

Reviewing and Ranking the Factors Affecting the Attitude, Intention and Behavior of Consumers Green Purchasing

¹Parastoo Naser Zare, ²Akbar Bagheri and ³Kourosh Parsa Moein

¹Department of PharmacoEconomics and Master of Business Administration (MBA),
Faculty of Advanced Sciences and Technology, Pharmaceutical Sciences Branch,
Islamic Azad University, Pharmaceutical Sciences Branch, Tehran, Iran

²Department of Economics, Islamic Azad University, Islamic Azad University,
Roudehen Branch, Roudehen, Iran

³Department of Management, Roudehen Branch, Islamic Azad University, Roudehen, Iran

Abstract: The purpose of this study is reviewing and ranking the factors affecting the attitude, intention and behavior of consumers green purchasing and the present study from purpose is applied the method of data collection is survey. The population includes senior students of the Faculty of Science and new technologies Islamic Azad University of Tehran (650 people). The sample size based on Cochran was estimated sample of 200 people. Stratified random sampling method fatty volume data collection questionnaire contains 42 questions in a whole 5 point Likert were used. Face and content validity of the questionnaire was confirmed by experts and professors. Cronbach's alpha coefficient was 0.861 which indicate the acceptable reliability of the questionnaire. To analyze the data, t-test and Friedman using SPSS Software and structural equation modeling using LISREL software was used. The results showed that with 99% assurance, it can be judged that the customers about the role of 11 factors (environmental knowledge, attitudes towards green products, environmental concerns, attention to Health, environmental awareness of customers behavior, its perception of the effects on the environment, make them green ads, intend to purchase, need to understand the product, willingness to pay and green labeling) affecting the attitude, attitude and behavior, intention and behavior of customers green purchasing have assessed them a higher than average. Meanwhile, the role of two factors behavior of green purchasing evaluated them less than average. The highest ranking gained by liberal with an average rating of 4.70 quarters and the lowest ranking gained by behavior of green purchasing with an average rating of 2.23. Finally, the moderator role of necessity understanding variable at 95% the product was confirmed. The 20.3% of changing variables dependent on intend to green purchase have explained by necessity of understanding product.

Key words: Green marketing, attitude, purchase intention, behavior, green products, willingness to pay

INTRODUCTION

Now a days the environment is increasingly crucial issue for all classes of people both in positions taken by the customer and the positions taken by the manufacturer. Traditional marketing focuses too many on customers' demands and it doesn't social and environmental issues. It issue entered in all aspects of organization and influence marketing and also to the emergence of the green marketing concept. Past long-term trend was the growing domination of people over nature but recently people have realized the limits of natural resources. Environmental protection is deemed as ethical issues and damage to it has very negative consequences for humans. Of course as long as there is consumption, there will be

pollution but it can be kept within acceptable and virtual (D'souza *et al.*, 2006). Over the past decade, global environmental awareness of consumers has increased considerably and the group is calling for the goods that the so-called "eco-friendly". They have known a reason for this awareness factors such as increased activity of green groups, national and international legislation and the impact of industrial disasters of the public. Marketers are considered an environment in many marketing activities in the meantime can be noted to product design, packaging and pricing on environmental sustainability (Mustafa, 2007). In the survey research in America, 76% of people were present to sanctioned polluting product manufacturers and sacrifice 81% of their comfort to save natural resources. According to public opinion poll 90%

of people stated that a special effort to buy from companies doing green face (Hawkins *et al.*, 2004). Thus, understanding customer interests can play a crucial role in promoting and marketing is a breakthrough in this field. Therefore, this research want to consider factors that have role in attitudes, intention and behavior of green purchasing of young consumers.

Literature review

Green product: Green products are products that have such criteria: that can be designed in way that has ability to used assembled and reproduction again and also, in their production used ingredients that can be recycled. In terms of energy, consumption efficiency has caused less environmental pollution than other products (Dangelico and Pontrandolfo, 2010).

Environmental knowledge and attitudes towards green products: Environmental knowledge is the “total knowledge of menopause about environmental issues and that means to realize the importance of the environment” (Leonidou *et al.*, 2010). Chan and Lu (2000) found that Environmental knowledge is one of the independent variables to predict the purchasing behavior of customers, Chinese green products with an environmental knowledge have a strong desire to participate in activities related to green purchasing. Also, knowledge has an effect on attitudes. Dlarish believe that knowledge of menopause about the environment plays an important role in shaping their favorable attitudes to green products (Cheah and Phau, 2011; Aman *et al.*, 2012; Keles and Bekimbetova, 2013).

Attention to health and attitudes towards green products: Health attention is “the extent to which an individual’s daily activities are concerned about their health. Consumers who care about their health are aware people that are motivated in doing effective actions of maintaining and improving their health (Newsom *et al.*, 2005). Attention to health is one of the predictions of consumer attitudes to green natural foods; consumers who are health care environment generally have more positive attitudes to organic products (De Magistris and Gracia, 2008). Research conducted in the field green products shows that attention to health has a positive impact on attitudes to the green products.

Labeling green and attitude to green products: Green labeling is used for helping consumers to identify products that are environmentally superior to similar products and for promoting environmental

consumerism. Ecological awareness has a positive impact of information on green product labels and desire to purchase (Rashid, 2009).

Green advertising and attitudes towards green products: At the same time improving the global green movement, with increasing attention to environmental problems, more outdoor advertising through newspapers and media organizations as green techniques to introduce their products to consumers chose the environmental liable. The purpose of green advertising is impressing purchasing behavior of consumers by encouraging them to buy products that do not harm the environment and for directing their attention to the positive consequences of their purchasing behavior which is in their interest as well as the environment.

So, hypothesis 1 is formulated as follows: factors influencing attitudes (attention to health, green labeling, environmental awareness, green advertising) have a significant influence on consumer attitudes towards green products.

Attitudes towards green products and intention to buy green products: Intention to buy green products is “the possibility and willingness of an individual to achieve products that are compatible with the environment” (Dehghanan and Bakhshandeh, 2014). Beckford *et al.* (2010) and Chan (2001) found that going purchase is a significant predictor for green purchasing behavior. Attitude and purchase intention is also widely studied and tested in marketing research and its authenticity has been confirmed by several studies (Kim and Hunter, 1993).

So, H₂ is formulated as follows: attitudes towards green products has a significance effect to an intention to buy this product.

Mediator role of willingness to pay in a relationship between attitude and intention to buy green products: In research done on the impact of attitude on intention to buy. The willingness to pay for quality and put in question “the willingness of consumers to pay for certain goods” have been placed under review. Consumers usually while paying for their product, evaluate features of their product ray. Aspsh believed that to comprehension some desire of people some, including the willingness to pay, we need behavioral factors on and psychological which includes attitude towards certain phenomena. Kachn and Scotch also found that there was a positive correlation between attitude and willingness to pay. Actually more positive attitude of consumers to green products on more willingness to pay for green

products has a positive effect. On the other hand, willingness to pay more for green products will probably cause to the actual purchase of green product. Wausau Khoiorya Amtaru in their study showed that attitudes towards green products have a positive impact on the willingness to pay a positive impact on the intention to buy this product.

The H_3 is formulated as follows: consumers' willingness to pay for green products have a significant effect on intention to buy this product.

So, the hypothesis is formulated as follows 4: a consumer attitude to green products has a significant effect on their willingness to pay for this product.

The moderating role of perceived necessity of attitude and intention to buy green products: In a category can divided products into essential products and luxury. Luxury product is said to product which price-performance ratio are low, usually have high prices compared to similar products are mainly used to satisfy the of the symbolic needs (Abrahami *et al.*, 2013). Against Essential products have a lower operational risk and in the process of deciding usually there is less complexity for them (Solomon, 2014). Consumers understanding according to the fact that whether products are necessary for their daily life or not are different (Cheah and Phau, 2011). Today's lifestyle is formed by understanding that what is essential for life, the importance of the need to Understanding product also increased. When a product is considered essential, it is expected that consumer attitudes to the environment have a lower role in influencing on purchasing behavior or even the desire to purchase. Cheah and Phau (2011) the research also showed that the necessity of understanding product modify the relationship between attitudes toward green products and purchase intention. They concluded that when consumers have a positive attitude to green products this attitude is the product be a luxury, more likely to leads the product until the product be an essential product. So, H_5 is formulated as follows: the Understanding necessity of product, modify the impact of attitude to purchase green products and the intention of purchasing.

Green purchasing behavior of customers and intention of purchasing: Green purchase behavior are behaviors in which customers search for products that have not damaging effect on the health of environment and society and used materials in their production of these product be compatible with environment. Green consumers buy goods and services that think have positive (or less

negative) effect on the environment. Green purchasing behavior includes efforts to conserve energy and refusing to buy products with inappropriate packaging. Behaviors such as: purchasing standard spray and purchasing drinks indecomposable containers have considered. Other cases include; the purchase and use products made from recycled paper, low-consumption light bulbs and detergents contain substances of returning to nature (DiPietro *et al.*, 2013). Other behaviors include purchasing products made or packaged from the recoverable materials, purchasing products with a package which are able to fill in again (Khatai, 2012).

Thus, H_6 is formulated as follows: the intention of purchasing has a significant effect on the behavior of consumers purchasing.

Environmental conscious consumer and intention of purchasing and purchasing behavior: Human behavior can be conscious, the habitual reactive (Stoner) in this study it is important to consider consumer conscious behavior and actions, arising habit or culture is not considered. The "robert" by this time in 1996, a complete range of demographic and psychological testing efforts associated with the ECCB. To guide the consumer better understand the ecological, the current study focused on young customers that tell green consumption.

The environment has a significant effect on an intention of green purchase. So, H_8 is formulated as follows: aware consumer about environment behavior on a behavior of green purchasing.

Liberal: Liberal is the belief and the rights of individual freedom, freedom of the wide range of attitudes depending on their understanding of the principles they advocate. Liberal includes two visions, clear and traditional but the two main factors in the classical liberal social. Liberal in the 18th century and the 20th century were sweeping. Democrats (supporters of the national government) and liberals (the intellectuals), pay attention to the quality of the environment than republicans, conservatives (Roberts, 1996).

By noting that traditional conservatives republican, are supporters and interested trade, opposed by growing government and are suspected to sudden changes, so it can be concluded that there is a significant difference between environmental worries of liberals and Conservatives, the results studies conducted on Liberal implies the existence of the relationship between environmental concerns and freedom demand.

Perceived Consumer Effectiveness (PCE): Several studies show that consumer attitudes and his reaction to

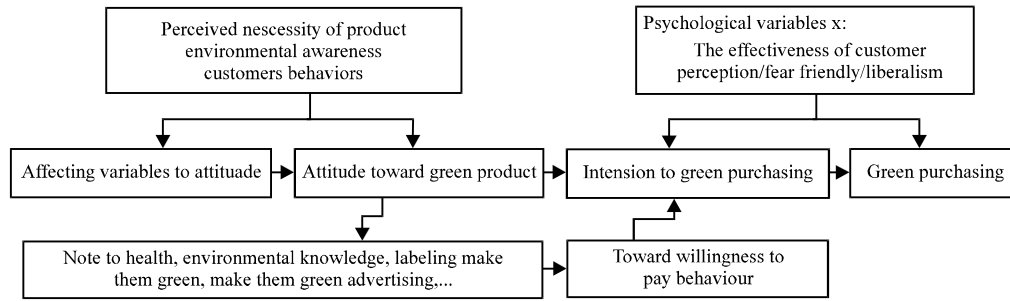


Fig. 1: The conceptual model (Laroche *et al.*, 2001; Mostafa, 2007; Aryal *et al.*, 2009; Aman *et al.*, 2012; Kotchen and Reiling, 2000)

surroundings messages is a function of belief in his ability of effectiveness to solve problems among psychological variables that they are as initial variables of environmental behavior examined in many studies, the perceived consumer effectiveness has the highest explanatory power. Pake first by Kenner, Taylor and Ahmed were tested.

Kenner received in 1974 when customers realize they can be effective in reducing pollution and then they will show more interest in the environment. In terms Antilles, PCE is his judgment about the environmental impact of their behavior. PCE have been defined as ones its own assessment on the important issues.

Environmental concerns: It is not surprising that environmentally aware consumers in measuring, environmental concerns will gain a higher rating as the two has a close relationship together and expect someone who is concerned about the environment, this concern leads to a more awareness in an environmental issue. (Antil, 1984).

So, H_0 is formulated as follows: psychological variables such as (liberal, understanding effectiveness, environmental concerns) have a significant effect on behaviors of environmental awareness customers.

The conceptual model: Based on empirical and theoretical literature on the topic research background conceptual model were drawn in Fig. 1.

MATERIALS AND METHODS

This study from purpose point of view and nature is applied research. In terms of data collection and from survey and the research methodis descriptive. The populations of this research are the graduate students in science and new technologies of Tehran University of Medical Sciences. Populations of the whole society are 650 the number of community members that the sample

size was estimated based on a sample of 200 of the 180 questionnaires that were complete in terms of accountability. In this study was used stratified random sampling proportional to size to collect data using a questionnaire. For variable of attention to health (3 questions) environmental knowledge (question 3) green advertising (4 questions) attitudes towards green products (3 questions) willingness to pay (3 questions) necessity product understanding (3 questions) willingness to purchase green products (4 questions) consumer perceptions the extent of its effectiveness on the environment (3 questions) liberal(4 questions), environmental concerns (3 questions) behavior of environmental awareness consumer (3 questions). In the form of entirely agree until totally against the whole 5 points Likert set. For variable green labeling (3 questions), green purchasing behavior (3 green) in a range from very high to very small set Likert 5 points. The visual and content validity of the questionnaire was confirmed by using the expert’s review and reform. Cronbach’s alpha coefficient was 0.861 which represents the coordination acceptable items and reliability of the questionnaire. To analyze the data from one sample t-test and Friedman test using SPSS Software and structural equation modeling using LISREL Software.

RESULTS AND DISCUSSION

Test research hypotheses: According to Table 1 with respect to the results of the t-test, degrees of freedom and of its significance, at least with 99% assurance it can be judged that the customers about the role of 11 factors affecting the attitude, the behavior and intention purchasing green consumers have evaluated higher than average. Meanwhile, the role of two factors of green purchasing behavior (second factor) and are labeling green (factor IX in attitude) and green purchasing behavior and intention of consumers have assessed less than average.

Table 1: Summarizes the results of t-test

The dependent variables	Average	Posts comments	SD	t-values	df	Sig.
F1 green advertising	3.82	3	0.614	18.004**	179	0.001
F2 green purchase behavior	2.23	3	0.980	-10.496**	179	0.001
F3 liberal	4.70	3	0.498	645.761**	179	0.001
F4 attitudes towards green products	4.47	3	0.541	36.260**	177	0.001
F5's willingness to pay	4.43	3	0.877	6.256**	179	0.001
F6 perception of effectiveness on the environment	4.04	3	0.587	23.794**	178	0.001
F7 environmental awareness customer's behavior	4.05	3	0.543	26.263**	179	0.001
F8 environmental concerns	4.46	3	0.517	37.864**	179	0.001
F9 green labeling	2.64	3	0.913	5.169**	177	0.001
F10 necessity of understanding product	3.43	3	0.696	8.460**	179	0.001
F11 intend to purchase	3.73	3	0.781	0.781	179	0.001
F12 environmental knowledge	4.62	3	0.508	0.508	178	0.001
F13 attention to health	4.23	3	0.844	0.844	177	0.001

Table 2: Ranking factors

The dependent variables	Average	Rank
F1 green advertising	3.82	6
F2 green purchase behavior	2.23	1
F3 liberal	4.70	13
F4 attitudes towards green products	4.47	11
F5's willingness to pay	4.43	3
F6 perception of effectiveness on the environment	4.04	7
F7 environmental awareness customer's behavior	4.05	8
F8 environmental concerns	4.46	10
F9 green labeling	2.64	2
F10 necessity of understanding product	3.43	4
F11 intend to purchase	3.73	5
F12 environmental knowledge	4.62	12
F13 attention to health	4.23	9

Table 3: Indicators of Fitting model (thus, fit and acceptable model)

Index name	Amount of index	Limit	Results
Chi-square, the degrees of freedom	2.140	<3.0	Acceptable
GFI (goodness of fit)	0.940	>9.0	Acceptable
RMSE (root mean square error of estimation)	0.072	<09.0	Acceptable
GFI (fitness Modified)	0.910	>9.0	Acceptable
AGFI Adjusted goodness of fit)	0.830	>8.0	Acceptable
(Fitness softened) NFI	0.960	>9.0	Acceptable
(Not soft fit) NNFI	0.950	>9.0	Acceptable

Table 4: The results of H₃

Dependent variables	Intention to by green product	Path coefficient (β)	t-statistic	The coefficient of determination (r ²)	The coefficient of determination (r ² adjusted)
Stage 1	Attitude toward green products	0.409	5.01**	0.097	0.116
Stage 2	Understanding necessity of product	0.384	6.18**	0.187	0.203
Stage 3	Attitude toward green products/ understanding necessity of product	1.598	3.64*	0.327	0.353

Ranking factors: As can be seen in Table 2, the third factor (liberal) gained the highest rank with an average rating of 4.70 quarters and the second factor (green purchase behavior) gained the lowest rank with an average rating of 2.23.

Ranking second to twelfth respectively for the operating environmental knowledge, attitudes towards green products, environmental concerns, according to the health, behaviors aware of the environment, the perception of its effectiveness on the environment, green ads, an intention of purchasing, the understanding necessity of product, willingness to pay and labeling green.

Model fitting test: Table 3 shows that the model in order to explain is appropriate has fit the situation, all the indicators show that the fitting model the observed data.

The results of H₃: The moderating role of necessity perceived product in changing the attitude and intention to purchasing green products.

As can be seen, according to the t-statistics is shown in the third step in Table 4, the role of moderator variables necessity understanding the product adjusted at 95%. The coefficient of determination modifying column shows the adjusted 11.6% intend to purchasing green products dependent variable is explained by changing attitudes

towards green products. Similarly, 20.3% plans to buy green dependent variable are explained by variables understanding necessity of the product. Finally, 3.35% intention of purchasing green products interacting variables and the dependent variable attitudes toward green products and the understanding necessity explain that this variable the role of the product in relation to attitudes towards green products and intention to purchasing of this products.

CONCLUSION

Here is a summary of the findings will be presented: According to the t-statistic the first nine hypotheses were confirmed. So, it can be concluded that “attention to health”, “environmental awareness”, “green labeling” and “green advertising” showed a significant effect on attitudes towards green products. Also, the result showed attitudes towards green products have a significant effect on the intention and willingness to pay of these products Willingness to pay has a significant effect on intention to purchasing green products and psychological factors have a significant effect on behaviors of environmental awareness consumer and behaviors of environmental awareness consumer has a significant effect on intention to purchase and behavior of purchasing and also intention to purchase green product has a significant effect on behavior of green purchasing. Necessity understanding the product was known as a variable that can modify a relationship between attitudes towards green products and intention to green products purchase and it was found that consumers in the decision to purchasing a product that they were considered necessary and required daily living, they pay little attention to green purchasing.

The results showed that the factors affecting the attitude and green purchasing behavior of consumers in order of priority are: liberal, environmental knowledge, attitudes towards green products, environmental concerns, attention to Health, environmental awareness customers behavior, perception of its effectiveness on the environment, green advertising, intention to purchase, Necessity understanding the product, willingness to pay and labeling of green product and green purchase behavior.

SUGGESTIONS

Since, effects of attention to health on the attitude toward green products was significant. Thus, it's can be

explained the harmful effects of environmental pollution on health as well as the expression of the high cost of treating diseases caused by environmental pollution, especially in advertising in medical sites including hospitals, clinics and physicians' offices, gave awareness to consumers about necessity maintain their health.

According to proven positive impact of environmental knowledge on attitude to green products, we can protect the environment by providing lessons in the curriculum for students as well as general and specialized courses in corporate environmental protection, public and private organizations and office, can promote environmental awareness in society.

Due to substantiate the role of mediator willingness to pay. Attitudes regarding green products and intention to purchase these products can be consistent with an emphasis on green products with environmental attributes and emphasize the charitable and spiritual benefits of purchasing and the use of green products rather than utilitarian and materialistic interests, increased the willingness of consumers to pay more for green products in order to protect the environment for future.

In the meantime, businesses are established at the beginning proposed to produce a green product that customers with high-income they are willing to pay them. As well as existing companies producing luxury goods is also recommended to take steps to go green.

Efforts to develop the production and labeling of organic products with processing labeling and packaging of high-quality organic products can be effective to stimulate demand for organic products. Two ways propose to companies to make green:

- One company can impose management system that provides necessary conditions for a green. Green making of a process can be along with removing some unnecessary processes, modification or replacement of existing technologies with new technologies to reduce the environmental impact they caus
- Firms can make their products green in several ways
 - Increase the lifetime of a product
 - Recreation
 - Ability to reuse
 - Save
 - Eco
 - Waste disposal

For the company can be successful invest in green marketing, we need to educate consumers.

REFERENCES

- Abrahami, A., M.K. Jafarzadeh and M.S. Bozorgi, 2013. Checking factors affecting factors on consumer attitudes intention to fake luxury brands in the clothing industry. *J. Marketing Res. Trail*, 2: 1-34.
- Aman, A.L., A. Harun and Z. Hussein, 2012. The influence of environmental knowledge and concern on green purchase intention the role of attitude as a mediating variable. *Br. J. Arts Social Sci.*, 7: 145-167.
- Antil, J.H., 1984. Socially responsible consumers: Profile and implications for public policy. *J. Macro Market.*, 4: 18-39.
- Aryal, K.P., P. Chaudhary, S. Pandit and G. Sharma, 2009. Consumers willingness to pay for organic products: A case from Kathmandu Valley. *J. Agric. Environ.*, 10: 15-26.
- Beckford, C.L., C. Jacobs, N. Williams and R. Nahdee, 2010. Aboriginal environmental wisdom, stewardship, and sustainability: Lessons from the walpole island first nations, Ontario, Canada. *J. Environ. Educ.*, 41: 239-248.
- Chan, R.Y., 2001. Determinants of Chinese consumers green purchase behavior. *Psychol. Marketing*, 18: 389-413.
- Chan, R.Y.K. and L.B.Y. Lau, 2000. Antecedents of green purchases: A survey in China. *J. Consumer Market.*, 17: 338-357.
- Cheah, I. and I. Phau, 2011. Attitudes towards environmentally friendly products: The influence of ecoliteracy, interpersonal influence and value orientation. *Market. Intell. Plann.*, 29: 452-472.
- D'Souza, C., M. Taghian and P. Lamb, 2006. An empirical study on the influence of environmental labels on consumers. *Corporate Commun. Int. J.*, 11: 162-173.
- Dangelico, R.M. and P. Pontrandolfo, 2010. From green product definitions and classifications to the green option matrix. *J. Cleaner Prod.*, 18: 1608-1628.
- De Magistris, T. and A. Gracia, 2008. The decision to buy organic food products in Southern Italy. *Br. Food J.*, 110: 929-947.
- Dehghanan, H. and G. Bakhshandeh, 2014. The impact of green perceived value and green perceived risk on green purchase behavior of Iranian consumers. *Int. J. Manage. Humanity Sci.*, 3: 1349-1357.
- DiPietro, R.B., Y. Cao and C. Partlow, 2013. Green practices in upscale foodservice operations: Customer perceptions and purchase intentions. *Int. J. Contemp. Hospitality Manage.*, 25: 779-796.
- Hawkins, D.I., R.J. Best and K.A. Coney, 2004. *Consumer Behavior: Building Marketing Strategy*. 9th Edn., McGraw-Hill Irwin, Boston, ISBN: 13-9780071214698, Pages: 790.
- Keles, I. and T. Bekimbetova, 2013. Measuring attitudes towards green purchases: A study of university students in Kyrgyzstan. *Universal J. Ind. Bus. Manage.*, 1: 46-49.
- Khatai, M.I.H., 2012. The relationship between psychological factors and social and consumer behavior make them green (pro-environment). *Bus. Manage.*, 7: 143-160.
- Kim, M.S. and J.E. Hunter, 1993. Relationships among attitudes, behavioral intentions and behavior a meta-analysis of past research, Part 2. *Commun. Res.*, 20: 331-364.
- Kotchen, M.J. and S.D. Reiling, 2000. Environmental attitudes, motivations, and contingent valuation of nonuse values: A case study involving endangered species. *Ecol. Econ.*, 32: 93-107.
- Laroche, M., J. Bergeron and G. Barbaro-Forleo, 2001. Targeting consumers who are willing to pay more for environmentally friendly products. *J. Consum. Market.*, 18: 503-520.
- Leonidou, L.C., C.N. Leonidou and O. Kvasova, 2010. Antecedents and outcomes of consumer environmentally friendly attitudes and behaviour. *J. Marketing Manage.*, 26: 1319-1344.
- Mostafa, M.M., 2007. Gender differences in Egyptian consumers green purchase behaviour: The effects of environmental knowledge, concern and attitude. *Int. J. Consum. Stud.*, 31: 220-229.
- Newsom, J.T., B.H. McFarland, M.S. Kaplan, N. Huguet and B. Zani, 2005. The health consciousness myth: Implications of the near independence of major health behaviors in the North American population. *Social Sci. Med.*, 60: 433-437.
- Rashid, N.R.N.A., 2009. Awareness of eco-label in Malaysia's green marketing initiative. *Int. J. Bus. Manage.*, 4: 132-141.
- Roberts, J.A., 1996. Will the real socially responsible consumer please step forward?. *Bus. Horiz.*, 39: 79-83.
- Solomon, M.R., 2014. *Consumer Behavior: Buying, Having and being*. 6th Edn., Prentice Hall, Engelwood Cliffs, NJ., Pages: 576.