Asian Journal of Social Sciences and Management Studies
ISSN: 2313-7401
Vol. 2, No. 2, 70-76, 2015
http://www.asianonlinejournals.com/index.php/AJSSMS

Cluster Analysis Approach to Understanding the Philippine Sustainable Consumer: An Initial Empirical Study

***Pamela F. Resurreccion*[1]**

[1]Faculty, Department of Marketing, Mindanao State University-Iligan Institute of Technology Iligan City, Philippines

Abstract

The pressing climate change issue is difficult to ignore today as more and more of its effects are felt and experienced by many people and countries across the globe. Although cross-cutting policies have been enacted by various governments, the complexity of the consumer as thinking, feeling and socially interactive individuals call for more targeted interventions to become an effective reinforcement to consumption-related legislations and programs as embedded in the Four E's framework developed by the UK Sustainable Development Research Network. Recognizing the unfeasibility of personalized campaigns towards sustainable consumption, this paper aims to provide an initial empirical analysis of the Philippine consumer market having the propensity to buy environment-friendly products by exploring its various segments. Cluster analyses reveal that there are five groups of consumers inclined to buy environment-friendly products in the Philippines, each bound together by their normative susceptibility, belief that environment-friendly products are difficult to identify and find in the market, frequency of buying and amount spent for these products, age, education, civil status and income. These identified segments serve as a guide in crafting programs and campaigns promoting and supporting sustainable consumption behavior that are more tailored to each of their attributes. The paper concludes with a discussion on the practical implications for implementation of interventions and directions for future research.

Keywords: Sustainability, Sustainable consumption, Consumer behavior, Sustainable consumer, Consumerism, Market segmentation, Cluster analysis, Philippines.
JEL Classification: M30.

Contents

1. Introduction

The pressing climate change issue is difficult to ignore today as more and more of its effects are felt and experienced by many people across the globe. As such, many governments have recognized the need to address these issues and take action. This concern has been manifested as early as 1972 in the United Nations (UN) conference on the human environment along with the release of the significant publication, *Limits to Growth*, by the Club of Rome; followed by the Earth Summit in Rio de Janeiro, Brazil in 1992; the World Summit in Johannesburg where the delegates called upon the United Nations Environment Programme (UNEP) to formulate a 10-year framework to foster sustainable consumption; the enhancement of the Guidelines for Consumer Protection by the UN General Assembly in 1999 (UNEP, 2012a) and the most recent Rio+20 The Future We Want Summit in 2012.

Somehow, these efforts and initiatives become futile when the individual consumer continues to engage in purchase behaviors that are not at all good for the environment in both short and long run. These purchase behaviors include, but are not limited to, buying products coming from non-environment friendly raw materials and processes, tolerating excessive packaging, and improper disposal of post-consumption product components.

On the policy perspective, UNEP has adopted developments in social science research which lends support to the possibility of transforming consumption patterns to positive behaviours through relevant legislation. However, even UNEP recognizes the limited evidence of the applicability of the concept as for instance, little is known on the appropriate behaviour modification approaches to be used (UNEP, 2012b). Furthermore, while firms are slowly showing support to sustainable business through first mover strategies in pursuing competitive advantage as well as in building up goodwill with their stakeholders through their respective corporate social responsibility initiatives, "sustainable consumption (particularly in Asia) is constrained by a daunting lack of information on the impacts of consumption and availability of sustainable choices, the unmet aspirations for a 'western' lifestyle, and a 'grow now, clean up later' attitude despite great efforts by some regional policy makers and practitioners" (King *et al*., 2010).

As a research theme, sustainable consumption has received considerable attention. One track focuses on identifying the antecedents of sustainable consumption behaviors such that of Witkowski and Reddy (2010), Black and Cherrier (2010), and Luchs and Mooradian (2012) who explored the influence of motivation, values, culture, gender. It is worthy to note that despite the growing enlightenment on the drivers of pro-environment consumption patterns, there appears to be a slow transition toward desired behavioural outcomes. Vermeir and Verbeke (2006), Dunlap et al. (2000), Kaplan (2000) and several other social scientists and scholars observe a dissonance between intentions and actual behaviors**.** Another research track revolves around determining the attributes of certain segments of consumers in terms of pro-environment consumption patterns.

In Portugal, certain environmental and demographic variables are significant for differentiating between the "greener" segment and the other segments (Paco and Raposo, 2009). In the U.S., green product buyers differ significantly in terms of cognitive attitude, affective attitude, social norm, personal norm, and recycling intention compared to non-green product buyers (Park *et al*., 2012). There appears, however, limited literature on the sub-segments within the sustainable consumer market.

As concerned stakeholders are selling the idea of sustainability to a market with deeply rooted materialist orientation, the basic marketing management process prompts that the market be first segmented (Kotler and Keller, 2009) so that the appropriate messages can be communicated and thus achieve higher chances of reception and a positive long-term response is reinforced. The question is: Does the "green" consumer market exhibit distinction between segments as well?

Given these circumstances, this purpose of this study is to further our understanding of sustainable consumption by identifying various segments of the sustainable consumer market with the pro-environmentally inclined consumer as the unit of analysis. More specifically, this study aims to achieve the following research objectives: (1) to determine how the sustainable consumer market can be further segmented; and (2) to identify the attributes of the sub-segments of the sustainable consumer market.

Indubitably, there had been earlier studies that had focused on the antecedents of consumers buying environment-friendly products. In fact, a major part of this study adopts the indicators focused on by Chan (2001). To the author's knowledge, this is the first study investigating the sustainable consumer market segments in an Asian context. This study will hopefully offer better directions for policy formulation and implementation improvements pertaining to transforming consumption patterns to a more sustainable one.

Henceforth, the paper shall proceed as follows: first, it reviews the extant literature on sustainable consumer market segmentation and the criteria used for segmentation; second, it describes the methods and data analysis techniques employed in the study; third, the results of the study are discussed; and finally, the paper concludes with recommendations on marketing communications and an agenda for future research.

2. Review of Related Literature

2.1. Market Segmentation and the Sustainable Consumer Market

Market segmentation is defined by Kotler *et al.* (2009) as the process by which marketers "identify and profile distinct group of buyers who might prefer or require varying product and services mixes by examining demographic, psychographic and behavioral differences among buyers" (p. 13). The rationale behind this process is anchored on the premise that "a single product item can seldom meet the needs and wants of all consumers" (Peter and Donnelly, 2008). This makes identifying the aspects by which the segments shall be evaluated and described become crucial.

There have been several attempts to segment the market in environment-related criteria. The initial research works centered more on the consumers' concern for the environment such as that of Kassarjain (1971), Fisk (1973) and Kinnear *et al.* (1974). Straughan and Roberts argue that using demographic criteria is insufficient in market segmentation (Straughan and Roberts, 1999). In the succeeding discussion, segmentation bases shall be examined to achieve a grounded perspective on the sustainable consumer market segments.

2.2. Psychographic and Behavioral Criteria

Several studies such that of Chan and Yam (1995) have found that environmental behavior are greatly influenced by "ecological knowledge, affect, and intention." For instance, in a comparison between green product non-purchasers and those who are, green product purchasers exhibited significantly higher levels of cognitive attitude, affective attitude, social norm, personal norm, and recycling intention (Park *et al.*, 2012). On a similar note, Meneses and Palacio (2006) found that the major difference between sustainers and non-sustainers is the degree of ecological concern. This is further corroborated by a meta-analysis of 16 studies on sustainable food consumption based on the Theory of Planned Behavior framework which further confirm that personal norm, attitude and subjective norm are strong predictors of intention and behaviour (Han and Hansen, 2012).[23] These findings reiterate the relevance of psychographic and behavioral criteria in market segmentation.

Burns and Neisner (2006) and Hunter (2006) emphasized that in anticipating specific behaviors , it is important that a person's "feeling-based evaluation of an attitude object (i.e. affective attitude)" must be considered. Chan refers to this as environmental affect and defines it as the degree of emotionality that an individual displays in relation to environmental issues (1999).

Meanwhile, Ohtomo and Hirose (2007) and Stern (2000) have placed emphasis on the significant role of norms in determining pro-environmental behaviors tendencies. Social norm "concerns how significant others think one should behave in relation to a certain behavior" (Ajzen and Fishbein, 1977). According to Bamberg *et al.* (2007) consumers are inclined to adhere to social norms because of either social pressure or "their referents provide them with guidance about an appropriate or beneficial behavior in their society. Citing Bandura (1986), Cheah and Phan (2011) explained that "the social influences of peers, family groups and influential bodies can convey information and activate emotional reactions through factors such as modeling, instruction and social persuasion; social environments such as family, friends and peer networks (normative susceptibility) strongly influence buying decisions that involve environmentally friendly products; interpersonal processes and relationships between opinion leaders and professionals are likely to have a substantial impact on similar attitudes towards buying decisions (informational susceptibility)."

Another of the factors that is recognized as preceding pro-environmental behavior is ecological consciousness (Mustafa, 2007). Individuals who have a positive attitude towards the environment are more involved in the purchase and consumption of environment-friendly products (Balderjahn, 1988).

The concept of marketing introduces the premise that people's buying decision is triggered by a stimulus paving the way to the 4Ps framework – product, price, place and promotion. These stimuli largely constitute the direct personal experiences, by the experiences of other individuals and by the communication produced by the media. It results in environmentally friendly behavior based on a number of conditions such as price, the performance of the product (Paco and Raposo, 2009). Employing regression analysis, Tanner and Kast (2003) found that green purchases are favorably influenced by positive attitudes of buyers toward environmental protection and availability of action-related knowledge while unfavorable linked with perceived time barriers and frequency of shopping in supermarkets.

A core marketing concept is defined as wants for specific products backed by a willingness and ability to buy (Kotler *et al.*, 2009). There has been anecdotal evidence suggesting that environmentally-sound products and services are perceived to be expensive. In a study of highly educated people in India, consumers are willing to buy eco-friendly products but not many are willing to pay a higher price for such products (Ishaswini and Datta, 2011).

2.3. Demographic Criteria

Despite some contradicting perspectives on demographics as a behavior predictor, this paper adheres to McDonald and Oates (2006) position that the main segmentation tools that have been used include demographics with a view to aligning consumers' characteristics with their propensity to purchase green products. Several studies such as those of D'Souza *et al.* (2007) and Jain and Kaur (2006) have investigated the role of age in environment-related marketing phenomenon. It is noteworthy to observe that the influence of age on attitudes and behavior are inconsistent as was found in the studies of Zimmer *et al.* (1994) versus (Roberts, 1996).Several research endeavors revolving around the determinants of sustainable consumer behavior have found a "robust gender effect" – that is, women are more likely to express concern about consumption's broader impacts and to act upon those concerns than men (Luchs and Mooradian, 2012). There are research however that showed significant differences between gender (Witkowski and Reddy, 2010). In the study of Paco and Raposo (2009), individuals with greater training and higher educational levels, and consequently enjoying access to more information, are expected to display greater concern, acting more frequently in favor of the environment. Meanwhile, it is generally believed that income is positively correlated with environmental sensitivity. The most common justification for this situation, according to Paco and Raposo (2009), is based on the fact that individuals with a higher income level can more easily bear the marginal increase in the costs associated with supporting "green causes" and buying green products.

Against this backdrop, the study identifies the following specific criteria to serve as bases for segmenting the sustainable consumer market: normative susceptibility, informational susceptibility, ecological affect, man-nature orientation, perceptions of product attributes, frequency of shopping for environment-friendly products, amount spent on environment-friendly products, age, gender, civil status, education and income.

3. Research Methods

3.1. Sampling

The study aimed to investigate and determine the various segments of the sustainable consumer market in the Philippines. A convenience sampling method was used, employing the snowball technique. With the individual sustainable consumer as the unit of analysis, those who responded to the survey were filtered, including only those respondents who is either considering buying products because they are less polluting, considering switching to other brands for environmental reasons, or planning to switch to an environment-friendly version of a product over the

next month. Of the total 215 individuals who completed the survey, the screen excluded 24 respondents. Hence, only 191 questionnaires were determined useful. This particular sampling method was used as this was the only feasible option given the unique circumstances of the study. It must be noted, therefore, that results of the study should be interpreted with caution due to the manner by which the respondents were chosen. The descriptive statistics of sample i presented in Table 1.

Table-1. Descriptive statistics of sample

		Frequency	Percentage of valid cases
Gender	Male	63	32.98%
	Female	128	67.02%
	Total		100.00%
Age	20 years old and below	28	14.81%
	21 – 30	91	48.15%
	31 – 40	44	23.28%
	41 – 50	19	10.05%
	51 – 60	5	2.65%
	Above 60 years old	2	1.06%
	Missing data	(2)	
	Total		100.00%
Civil Status	Single	130	68.06%
	Married	59	30.89%
	Widow/widower	2	1.05%
	Total		100.00%
Educational attainment	High School	5	2.62%
	College	155	81.15%
	Masters level	28	14.66%
	Doctorate level	3	1.57%
	Total		100.00%
Gross household monthly income	Below Php 10,000	44	23.04%
	Php 10,000 – 19,999	65	34.03%
	Php 20,000 – 29,999	27	14.14%
	Php 30,000 – 39,999	15	7.85%
	Php 40,000 – 49,999	10	5.24%
	Php 50,000 – 59,999	4	2.09%
	Php 60,000 – 69,999	2	1.05%
	Php 70,000 and above	24	12.56%
	Total		100.00%

3.2. Data Collection

Data for the study was collected during the 3rd week of November 2012 using an online survey form and disseminated through the referral or snowball technique as well as through posting in various e-groups in a popular social networking site. This data collection method is particularly chosen to minimize the use of paper and consequently contribute to the efforts of sustainable practices.

3.3. Scale Development and Data Analysis

The survey questionnaire consisted of two parts. The first part contained variables for five psychographic criteria while the second part contained the demographic criteria. The instrument was pretested with a convenience sample of 30 individuals distributed through a popular social networking site. The reliability of the scales was determined using Cronbach's α. The number of 7-point Likert scale items for the first part is presented in Table 2.

All values of Cronbach's α are well above 0.60 signifying relatively high reliability and internal consistency. Composite scores for every criterion were computed by getting the average of the respondents' answers across the items and were used in the analysis.

In order to determine the various underlying segments in the sample, the criteria were subjected to cluster analysis. ANOVA was utilized to ascertain each criterion's ability to significantly characterize the clusters derived.

Table-2. Measures for each criteria and its corresponding Cronbach's α

	Scales	Cronbach's α
A. Social influence		
a. Normative susceptibility	• Eight measures of Cheah and Phan (2011) normative susceptibility	0.954
b. Informational susceptibility	• Two measures of Cheah and Phan (2011) informational susceptibility • One researcher-made item on internet-based social networks	0.724
B. Ecological affect	• Adapted five measures from Chan (2001)	0.778
C. Man-nature orientation	• Two measures from Chan (2001)	0.788
D. Perceptions of product attributes	• Three researcher-made measures based on the 4Ps of marketing framework	0.622
E. Frequency of shopping for environment-friendly products within the previous month	• From the work of Chan (2001)	
F. Amount spent on environment-friendly products with the previous month		

4. Results and Discussion

Using hierarchical partitioning procedure, specifically the complete linkage agglomerative algorithm in cluster analysis, the dendogram illustrating the euclidean distances of the cases is shown in Figure 1.

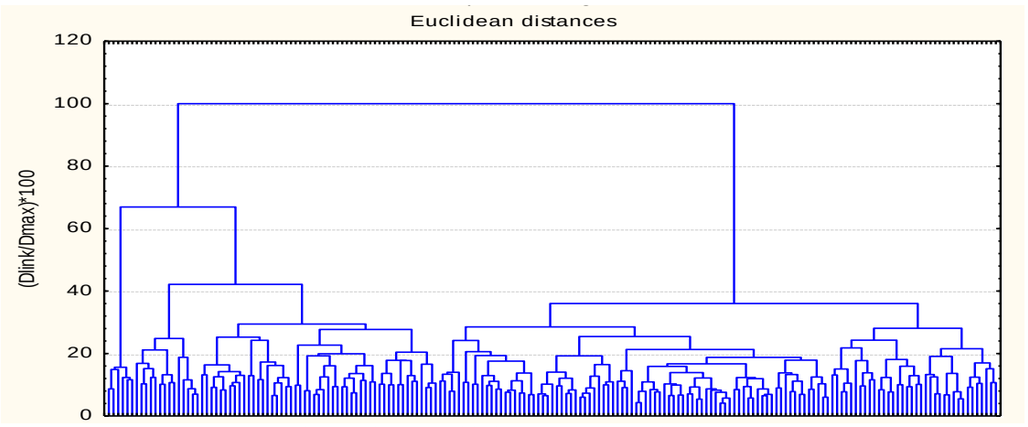

Fig-1. Tree diagram of 191 cases using complete linkage

Two groups can be clearly deciphered from the dendogram. This is deemed a reasonable number of groupings as increasing it would produce clusters that contain elements insufficient for statistical analysis.

Results of the analysis of variance presented in Table 3 show that the two groups are not significantly different in terms of ecological affect, man-nature orientation, gender composition. Furthermore, one cluster is not significantly different from the other in their view that environment-friendly products are more expensive than non-green products; that environment-friendly products are difficult to identify; and that man should master instead of adapt to the environment.

One criteria that significantly distinguishes the two clusters is normative susceptibility (α=0.0102) where Cluster 1 exhibits lower normative susceptibility than Cluster 2. The two groups are also significantly different in terms of information susceptibility (α=0.0186). In terms of this criterion, Cluster 1 has lower information susceptibility than Cluster 2.

Green buying behaviour is another significant criterion that distinctly characterizes the two clusters. It appears that Cluster 1 is more pro-environmental compared to Cluster 2 in terms of frequency of shopping for environment-friendly products and amount spent on environment-friendly products. However, Cluster 1 tends to be more willing to pay more than Cluster 2. This may have some connection on the gross household monthly income of Cluster 2 which is lower than those of Cluster 1.

Results of the analysis of variance further indicate that the two clusters are significantly differentiated by age (α=0.0000), educational attainment (α=0.0000) and civil status (α=0.0000). A closer scrutiny of the mean values reveals that Cluster 1 is relatively older, generally married and is comprised of college graduates with some either taking masters or doctorate degrees.

Table-3. Descriptive Statistics for each of the clusters

	Analysis of Variance						Cluster 1 (70 cases)		Cluster2 (121 cases)	
	Between - SS	df	Within - SS	df	F	p-value	Mean	Std Dev	Mean	Std Dev
NORMSUSCEP	14.80	1	414.854	189	6.7415	0.010*	3.264	1.604	3.842	1.406
INFOSUSCEP	7.48	1	250.589	189	5.6395	0.019*	5.124	1.163	5.534	1.145
ECOAFFECT	3.93	1	199.914	189	3.7111	0.056	6.000	0.904	5.702	1.094
MNO	0.75	1	500.729	189	0.2831	0.595	3.593	1.764	3.463	1.544
PPA22	2.56	1	717.087	189	0.6740	0.413	4.371	1.795	4.612	2.030
PPA24	1.12	1	538.341	189	0.3949	0.531	4.014	1.655	4.174	1.706
PPA25	0.11	1	553.847	189	0.0379	0.846	4.371	1.721	4.421	1.707
FREQSHOP	8.67	1	366.185	189	4.4769	0.036*	4.657	1.433	4.215	1.368
AMTSPENT	9.02	1	230.273	189	7.3995	0.007**	4.129	1.102	3.678	1.105
WILLPAYMORE	0.84	1	26.461	189	5.9820	0.015*	0.914	0.282	0.777	0.418
GENDER	0.02	1	42.201	189	0.0838	0.772	0.657	0.478	0.678	0.469
AGE	15709.73	1	4835.889	189	613.980	0.000**	41.714	7.034	22.893	3.442
EDUC	6.52	1	34.767	189	35.4495	0.000**	3.400	0.575	3.016	0.316
CIVILSTAT	21.55	1	24.673	189	165.047	0.000**	1.771	0.487	1.074	0.263
INCOME	147.72	1	813.744	189	34.3100	0.000**	4.271	2.359	2.446	1.893

*Significant at α=0.05 **Significant at α=0.01

Given these findings the clusters are hereby labelled and described as follows:

4.1. Cluster 1 "The Mature and Product Cautious"

This group are older individuals, in between their early 30's to late 40's or older, and are generally married. Most of them are college graduates with some pursuing graduate studies. They have relatively high household income per month – ranging from Php30,000 to Php50,000 or higher. Though they are willing to pay more for environment-friendly products, they tend to be cautious spenders, spending only moderate and reasonable amounts. They also frequently shop for environment-friendly products and when they do, they have moderately high tendency to ask

their friends about a product if they have little experience with it; gather information from friends or family about a product before they buy; and, if uncertain about a product's features and quality, they search for more information in the internet through social networking sites. They are not so much concerned with what people around them will say or how their peers react about their product choices.

4.2. Cluster 2 "The Young and Socially Pressured"

This is a relatively younger group – about 30 years old and below. They are single and are in the early stages of their careers if not still in their college studies. They have lower household income of about Php20,000 and below per month. They are willing to pay more for environment-friendly products but their willingness is not as much as that of Cluster 1. They only purchase pro-environment products sometimes and spend moderately on such items but not as much as those from Cluster 1. They have higher information and normative susceptibility than Cluster 1 – that is, they have higher tendency to seek for information before buying products and are more concerned with social acceptance when it comes to the products they buy.

5. Conclusion and Recommendation

With the pressure from the government and environmentally concerned groups, businesses are compelled to align their marketing strategies with these growing concern for the environment, not only in their corporate social responsibility initiatives, but in their market offerings. To aid in the formulation of relevant strategies and initiatives to achieve this end, the study was undertaken to determine the sub-segments within the sustainable consumption – inclined market. To the researcher's knowledge, it is the first study to focus on the sustainable consumer market rather on the "green" and "not green" consumer groups. It is likewise the first study to focus on the Philippine context.

The cluster analysis reveal that the sustainable consumer market in the Philippines diverged into two distinct groups. The "matured and product cautious" group is composed of relatively older individuals who have higher incomes and tend to seek for information before buying. The "young and socially pressured" group, on the other hand, are younger individuals who have lower incomes and are concerned with social acceptance in their product purchases.

The limitations of this study are related to the self-reporting questionnaire, to its cross-sectional design, and to issues of generalizability in the light of the convenience sampling used.

Given these insights, it is recommended that marketing communications be tailored to the demographic and psychographic attributes of each sub-segment of the sustainable consumer market considering that the sample was chosen based only on intention. More purposive and targeted messages could likely lessen the gap between the intention – behavior gap. On the other hand, the ability of the demographic and psychographic criteria to discriminate between the two groups may be a worthwhile dimension to explore using discriminant analysis. Additionally, further understanding of the sustainable consuumer market may be achieved when the causal relationships between the segmentation criteria and actual purchase behaviors. Finally, considering that environment-friendly products were not specified, respondents may have varying perceptions and understanding of the concept. Hence, future research may address this issue through, for instance, utilizing other research approaches such as direct observation.

References

Ajzen, I. and M. Fishbein, 1977. Attitude-behavior relations: A theoretical analysis and review of empirical research. Psychological Bulletin, 84(5): 888-918.

Balderjahn, I., 1988. Personality variables and environmental attitudes as predictors of ecologically responsible consumption patterns. Journal of Business Research, 17(1): 51-56.

Bamberg, S., M. Hunecke and A. Blobaum, 2007. Social context, personal norms and the use of public transportation: Two field studies. Journal of Environmental Psychology, 27(3): 190-203.

Bandura, A., 1986. Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall.

Black, I.R. and H. Cherrier, 2010. Anti-consumption as part of living a sustainable lifestyle: Daily practices, contextual motivations and subjective values. Journal of Consumer Behaviour, 9(6): 437-453.

Burns, D.J. and I. Neisner, 2006. Customer satisfaction in a retail setting: The contribution of emotion. International Journal of Retail and Distribution Management, 34(1): 49-66.

Chan, R.Y., 2001. Determinants of Chinese consumers green purchase behavior. Psychology & Marketing, 18(4): 389-413.

Chan, R.Y. and E. Yam, 1995. Green movement in a newly industrializing area: A survey on the attitudes and behavior of the Hong Kong citizens. Journey of Community and Applied Social Psychology, 5(4): 273-284.

Cheah, I. and I. Phan, 2011. Attitudes towards environmentally friendly products: The influence of ecoliteracy, interpersonal influence and value orientation. Marketing Intelligence & Planning, 29(5): 452-472.

D'Souza, C., M. Taghian, P. Lamb and R. Peretiatkos, 2007. Green decisions: Demographics and consumer understanding of environmental labels. International Journal of Consumer Studies, 31(4): 371.

Dunlap, R.E., K.D. Van Liere, A.G. Mertig and R.E. Jones, 2000. Measuring endorsement of the new ecological paradigm: A revised NEP scale. Journal of Social Issues, 56(3): 425-442.

Fisk, G., 1973. Criteria for a theory of responsible consumption. Journal of Marketing, 37(2): 224-231.

Han, Y. and H. Hansen, 2012. Determinants of sustainable food consumption: A meta-analysis using a traditional and a structural equation modelling apprach. International Journal of Psychological Studies, 4(1): 22-45.

Hunter, G.I., 2006. The role of anticipated emotion, desire, and intention in the relationship between image and shopping center visits. International Journal of Retail and Distribution Management, 34(10): 709-721.

Ishaswini and S.K. Datta, 2011. Pro-environmental concern influencing green buying: A study on Indian consumers. Internal Journal of Business and Management, 6(6): 124-133.

Jain, S. and G. Kaur, 2006. Role of socio-demographics in segmenting and profiling green consumers: An exploratory study of consumers in India. Journal of International Consumer Marketing, 18(3): 107-117.

Kaplan, S., 2000. Human nature and environmentally responsible behavior. Journal of Social Issues, 56(3): 491-508.

Kassarjain, H., 1971. Incorporating ecology into marketing strategy: The case of air pollution. Journal of Marketing, 35(3): 61-65.

King, P., R. Kipp and H. Mori, 2010. We are what we consume: Sustainable consumption in a resource constrained world. In I. f. (IGES). Sustainable consumption an production in the Asia-Pacific Region: Effective responses in a resource constrained world. Japan: Sato Printing Co., Ltd.

Kinnear, T., J. Taylor and S. Ahmed, 1974. Ecologically concerned consumers: Who are they. Journal of Marketing, 38(2): 20-24.
Kotler, P. and K.L. Keller, 2009. Marketing management. 13th Edn., Singapore: Prentice-Hall.
Kotler, P., K.L. Keller, S.H. Ang, S.M. Leong and C.T. Tan, 2009. Marketing management: An Asian perspective. 5th Edn., Singapore: Prentice-Hall.
Luchs, M.G. and T.A. Mooradian, 2012. Sex, personality, and consumer behaviour: Elucidating the gender effect. Journal of Consumer Policy, 35(1): 127-144.
McDonald, S. and C. Oates, 2006. Sustainability: Consumer perceptions and marketing strategies. Business Strategy and the Environment, 15(3): 157-170.
Meneses, G.D. and A.B. Palacio, 2006. Different kinds of consumer respose to the reward recycling technique: Similarities at the desired routine level. Asia Pacific Journal of Marketing and Logistics, 18(1): 43-60.
Mustafa, M., 2007. A hierachical analysis of the green consciousness of the Egyptian consumer. Psychology & Marketing, 24(5): 445-456.
Ohtomo, S. and Y. Hirose, 2007. The dual-process of reactive and intentional decision-making involved in eco-friendly behavior. Journal of Environmental Psychology, 27(2): 117-125.
Paco, A. and M. Raposo, 2009. Green segmentation: An application to the purtuguese consumer market. Marketing Intelligence and Planning, 27(3): 364-379.
Park, J., S. Ha, J. Park and S. Ha, 2012. Understanding pro-environmental behavior: A comparison of sustainable consumers and apathetic consumers. International Journal of Retail & Distribution Management, 40(5): 388-403.
Peter, J.P. and J.J.H. Donnelly, 2008. Marketing management: Knowledge and skills. 8th Edn., New York: McGraw-Hill.
Roberts, J., 1996. Green consumers in the 1990s: Profile and implications for advertising. Journal of Business Research, 36(3): 217-232.
Stern, P.C., 2000. Toward a coherent theory o environmentally significant behavior. Journal of Social Issues, 56(3): 407-424.
Straughan, R. and J. Roberts, 1999. Environmental segmentation alternatives: A look at green consumer behavior in the new millenium. Journal of Consumer Marketing, 16(6): 558-575.
Tanner, C. and S.W. Kast, 2003. Promoting sustainable consumption: Determinants of green purchases by Swiss consumers. Psychology & Marketing, 20(10): 883-902.
UNEP, 2012a. Issues for the 21st century: Result of the UNEP foresight process on emerging environmental issues. Nairobi, Kenya: United Nations Environment Programme (UNEP).
UNEP, 2012b. Sustainable consumption and production: A handbook for policy makers with cases from Asia and the pacific. 1st Edn., United Nations Environment Programme (UNEP).
Vermeir, I. and W. Verbeke, 2006. Sustainable food consumption: Exploring the consumer attitude - behavioral intention gap. Journal of Agricultural and Environmental Ethics, 19(2): 169-194.
Witkowski, T.H. and S. Reddy, 2010. Antecedents of ethical consumption activities in Germany and the United States. Australasian Marketing Journal, 18(1): 8-14.
Zimmer, M., T. Stafford and M. Stafford, 1994. Green issues: Dimensions of environmental concern. Journal of Business Research, 30(1): 63-74.