM5000, G3: RM5001 – RM7000, G4: RM7001 and above). As shown in **Table 4.0**, there is a significant difference at $p < 0.05$ in the decision to purchase scores for the six different level of education (F: 3, 226 = 97.843, $p = 0.000$). Further analysis discovered that the effect of difference between groups was considerably large (Eta Squared = 0.56) [34]. Further analysis on the Post-hoc comparisons using Tukey HSD revealed that the mean score for G1 was significantly different from G2, G3 and G4 where the highest mean score indicated by G3 (M = 4.75, SD = 0.63) and G4 (M = 4.54, SD = 0.61) Therefore, Hypothesis 4 is supported.

Table 3.0 ANOVA of Consumers’ Level of Education and Green Purchase Decision

Group	Mean	SD	F	p
G1: Secondary School & below	4.0000	0.50553		
G2: Certificate	3.7438	0.51318		
G3: Diploma	3.8382	0.23743	24.387	0.000
G4: Bachelor Degree	4.0978	0.63844		
G5: Master	4.7501	0.60550		
G6: PhD	4.1502	0.59210		

Note: df = 5 (Between Groups), 224 (Within Groups); Sum of Squares = 32.23 (Between Groups), 59.20 (Within Groups)

Table 4.0 ANOVA of Consumers’ Level of Education and Green Purchase Decision

Group	Mean	SD	F	p
G1:RM1000–RM3000	3.8750	0.41685		
G2:RM3001–RM5000	3.5833	0.59357		
G3:RM5001–RM7000	4.7511	0.63185	97.843	0.000
G4:RM7001 & above	4.5391	0.61435		

Note: df = 3 (Between Groups), 226 (Within Groups); Sum of Squares = 51.654 (Between Groups), 39.771 (Within Groups)

CONCLUSION

It can be concluded that Malaysian consumers realized the importance of environmental protection. However, their next course of action, such as green purchase decision varies between groups. It is interesting to note that both male and female consumers use their knowledge to keep the environment clean and safe through responsible purchase decision. Also, adult consumers have shown a positive attitude towards purchasing decision and willing to spend their time to acquire green products. This can be attributed to income stability, better position in career and social visibility. It was also found that the level of education shaped the consumers’ actual behavior. Highly educated consumers tend to purchase green products more than the less educated ones. In the future, it is noteworthy to point that companies that do not proactively respond to the demand

for green products will have to bear risk of losing their customers. Therefore, companies should take advantage of these findings to and ensure business sustainability.

6. REFERENCES

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