

ENVIRONMENTAL CONSCIOUS BEHAVIOUR AMONG MALE AND FEMALE MALAYSIAN CONSUMERS

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©Ontario International Development Agency ISSN: 1923-6654 (print)

ISSN 1923-6662 (online). Available at <http://www.ssrn.com/link/OIDA-Intl-Journal-Sustainable-Dev.html>

Abstract: This paper aims to investigate gender differences in perceived consumer effectiveness (PCE), environmental concern (EC) and environmental conscious behavior among Malaysian consumers. A survey has been developed and administered with total sample of 319 achieved across the country. Statistical analysis using SPSS is employed to examine the comparison between the two groups. Results from independent t-test shows that there was significant difference between male and females in PCE than EC. In addition, findings reveal female consumers are more positive than their male counterparts when they engage in environmental conscious behavior. Likewise, results indicate PCE is the most significant predictor of environmental conscious behavior among both male and female Malaysian consumers. These findings may assist Malaysian policy makers in making decisions related to environmental education and protection as well as for marketers to fine-tune their target consumers with environmentally focused promotional campaigns and marketing programmes

Keywords: Environmental Concern, Ecologically Conscious Consumer, Perceived Consumer Effectiveness, gender.

INTRODUCTION

Today, environmental concern has become a phenomenon around the world. Concern towards environmental and society has increased rapidly. Indeed, due to the current trend of

globalisation, organisations have realized that in order to compete effectively in a competitive environment, it needs to clearly define the business practices that focus on public interest. [1] consents that the relationship between organisation and the society is where organisation integrates social concerns in its business operations and contributes to a better society. Organisation and society need each other. Therefore, organizations must acknowledge society's existence and society's growing demand for more ethically responsible business practice. Organisation ethical behaviors impact the way customers behave towards the organisation [2],[3]. Profit driven companies are usually motivated to adopt the concept of green marketing in their business provided consumers demonstrated high degree of environment attitude and therefore, translated into purchase commitment. This has led many companies to be more socially responsive in addressing pollution and waste disposal by developing environmentally friendly packaging and keep in-step with the environment movement. As a result this has influenced the profile of the ecologically conscious consumer behavior. This group of consumer believes that as individuals, they can help solve environmental problems. Research indicate that consumers are concerned enough to consider paying more for environmentally friendly products, change their shopping habits in helping to protect the environment and even buy products only from environmental responsible companies [3]. Western studies have evidenced that consumers in

USA and Western Europe growing more environmentally-conscious in the past decade [4]. Recently, green consumerism has started to gradually emerge in the Asian regions [5]. This is due to; (a) consumers in Asian societies are increasingly becoming conscious to the alarming environmental problems [6] ; and (b) the rapid growing economies in Asia has led to a vigorous rise of financially-empowered consumers across Asia who are willing to spend more than previous generations [7].

Similarly, environmental issues are beginning to catch the interest of the law makers and the Malaysian society. The government has urged private sectors to include their environmental activities in the annual income report and make this movement as the corporate agenda. As mentioned earlier, environmental concerns involve everyone in the society. The public play important roles in curbing environmental problems and issues. Past studies in Western cultures have found gender differences in environment perceptions, values and actions [8] . Therefore, this paper is essentially presented to examine and compare among different genders of Malaysian consumers in terms of their view towards environmental issues, and how they behave, especially in their attitudes towards ecologically conscious behavior.

LITERATURE REVIEW

Different people have different attitude and opinion towards environmental issues. Even though some individuals view the environmental issues as the responsibility of the government, others are concerned about environmental sustainability and maintaining an ecological balance. These individuals view the responsibility towards environmental issues should involve everyone in the society. Consequently, human behavior has a mammoth influence on the global ecology. Besides, blaming the government, commercial agriculture businesses or big oil organisations, ordinary people need to be informed that they are the problems to environmental disasters. According to [9] and [10], today's environmental issues and challenges are a direct result of human actions that require behavioral solutions. As a result, many researchers have investigated social and psychological factors that influence environmental attitudes and behaviors.

Environmental Concern (EC)

Environment concern refers to an effective attribute that can represent a person's worries, compassion, likes and dislikes about the environment [11]. Concern over the environment has evolved over time. In the twenty-first century, the environmental issues has been used as source of competitive advantage in business and politics, individual and societal

concerns. Age, educational attainment, political ideology, ethnicity, gender and value orientation have been found to have robust, consistent effects on environment concern over time across different surveys and samples [12]. Indeed, the relationship between attitudes and behavior is one that has been explored in a variety of contexts. For instance, [13] found that consumers who were more concerned about the environment expressed more willingness to pay more for renewable energy than those who were less concerned about the environment. In general, there is a positive relationship between environmental attitudes and behavior [14].

Few existing studies have evidenced that women are more concerned about environmental issues than are men [15]. Whilst, [16] have found that the display of gender difference in environmental concern could begin at as early as the primary-school age. Theoretical explanations for gender difference include the socialization of gender role [17] and value orientation [18]. Specifically, according to socialization theory women are socialized to be more interdependent, compassionate, nurturing, cooperative, and helpful in care giving roles than men, women should have a stronger ethic of care for others, including the environment, when compared to men [17]. Other scholars try to explain the gender difference in environmental concern by using value orientation, claiming that women have stronger biospheric orientations (focusing on values that emphasize the environment and the ecosystem) than men [18].

Perceived Consumer Effectiveness (PCE)

PCE is defined as "the evaluation of the self in the context of the issue".[19] . PCE refers to the extent to which individuals believe that their actions make a difference in solving a problem [20]. Several studies [14],[21], [22], [19],[20],[23],[24] have concentrated on the idea that consumers' attitudes and their responses to environmental concerns are a role of their belief that individuals can positively influence the outcome to the environmental problems. Therefore, PCE has been as a measure of attitude and consequently was modeled as a direct predictor of environmentally conscious behavior [22]. Socially conscious consumer strongly feel that he or she can do something about environmental issues and tries to take into consideration the social impact of his or her purchase behavior [23] . Research undertaken by [19] and [20] evoke that consumer's level of PCE do affect their likelihood of performing ecologically conscious consumer behaviors. Moreover, findings have been fairly conclusive that PCE is positively correlated with ecologically conscious consumer behavior (ECCB). In addition, [22] study on PCE indicates that PCE is the single strongest predictor of

ECCB, surpassing all other demographic and psychographic correlates examined.

Ecologically Conscious Behavior

According to [25] specific demographic groups with particular behavioural qualities and attitudes do engage in a varied way in sustainability. [26] suggest that individuals with a higher level of environmental concern should be more likely to engage in ecologically conscious behavior (ECCB). In order to encourage ECCB among the target markets, marketers and policy makers need to identify the antecedents of such behavior. [14] asserts that environmental attitudes influence ECCB. Companies promoting environmental awareness believe information will lead to increasing environmental knowledge, thus changing attitudes and buying behaviours [27]. [28] and [29] have suggested that knowledge, information, and attitudes are important for changing human actions toward the environment. [30] have evidenced in their Western sample that females express more positive attitudes towards the environment than males do. [16] provide additional evidence that women report stronger environmental attitudes than men across age and across 14 countries (Argentina, Canada, Columbia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Mexico, Panama, Paraguay, Peru, Spain, the United States and Venezuela).

Many studies in the green marketing literature attempted to define the characteristic of green consumer for segmentation purpose. Market orientation and segmentation appear as aspects to which marketer must pay special attention. A review from the literature indicates there is a number of studies that identify demographic variables that shape the green consumer profile. Such variables, when significant, offer easy and efficient ways for marketers to segment the market and capitalize on green attitudes and behavior [31],[32], [33], [34],[35]. Specific research have examined the impact of age [36],[37],[38], gender [39],[37], [38] and education [37]. It was found that older age groups, who are female and well educated, are more likely to engage in ecologically conscious consumer behavior.

It has been suggested there is a variety of demographic segmentation variables such as age [38], income [40], education [41] and gender [42],[43],[44]. Yet despite these studies, the power of demographic variables in explaining environmental consumer behavior has mixed results. [27] found that only age, education, and ‘‘geographic origin’’ were statistically significant with environmental attitude. Results from the meta-review by [45] covering the years 1988 to 1998 found in nine of 13 studies, women are significantly more active in

environmental issues than men, three found no statistically significant difference between males and females and one study reports a greater participation of men. [46] found gender, marital status, and family size to be important. [40] reported the linkage between gender and environmental knowledge was significant, with the large majority of authors concluding that males tend to have higher and better knowledge about green issues than females. [47] found gender and age were important in determining environmental attitudes and behavior.

[41] stated using segmentation through selective marketing techniques, following [48], may attract environmentally oriented consumers who respect the environment and who are conservation-minded. Such segmentation considers research studies that used variables such as gender [41], [49], geographic origin [41], age [50], knowledge [51] and attitudes [52],[53],[54].

Based on the above literature review, the following hypotheses are developed.

Hypothesis 1: There is a significant difference between male and female consumers in their environmental concern attitude.

Hypothesis 2: There is a significant difference between male and female consumers in their perceived consumer effectiveness attitude.

Hypothesis 3: Female consumers would engage in ecologically conscious behavior more than male consumers.

Hypothesis 4: There is a significant relationship between environmental concern and ecologically conscious behavior among male and female consumers.

Hypothesis 5: There is a significant relationship between perceived consumer effectiveness and ecologically conscious behavior among male and female consumers.

METHODOLOGY

Sample and Data Collection

Data for this study were collected through a survey distributed randomly among Malaysian consumers across nationwide. From a total of 500 questionnaires distributed 319 were returned, which yielding a responses rate of about 64%, considered sufficiently large for statistical reliability and generalisability [62], [63]. Participants were a mix of different ethnics, gender and age groups to reflect Malaysian consumer population.

The data collection method was using self-administered questionnaires based on the fundamental constructs proposed in the conceptual

model. These constructs were operationalised by multi-item measures using 7 point Likert-Scales format, anchored by “Strongly Agree” (7); “Agree” (6); “Slightly Agree” (5); “Neutral” (4); “Slightly Disagree” (3); “Disagree” (2); “Strongly Disagree” (1) and the items used to quantify them will be adopted from previously tested scales

FINDINGS

Demographic profile of respondents

A windows version of Statistical Package for Social Sciences (SPSS) was used to perform a number of statistic analysis such as frequency analysis which uses to extract the characteristics of respondents. Table I reflects the demographic profile of the respondents by race, gender, age, education, and income. In terms of race, the sample represents general Malaysia population ratio with majority of respondents were Malay (66.8 percent) followed by Chinese (23.8 percent) and Indian/others (9.4 percent). The number of male respondents were 50.8 percent and female respondents 49.2 percent; 33.2 percent of the respondents having monthly household income above RM6,000 with 66.8 percent of households reporting income less than RM 6,000. Majority of respondents (75.9 percent) were of younger age group ranging from 21 to 30 years old and higher proportion from tertiary educated background (64.6 percent).

Gender differences in environmental variables

A series of t-tests were conducted to determine if statistically significant differences existed between the two groups of cases such as male and female respondents, where a series of t-test to compare mean ratings is used. Table 2 provides the results of the t-test for environment variables and gender. Results showed that there is significant difference between male and female respondents in their perceived consumer effectiveness which supported H2 hypotheses. However, there is no significant difference between male and female in their ecological conscious behaviour and environmental concern attitude. As presented in Table 3, less than half of constructed items tested in ECCB showed significant differences between the different gender groups. “always look out for energy saving products” (mean=5.52, t=1.940, p-value=0.017), “always purchase less harmful product to people & environment” (mean=5.62, t=1.209, p-value=0.30) and “use a particular brand of appliances that use less electrical” (mean=5.61), t=2.244, p-value=0.11) are slightly more important to females than males. On the other hand, both males and females demonstrated equally important in terms on minimizing the consumption of electricity which is significant at 5

percent. However, the remainder of 8 items are found to be less insignificant.

Significant predictors of ecologically conscious behaviour among male and female respondents

Multiple regression was conducted to identify significant predictors of ecologically conscious behaviour among male respondents. The model with two factors was significant, $R^2 = 0.56$, $F(2,157) = 99.86$, $p < .001$. However, environment concern was found to be less significant compare to perceived consumer effectiveness among the male respondents.

Similarly, another multiple regression was conducted to identify significant predictors of ecologically conscious behaviour among female respondents. The model with two factors was significant, $R^2 = 0.46$, $F(2,152) = 65.88$, $p < .001$. Same as their male counterpart, perceived consumer effectiveness found to be more significant compare to environment concern.

ANALYSIS AND RESULTS

Hypothesis 1, 2 and 3 : Independent sample t-test

The first part of the analysis used the independent sample t-test for measurement of differences in consumer’s attitude on ecologically conscious behaviour between the gender. Table 2 provides the results of the t-test for gender (male/female) and their attitudes on ecologically conscious behaviour. Based on SPSS results, there is significant difference between male and female in their perceived consumer effectiveness which support hypotheses H2 ($p < 0.05$). However, there is no significant difference between male and female in their environmental concern and ecologically conscious behaviour. However, 6 out of 14 items tested in ecologically conscious behaviour showed significant differences in gender in which females tend to engage slightly better in their environment conscious behaviour than their males counterpart.

Hypotheses 4 and 5 : Multiple Linear Regression

Multiple linear regression was performed to test hypothesis 4 and 5 on two independent variables (environment concern and perceived consumer effectiveness) towards ecologically conscious consumer behaviour (dependent variable). The result of this regression was shown in Table 3 and 4 respectively. Overall result for the regression model was significant (Significance=0.000). PCE (independent variable) found to be simultaneously significant to ECCB (dependent variable) among the males and females. From the adjusted R square value ($R^2 = 0.528$), the two variables (PCE & EC) contributed 53.8%, with male 55.4% ($R^2 = 0.554$) and female 45.7% ($R^2 = 0.457$) to the dimension of attitude towards environmental behaviour.

Table 1: Descriptive statistics

Demographic variable	Item	Frequency	Percentile
Race	Malay	213	66.8
	Chinese	76	23.8
	Indian	17	5.3
	Others	13	4.1
Gender	Male	162	50.8
	Female	157	49.2
Age	20 years and lower	31	9.7
	21 - 30 years old	242	75.9
	31 - 40 years old	21	6.6
	41 - 50 years old	16	5.0
	51 years old and more	9	2.8
Highest educational level	Degree/Master/PHD and above	206	64.6
	High school/STPM/HSC/College/Diploma	73	22.9
	Primary and lower	1	.3
	Secondary/SPM/MCE	39	12.2
Occupational status	Working	276	86.5
	Student	41	12.9
	Retired/pensioner	2	0.6
Monthly household income	RM1,500 and lower	52	16.3
	RM1,501 - RM3,000	45	14.1
	RM3,001 - RM4,500	69	21.6
	RM4,501 - RM6,000	47	14.7
	RM6,001 and higher	106	33.2

Table 2: Environment variables and gender

Variable	Male		Female		Independent sample t-test	
	Mean	SD	Mean	SD	t-statistics	Sig.
Ecologically conscious consumer behaviour (ECCB)	4.93	0.94	5.22	0.83	-2.967	.390
Perceived consumer effectiveness (PCE)	4.55	0.97	4.87	0.76	-3.270	.029*
Environment concern (EC)	5.03	0.79	5.09	0.81	-.742	.603

Note : *Significant at 5 percent level

Table 3: ECCB and gender

	Male			Female			Independent sample <i>t</i> -test	
	Mean	SD	Ranking	Mean	SD	Ranking	<i>t</i> -statistic	Sig.
To save energy, I drive my car whenever it is necessary.	4.73	1.865	10	4.89	1.730	12	-.810	.097
I normally make a conscious effort to limit my use of products that are made of or use scarce resources.	4.80	1.270	8	5.26	1.210	7	-3.301	.580
I always look out for energy saving/efficient products whenever I shop for household appliances.	5.25	1.392	6	5.52	1.124	5	-1.940	.017*
I will not buy products which have excessive packaging.	4.63	1.511	11	4.92	1.325	11	-1.805	.055
I have switched products for ecological reasons.	4.40	1.518	12	4.97	1.344	10	-3.567	.136
I use a recycling center or in some way recycle some of my household trash.	4.81	1.597	7	5.15	1.397	8	-2.010	.019*
I do not buy products in aerosol containers.	4.08	1.661	14	4.50	1.422	14	-2.440	.106
Whenever possible, I buy products packaged in reusable containers.	4.78	1.583	9	5.08	1.391	9	-1.789	.117
When I have a choice between two equal products, I always purchase the one less harmful to other people and the environment.	5.45	1.397	3	5.62	1.151	2	-1.209	.030*
I will not buy a product if the company that sells it is ecologically irresponsible.	5.25	1.433	5	5.28	1.260	6	-.180	.052
I only buy products such as toilet paper, face tissues and paper towels that are made from recycled paper.	4.36	1.663	13	4.76	1.342	13	-2.360	.005*
I always try to minimize the amount of electricity I use.	5.62	1.471	1	6.03	1.187	1	-2.723	.000*
I purchase a particular brand of household appliance as it uses less electricity than other brands.	5.28	1.403	4	5.61	1.191	3	-2.244	.011*
I usually purchase light bulbs that are more expensive but save energy.	5.54	1.295	2	5.53	1.304	4	.100	.794

Table 4: Result of multiple regressions tested among the males

Variable	β	t	Sig.
PCE	0.71	11.95	.000*
EC	0.08	1.29	.199

Note : *significant, $p < .001$

Table 5: Result of multiple regression tested among the females

Variable	β	t	Sig.
PCE	0.64	8.77	.000*
EC	0.08	1.10	.293

Note : * significant, $p < .001$

DISCUSSION AND CONCLUSION

In the case of hypothesis 1, the result indicate no significant difference between male and female consumers on environmental concern attitude. Both groups demonstrate strong positive attitude towards preserving the environment. This is similar to findings by [55] which states that due to increase in awareness on pollution of air, sea and rivers, noise and light pollution, recent global warming and unpredicted weather condition, females and males have a strong environmental attitude. The continuous campaign by the government and private sectors in promoting green earth, and developing more environment responsible products may have some influence on Malaysian female and male environmental concern attitude.

The result for hypothesis 2 shows that perceived consumer effectiveness exhibits significant and shows moderate influence between male and female. While both groups believe their actions do make a difference, females have slightly stronger belief (mean=4.9) than males (mean=4.5). This is consistent with findings by [56] that found Hong Kong female adolescent consumers have significantly higher degree of pro-environment behaviour than the males. Similarly in Malaysia, due to cultural influence, girls are often encouraged to stay indoors and help their mothers with household chores whereas boys are typically encouraged to go out and play with peers [57]. Gender socialization theory postulates that behavior is predicted by the process of socialization whereby individuals are shaped by gender

expectations within the context of cultural norms [16]. When entering adolescence, females often start to assume responsibility for housework, child care and family matters [58]. In addition, most pro-environment behavior takes place at home (e.g. saving of electricity, recycling etc.) and most of the household purchase is much more often done by females rather than males.

Hypothesis 3 is supported by the findings that show female consumers (mean = 5.22) are more positively engaged in ecologically conscious behavior than their male counterparts (mean = 4.93). Females are socialized to value the needs of others more than males, they often possess stronger ethic of care and display more helpful and altruistic behavior [18]. Such behaviors like 'purchase less harmful product to people & environment', 'use a particular brand of appliances that use less electrical', 'look out for energy saving products' and 'engage in recycling activities' scored significantly higher among the females than males. The results is similar to a study in Malaysia where a majority of working adult females or housewife tend to be more educated, knowledgeable and highly aware of environment-related issues where most of the environment-related information was acquired through the mass media [59].

Hypothesis 4 and 5 show no significant difference between male and female in predicting environmental concern and perceived consumer effectiveness as predictor to ecologically conscious consumer behavior. However, from the findings, perceived

consumer effectiveness is the significant predictor of ecologically conscious behavior among both genders consistent with findings by Roberts [22] that state PCE is the single strongest predictor of ECCB, surpassing all other demographic and psychographic correlates examined.

Nevertheless, a recent study conducted by [60] found there is no significant differences among males and females in environmental attitude or green purchasing behavior. They have also indicated that demographic variables have less explanatory power compared to psychographic variables. However, studies by [60] only focused on undergraduates students and did not consider working adults.

In conclusion, although there appears to be many empirical studies, the results from gender-based investigations are still far from conclusive [61] and seems to warrant more future research particularly within the south east asia region.

ACKNOWLEDGEMENT

The authors would like to express their gratitude to MOHE-FRGS Grant Phase 2/2010 (#021000110001) as being the main sponsor for the project.

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