Consumer Perceptions of Green Products:
A Survey of Karachi

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Abstract

Environmental issues are increasingly transforming business practices and consumer behavior across the world. In this study, consumers' attitude towards green products has been investigated. Consumers' awareness of environment, their attitude towards environment protection, and their perceived functionality of eco-labels have also been investigated. Results indicate that despite significant awareness and positive attitude towards environmental protection, attitude towards environmentally friendly products is not significantly high. There has been found a significant positive correlation between consumer awareness of environmental issues and their attitude on green products. Correlation between attitude of consumers towards environment protection and their attitude towards green products has been found to be insignificant.

Keywords: *Green products, Consumer attitude, Eco-labels.*

1. Introduction

There is no doubt that ecological issues are transforming business practices. Organizations are considering environmental issues as a key source of strategic change. As social and political pressures are increasing, many firms are trying to embrace environment friendly marketing strategies and taking advantage of these environmental issues to take competitive advantage. But the idea of adopting green marketing concepts is based on consumers' demonstration of high degree of environment friendly attitude. That is why it was necessary to investigate consumer's attitude towards green products.

1.1 Background of the Study

Terms like Green Marketing and Green products have been frequently used in literature by many researchers; few of them are Ottaman (1993), Nikol (2008) and Ottman (1998). Green Marketing is the marketing of environmentally friendly products or the marketing of the products in a way that prevents environment from deterioration. According to Polonosky (1994), "Green or environmental marketing consists of all activities designed to generate and facilitate any exchange intended to satisfy human needs or wants, such that the satisfaction of these needs and wants occurs with minimal detrimental impact on the natural environment".

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1.2 Problem Statement

Increasing pollution and environmental damages due to traditional production methods have necessitated the marketing of green products. Generally these products become relatively costly and also face low awareness of the consumers. Hence in order to know the level of acceptance of green products in Karachi market, it is important to investigate the market of green products.

1.3 Objectives of the Study

The objective of this study is to investigate consumers' perception of green products and their marketing in Karachi. Detailed objectives of this study are as follows:

- To investigate consumers' attitude towards environment protection

- To investigate consumers' attitude towards green products

- To investigate consumers' perception of functionality of Eco-labels

- To investigate consumers' awareness of environmental issues

- To investigate association between consumer awareness and their attitude on environmentally friendly products

- To investigate the association between consumer attitude towards environment protection and their attitude on environmentally friendly products.

1.4 Research Methodology

This research is quantitative research. Closed ended questionnaires have been used for primary data collection. For secondary data books, magazines, journals, and internet have been utilized.

1.4.1 Nature of the Study

This is a survey based research. Questionnaire has been used as instrument for survey.

1.4.2 Sampling and Sampling Technique

Due to unavailability of sample frame non-probability sampling has been used. Quota sampling methodology has been used. Nancy B and Susan K (2005) were of the view that non-probability sampling techniques can also be used in quantitative research. Population universe of this study comprised all students of MBA in Karachi. Ferber (1977) states that students are representatives of the new generation of consumers that is why it is logical to take students as sample for this research. Target population consists of top four institutes of Karachi, based on the ranking of Higher Education Commission (HEC). These four institutes are Institute of Business Administration (IBA), Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST), Iqra University, and Institute of Business Management

(IoBM). A total of 180 questionnaires were distributed.

1.4.3 Data Collection Technique

Primary data have been collected using closed-ended questionnaires. Responses were measured on five-point Likert scale. Pearson's coefficient of correlation has been calculated to measure extent of association using SPSS.

1.4.4 Hypotheses

Exploratory research gave rise to testing of following hypothesis in this study:

Hypothesis 1: Consumers have significant attitude to protect environment

Hypothesis 2: Consumers have positive significant attitude towards green products

Hypothesis 3: Consumers' perceived functionality of eco-labels is significantly positive

Hypothesis 4: Consumers have significant awareness of environmental issues.

Hypothesis 5: There is a significant association between consumers' awareness of environment and attitude towards green products.

Hypothesis 6: There is a significant association between consumers' attitude to protect environment and attitude on green products.

1.5 Importance of the Study

To achieve environmental sustainability, significant changes are required to take place. Those products and activities which provide higher customer value, while consuming less resources and which result in reduced environmental impacts, are therefore of great importance. For these reasons, investigation of consumers' perception of green products is necessary.

1.6 Limitations of the Study

Main constraints of the study will be a time limitation that is about three months for such a study. Since sample of this study only contained students of MBA, findings will only be able to generalized for students because of education level.

2. Literature Review

Many definitions have been given by scholars and researchers. Some of the definitions of green marketing are being discussed. The Definition of green marketing given by Soonthonsmai (2007) is that it is the process, which companies adopt concerning about the environment or environmentally sound products and services to create satisfaction of both consumers and society. Green marketing in contemporary business world is supposed to be as one of the modern trends (Kassaye, 2001; Pujari et. al., 1996). Terms like ecological marketing,

social marketing, or environmental marketing has also been used as substitute of green marketing. Harrison (1993) is of the view that green marketing is the strategy that firms use to position the benefits of green products in such a way that it influences purchasing decisions of consumers. Peatitie (1995) and Welford (2000) were of the view that it is a sustainable management process which needs customers and society can be identified and satisfied. Understanding green consumers and their characteristics is a key concern so that firms can develop new strategies of targeting and segmenting markets (D'Souza et al., 2007).

Generally, green products are known as products which are environmental friendly. Shamdasami et al., (1993) were of the view that these products do not pollute the earth or deplete natural resource. In the view of Elkington and Makower (1988) and Wasik (1996) these products contain environmentally sound content or are packaged in such a way that reduces the environmental deterioration. Krause (1993) found that consumers are being transformed into more conscious individuals. According to Martin and Simintiras, (1995), environmental concerns of consumers are being translated into a commitment of actively purchasing green products.

Soonthonsmai (2007) defined green consumers as those who are aware of and have attitude towards environmental sustainability. These green consumers sometimes organize petitions and boycott manufacturers for the sake of preserving the world (Fergus, 1991). Ottman (1993) is of the view that consumers' acceptability of green products is conditioned with the fact that these products are fulfilling their primary need for performance, affordability and convenience. Further he says that consumers' acceptability of green products also depends on how well they understand the functions of these products towards solving ecological problems. It means commitment to any green purchase decision is prevented by lack of awareness.

The relationship between consumer knowledge and behavior seems positive as it has been evident in some of the literature (Park, Mothersbaugh, and Feick, 1994; and Hoch & Deighton, 1989). However, empirical findings are not very much vivid (Martin & Simintiras, 1995). For instance, Dispoto (1977) was of view that there is a direct relatiotion between eco-awareness and eco-oriented attitude. Contrary to these, many studies show that environmental awareness does not significantly affect performance of ecologically oriented behavior (Schahn and Holzer, 1990; Arbuthnot & Lingg, 1975; Geller, 1981). Hines J. et. al. (1987) observed association of 30% between environmental awareness and eco-friendly behavior. Grunert's (1993) also obtained similar results. Generally it is believed that ecological knowledge is linked positively with ecological attitudes, although some conflicting results have also been found in the literature. Such type of conflicting findings indicates complex relationship between environmental awareness and attitude (Chan R. Y. K, 1999). Arbuthnot and Lingg (1975) were of the view that relationship may be complex. According to Davis (1993) and Synodinos (1990) the relationship seems positive.

Attitudes towards environment are directly linked with a person's self concept (Schultz and Zelezny, 2000). Attitude refers to consumers' likes and dislikes regarding any object or idea (Blackwell et al., 2006). According to Irland (1993), purchasing decisions of consumers are often influenced by their environmental attitudes. Contribution of consumer may enhance the quality of the environment through purchasing environmentally friendly products (Abdul-Muhmim, 2007). In the view of Mansaray and Abijoye (1998), quality of the environment is

dependent upon level of ecological knowledge and attitudes of consumers.

Different studies have given different results about consumers' attitude toward environment protection. This research was intended to investigate the result in case of Karachi. According to Wiener and Sukhdial, (1990), sense of self involvement may have negative effect on eco-oriented attitude. But according to Tanner and Kast (2003), attitude towards ecologically sound products are strongly associated with positive attitude of consumers towards environment protection.

Result indicated by Tan B. and Lau T. (2010), show the lack of significant correlation between consumers' inclination to protect environment and their attitude towards green products. While a study conducted by Ottman (1993), shows that more than half of consumers were found to be concerned about the environment. Finally it is concluded by him that due to moral and conceptual complexity of environmentally oriented different types of results may be obtained (Antil, 1984).

Ginsberg and Bloom (2004) are of the view that companies should remember that their customers are not likely to compromise on traditional attributes.

Shamdasani et al., (1993) conducted a study in Singapore and found that environmental issues have started to exert its effect on the consumers' behavior. This study was an exploratory study, and the differences between ecologically oriented and non-ecologically oriented consumers were investigated with respect to various demographic characteristics. This research reported that there are significant differences in terms of attitude and personality traits between ecologically oriented and non-ecologically oriented consumers. Further, they also observed that despite there was lack of promotional efforts for green products, consumers were willing to pay higher prices for environmentally friendly products. Finally it was also concluded in their research that consumers having positive attitude to purchase green products were by nature more skeptical of promotional efforts. The results of Schuwerk and Hagias (1995) show that those consumers who were highly involved with environment, there were no significant differences in purchase intentions.

Labels are the information part of the products. Eco-labels are those which transmit knowledge about ecological impact of consuming the product. Eco-labels are supposed to be potentially important instrument which inform about the ecological affect of their purchasing behavior. According to Childs and Whiting (1998), Eco-labels provide information about ecological quality of an offer, which prevents consumers from being confused over stated claims of ecological friendliness.

According to a research conducted by Teisl, Roe and Hick (2002) show eco-labels are responded positively in consequently contributing to the increased market share. Another study conducted by Thogersen (2002) also provided the same results that large majority of consumers pay attention to eco-labels at least sometimes. Grankvist, Dahlstrand and Biel (2004) are also of the view that the information about environmental impact provided by eco-labels significantly influence product preference. Loureiro and Lotade (2005) were of the view that consumers in developed countries have shown their willingness to pay higher prices for eco-labeled products.

However, there are also some studies that show that eco-labeling programs may be ineffective instrument to persuade consumer's behavior (Wessells et al. 1999). Scheme Erskine and Collins (1997) were also of the view that it would be difficult to achieve a functionally effective eco-labeling criterion which contributes to improve the natural environment. Some studies reported a weak association between the concern of consumer for environmentalism and their choice of eco-labeled product (Magnusson et al., 2001).

3. Data Analysis and Presentation

All questions were measured on a Likert scale of five points. One sample t-tests has been used for hypothesis testing. For this purpose upper one tail tests have been performed with 95% confidence interval. Coding criteria is as follows.

Strongly agree   = 5
Agree   = 4
Neutral   =3
Disagree   = 2
Strongly disagree   = 1

There were four sections of questionnaire. In section 1, consumers' responses regarding environment protection have been measured. Consumers' responses to green products were measured in second section. Consumers' view of ecological labeling (eco-labeling) was measured in section 3. Last section contained questions about consumers' awareness of environmental issues. The detail about size of target population and selected sample size from each institute is as under:

Name of Institution	Number of students Enrolled in MBA	Sample size
IBA	600	27
SZABIST	950	43
IQRA University	1150	53
IoMB	1250	57
Total	3950	180

Final response rate was 74.4%%. And a hundred and thirty four questionnaires were considered for analysis. 57% of the respondents were male and 43% were female. 73% of respondents were of age between 20 years and 25 years.

Hypothesis 1: Consumers have positive attitude towards protecting environment. Five questions (Q1 to Q5) were asked to measure consumers' attitude of environment protection. Questionnaire is attached in annexure. Since all questions were asked on same likert scale. Average score of these questions was calculated, which gave rise to following statistics.

d.f	Mean	St. Deviation	St. Error	t-value
133	4.42	0.507	0.04	9.6

One sample t- test was performed. t-value was calculated against benchmark of 4. A t-value of 9.6 indicates that mean value 4.42 is significantly greater than 4. It means consumers have significant attitude towards protecting environment.

Hypothesis 2: Consumers have positive attitude towards green products. Four questions (Q6 to Q9) measured attitude of consumers towards purchasing green products. These questions were asked on the same scale. A distribution of average of these questions generates following information.

d.f	Mean	St. Deviation	St. Error	t-value
133	3.197	0.88	0.076	-10.5

One sample t- test was performed. Benchmark for calculating t-value was 4 (which meant "agree" on the scale). A t-value of -10.5 indicates that mean value 3.197 is significantly less than 4. It means consumers do not have positive attitude towards green products.

Hypothesis 3: Consumers have significant perceived functionality of eco-labels. Two questions (Q10 and Q11) measured consumers' perception of functionality of eco-labels. Since these questions were also asked on the same scale. A distribution of average of them generates following information.

d.f	Mean	St. Deviation	St. Error	t-value
133	3.18	1.06	0.091	-8.87

One sample t- test was performed. t-value was calculated against benchmark of 4. A t-value of -8.87 indicates that mean value 3.197 is significantly less than 4. It means perceived functionality of eco-labels is poor. Consumers do not consider eco-labels as significantly affecting their purchase decisions.

Hypothesis 4: Consumers have significant awareness of environmental issues. Three questions (Q12 to Q14) were asked to measure consumers' awareness of environmental issues. Summated average response of these questions was calculated. A distribution of average of them generates following information.

d.f	Mean	St. Deviation	St. Error	t-value
133	4.27	0.66	0.057	4.88

One sample t- test was performed against benchmark of 4. A t-value of 4.88 indicates that mean value 4.27 is significantly greater than 4. It means consumers have significant awareness of environmental issues.

Hypothesis 5: There is a significant association between consumers' awareness of environmental issues and their attitude towards green products.

Pearson's coefficient of correlation	t-value (one tail)
0.605	8.79

Coefficient of correlation between consumer awareness of environmental issues and acceptance of green products is greater than 60%. Significance of correlation has been calculated using t value. Since t value is greater than critical value (1.64) that is why it is concluded that there is a significant correlation between consumers' awareness of environmental issues and acceptance of green products. Table 1 in annexure shows SPSS outcome for this result in detail.

Hypothesis 6: There is a significant association between consumers' attitude towards protecting environment and their attitude towards green products.

Pearson's coefficient of correlation	t-value (one tail)
0.029	0.33

Coefficient of correlation between consumer willingness to protect environment and acceptance of green products found to be less than 1%. Significance of correlation has been calculated using t value. Since t value is less than critical value (1.64) that is why it is concluded that there is no correlation between consumers' willingness to protect environment and acceptance of green products. Table 2 in annexure shows SPSS outcome for this result in detail.

4. Results and Findings

The present study aimed at evaluation of consumers' attitude towards environmentally friendly products. Consumer awareness of environmental issues, their attitude to protect environment and perceived functionality of eco-labels were also investigated.

It is evident from the analysis that consumers do not have significant positive attitude towards green products. Only less than 30% of the respondents were of the view that their purchases are influenced by environmental friendly packaging. Slightly greater than 35% of the respondents were of the view that they purchase green products despite of being expensive. The mean score of consumer attitude towards environmentally friendly products was 3.19, which was significantly less than benchmark score of 4. This result is in contrast with the results of Shamdasani et al. (1993). But it is consistent with the result of Ginsberg and Bloom (2004) that customers are not ready to compromise traditional attributes.

Consumer awareness of environmental issues has been found to be significant. The mean score was 4.2, which was significantly greater then 4 (benchmark score). More than 80% of the respondents argued that they feel informed about common environmental issues. About 90% of the respondents were of the view that if we don't take environmental issues in our consideration than it will seriously affect future generations. About 89% of consumers were of the view that environmental issues are as important as social and economic issues.

Consumers' attitude towards protecting environment has been found to be positive. The mean score of consumers' attitude towards environment protection was 4.42, which was significantly greater than 4. More than 90% of respondents agreed that our individual contribution can significantly improve environment. About 95 % of the respondents were of the view that everyone is responsible for protecting the environment. About 94% of the respondents realized that environmental degradation is dangerous.

Perceived functionality of eco-labels has been found to be low. Average score of perceived functionality of eco-labels was 3.18, which was significantly less than benchmark score. Only less than 45 % of the respondents used to read eco-labels (if any). Only 46% of the respondents urged that information about environmental impact, provided on the label of the product, significantly affects their purchase decision.

There has been positive significant correlation between consumers' awareness of environmental issues and their acceptance of green products. Pearson's coefficient was calculated to be equal to 60.5%. This finding is consistent with the results of Dispoto (1977). But this result is in contrast with the result of Lingg (1975), Geller (1981), and Schahn & Holzer (1990), who were of the view that such relationship does not exist.

Finally, the analysis revealed no correlation between consumers' attitude towards environment protection and attitude towards green products. Pearson's correlation coefficient has been calculated to be equal to 2.9%. This result is consistent with Tan B. and Lau T. (2010). But this result is against the findings of Tanner and Kast (2003).

5. Conclusion and Recommendations

In this study consumers' attitude towards green products has been investigated. On the basis of this research analysis and findings can be concluded as under.

5.1 Conclusion

The growing global awareness of environmental issues and growing social and regulatory concerns for environment, led the researcher to investigate the market of environmentally friendly products. Sample of students who were at least graduate and pursuing master's degree, were taken for this investigation. This research gives an insight about consumers' attitude towards green products. The most important outcome of this research is that consumers' do not have positive significant attitude towards green products. But consumers' environmental awareness and their inclination to protect environment have been found to be significantly high.

Consumers feel responsibility towards protection of the environment and save future generations. Consumers give high importance to ecological issues.

Low perceived functionality of eco-labels indicates that consumers do not find eco-labels as something influencing their purchase intension. Consumers don't read information on eco-labels. Effectiveness of eco-labels is found to be poor to influence consumers' attitude towards green products.

It has been found that there is no correlation between consumers' attitude to protect environment and acceptance of environmentally friendly products.

Consumers' awareness of environment and their attitude towards green products has been found to be positively correlated. It means increasing consumers' knowledge about environment may lead to increase consumers' inclination towards green products.

5.2 Recommendations

Because positive attitude of consumers towards environmentally friendly products has not been found to be significant, consumer counseling programs are encouraged. Eco-labeling criterion should be standardized so that consumers may not be confused about claims of green products. Companies should assume at least some responsibility for environmental deterioration.

As consumer awareness and purchase intent of green products has been found to be positively correlated so the producers can provide more value to their customers by highlighting the characteristic of being a "green product" producer. Consumers are aware of green products and they have the attitude towards environment but attitude to purchase green product does not exist, so the companies producing "green products" may develop programs in communities to develop the attitude towards green products. The consumer may be aware through programs about the purchase of green products and how this purchase will contribute to the environment.

6. Areas of Future Research

Since present research is based on data taken only from students in Karachi, it is suggested to test its results in other cities of Pakistan to have a complete picture of the market of green products. Consumer perception of the role of government towards environmental sustainability should also be evaluated. Since this research gives a holistic view of consumer behavior for green products, results may vary if conducted for specific product category. That is why investigation with respect to specific product categories is also suggested.

Since environmental degradation issue involves general public as well and not only students, that is why it is suggested that such study should be conducted on large scale including general public as well. Using demographic characteristics of consumers can give us a clearer picture of consumers' preferences for green products.

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Annexure

Table 1

correlations

		SEC2	SEC 4
SEC2	Pearson Correlation Sig. (2-tailed) N	1.000 - 134	.6056* .000 134
SEC2	Pearson Correlation Sig. (2-tailed) N	605** .000 134	.1.000 - 134

Table 1

correlations

		SEC2	SEC 4
SEC2	Pearson Correlation Sig. (2-tailed) N	1.000 - 134	.029 .743 134
SEC2	Pearson Correlation Sig. (2-tailed) N	.029 .743 134	1.000 - 134