

# Segmentation of Green Consumers

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**Abstract:** *Consumer concern for environment has increased considerably in recent years. With increasing focus on well-being of environment more and more consumers show concern about effects many products might have on the earth. Businesses have now realized that, in future, consumers' purchase decisions will be based on environmental concern. This has led to development of green products and accompanying use of green marketing. A wide range of green products such as recyclable paper, eco-light bulbs, eco-friendly detergents, automobiles, organic foods amongst others are now available in the market. The concern with environmental issues has resulted in a new segment of consumers' i. e. green consumers. The study examines the environmental concern of consumers in India and has developed a typology for segmentation of green consumers based on green product purchase behavior.*

**Keywords:** Environmental concern, green consumers, green products, pro-environmental behavior

## 1. Introduction

Consumer concern for environment has increased considerably in recent years (Chitra, 2007). With increasing focus on well-being of environment more and more consumers show concern about effects many products might have on the earth (Carlson et. al., 1996; Laroche, Bergeron, & Barbaro-Forleo, 2001). Businesses have now realized that, in future, consumers' purchase decisions will be based on environmental concern. This has led to development of green products and accompanying use of green marketing (Pickett-Baker & Ozaki, 2008; Banerjee, Gulas, & Iyer, 1995). The concern with environmental issues has resulted in a new segment of consumers' i. e. green consumers. The study examines the environmental concern of consumers in India and has developed a typology for segmentation of green consumers based on green product purchase behavior.

## 2. Literature Review

Environmental concern has a direct relationship with pro-environmental behavior (Hines et al., 1987). Environmental concern can have a significant influence on the degree to which individuals are motivated to change behavioral practices so as to eliminate environmental problems (Seguin et al., 1998). Environmental concern indicates "the degree to which people are aware of problems regarding the environment and support efforts to solve them and or indicate the willingness to contribute personally to their solution" (Dunlap and Jones, 2002). To measure and understand people's ecological concern, Maloney & Ward (1973), have conceptualized such concerns as the amount of knowledge (environmental knowledge) about, the degree of emotionality (Environmental affect) toward, and the level of verbal commitment (environmental intention) and actual commitment (environmental behavior) to ecological issues (Chan R. Y., 1999). The increase in the environmental concern has resulted in increased demand for green products, a situation which is well exploited by a number of enterprises offering green products and services (Chan K. , 2000; Juwaheer, Pudaruth, & Noyaux, 2012). Green products or environmentally friendly products are products which intend to reduce negative impacts on the environment and these products provide considerable enhancements all over the whole product life cycle (Pujari & Wright, 1996).

A wide range of green products such as recyclable paper, eco-light bulbs, eco-friendly detergents, automobiles, organic foods amongst others are now available in the market (Juwaheer, Pudaruth, & Noyaux, 2012). Growth of environmental concern has led to a phenomenon known as "green consumerism", a market-place orientation in which consumers' purchase, product usage and disposal decisions are driven by a desire to preserve nature's ecological balance (Carlson, Grove, & Kangun, 1993). Ottman (1992) defines green consumer as "individuals looking to protect themselves and their world through the power of their purchasing decisions. In their efforts to protect themselves and their world, they are scrutinizing products for environmental safety". This definition contains two motivating forces for seeking product information and taking action: to protect oneself and to protect one's world. Elkington (1994) defines green consumer as one who avoids products that are likely to endanger the health of the consumer or others; cause significant damage to the environment during manufacture, use or disposal; consume a disproportionate amount of energy; cause unnecessary waste; use materials derived from threatened species or environments; involve unnecessary use of, or cruelty to animals; adversely affect other countries. Green consumers are environmentally conscious consumers for whom environmental considerations are important purchase motivators (Singh, 2011). Ecological consumer is an individual who is interested and concerned for the environment and shows an important *verbal* and *real ecological commitment*. Furthermore, as a result of their concern for the environment, their environmental intention and their final ecological behavior are both higher (Fraj-Andres & Martinez-Salinas, 2007). The factors responsible for the growth of green consumerism include heightened awareness of green issues among people often as a result of media coverage; increased levels of information available to help green consumers make informed decisions; emergence of an increasing number of green substitutes to traditional products; widespread use of green themes in advertising; a shift in values towards concern for environment and society; and increased marketing and merchandizing activity among environmental and social charities (Strong, 1998).

### 3. Segmentation of Green Consumers

As suggested by Schlegelmilchet *al.* (1996) segmenting and targeting markets based on pro environmental purchase behavior are essential when companies position their green products. The Roper Organization (1990) reported many behaviors deemed environmentally friendly, i.e. using biodegradable/recycled products, and recycling bottles, cans and newspapers. The list also included behaviors indicative of environmental concern such as reading packaging labels, contributing to environmental groups and lobbying politicians. According to this report consumers differ in their knowledge of and concern about the environment. They can be classified by their degree of commitment to the environment according to various attitudes and behaviors. Based on cluster analysis consumers were classified as True-Blue Greens (11%), Greenback Greens (11%), Sprouts (26%), Grousers (24%), and Basic Browns (28%). Ottman (1991) has laid down three distinct consumer motives: preservation of the planet, preservation of personal health, and preservation of animal life, for classifying consumers based on environmental concerns. Chan K. (2000) classified consumers based on their past purchase behavior as light, medium and heavy. F-test results indicated that light, medium and heavy consumers differed greatly in their perception of EFP (Environment Friendly Products) and evaluation of purchase of EFP, perceived social norms and self-identity, green consumerism knowledge and use of environmental news. Bodur & Sarigollu (2005) investigated the relationship between Turkish consumers' attitudes and their behaviors toward the environment. A consumer cluster analysis based on behaviors toward the environment was conducted, and three distinct segments were identified: active concerned, passive concerned, and unconcerned.

### 4. Objectives of the Study

The Nielsen, Global Online Survey (2011), study shows that concern about climate change has declined in America (from 62% to 48%) and China (from 77% to 64%) in 2011 as compared to 2009 survey, however in India it has gradually risen in the past four years, and with 86 percent of Indians currently worried, it remains one of the markets most concerned about climate change in the world. Overall, 83 percent of global online consumers say that it is important that companies implement programs to improve the environment. This shows that green consumerism is on the rise. Hence the study is undertaken with following objectives:

- 1) To examine the environmental concern of consumers
- 2) To segment consumers based on their environmental concern.
- 3) To analyze green product purchase behavior of consumers.
- 4) To develop typology of green consumers
- 5) To examine reasons for consumers reluctance to purchase green products

### 5. Research Methodology

The exploratory study is conducted in Goa (India). To collect the data a questionnaire was personally administered to the respondents. The questionnaire was divided into three parts namely socio-economic profile, environmental concern of consumers and purchase behavior of green products. In this study, consumers' environmental concern and purchase of green products were measured on three-point scale with anchors (3 - never to 5 - always). Internal consistency and reliability of the scale was measured by the use of Cronbach's alpha. The overall Cronbach's alpha for the entire questionnaire across 13 items was 0.836 and Nunnally (1978), suggests an acceptable level of coefficient alpha in exploratory analysis is 0.70.

### 6. Sampling Plan

Questionnaire was personally administered to a convenience sample of 170 consumers living in Goa (India). The targeted population of the study consisted of customers who are above 20 years. The reason is customers above this age are familiar with purchasing of products and they are also empowered in their decisions for choosing the right products between many available choices, therefore, they are more considerate to environmental issues while engaging in their purchasing decisions.

Table 1 provides a profile of the sampled respondents. It can be observed that though the sample comprises people belonging to different socio-demographic groups, it is somewhat skewed towards more educated and employed/salaried class persons.

**Table1:** Socio-demographic profile of the Respondents

Socio-economic profile	Classification	Frequency (n=170)	Percentage
Gender	Male	98	57.6
	Female	72	42.4
Place of residence	Urban	102	60.0
	Rural	68	40.0
Age	20-35 years	50	29.4
	36-50 years	68	40.0
	51-65 years	41	24.1
	Above 65 years	11	6.5
Educational qualification	Under graduation	34	20.0
	Graduation	63	37.1
	Post-Graduation	43	25.3
	Professional	30	17.6
Occupation	Housewife	18	10.6
	Self-employed	41	24.1
	Service	84	49.4
	Others	27	15.9
Income per month	Below ` 10000	33	19.4
	` 10000 - ` 30000	51	30.0
	` 30000 - ` 50000	51	30.0
	` 50000 & Above	35	20.6

Source: Primary Data

### 7. Results and Discussion

One of the components of the study was to assess environmental concern of consumers which was based on

the work of Miller (2003). Six statements about environmental concern were included (Such as, humans must live in harmony with nature, individuals can do lot to improve environment, I switch off fans/lights when I leave the room, carry own bags when I go to supermarket, participation in environmental activities, influence others to participate in environmental activities). A Green Consumer Scorecard was included as a way to measure a respondent's levels of environmental concern so as to develop a profile of green consumers. If the respondent had to answer all questions as always, it would result into a score of 30 out of 30. Based on this, respondents whose score was between 30-27 were classified as actively concerned, between 26-23 as moderately concerned and 22-18 as less concerned.

**Table 2:** Classification of Consumers based on Environmental Concern

Consumer Classification	Frequency	Percent
Actively Concerned	86	50.6
Moderately Concerned	68	40.0
Less Concerned	16	9.4
Total	170	100

Source: Primary Data

As presented in Table 2, total 86 (50.6%) respondents fell into actively concerned group, 68 (40%) respondents fell into moderately concerned group and 16 (9.4%) respondents fell into less concerned group. Respondents in less active group responded negatively to most of the questions.

According to Kim and Choi (2005), it is much more possible for people who are highly concerned about the environmental problems than the others to purchase products for their environmental characteristics. Thus in this study an attempt was made to classify consumers based on purchase of green products. Seven statements about purchase of green products were included (For example, read labels before buying to see if contents are environmentally safe, when there is a choice I always choose product which contribute least to pollution, buy products whose packages can be reused, prefer buying products which are biodegradable and which can be recycled, avoid buying products which are tested on animals, buy products which contribute money for environment protection cause, ready to pay more for environmentally friendly products). A Scorecard was included as a way to measure a respondent's purchase of green products. If the respondent had to answer all questions as always, it would result into a score of 35 out of 35. Based on this, respondents whose score was between 35-31 were classified as frequent purchasers, between 30-26 as occasional purchasers and 25-21 as rare purchasers.

**Table 3:** Classification of Consumers based on Purchase of Green Products

Consumer Classification	Frequency	Percent
Frequent Purchasers	57	33.5
Occasional Purchasers	82	48.2
Rare Purchasers	31	18.2
Total	170	100

Source: Primary Data

As presented in Table 3, total 57 (33.5%) respondents purchase green products frequently, 82 (48.2%) respondents purchase green products occasionally and 31 (18.2%) respondents purchase green products rarely.

As the public realizes that consumption activities lead to environmental problems some consumers are translating their environmental concern into actively purchasing green products (Chan K., 2000). Though the environmental consciousness among the consumers is on the rise, not all the consumers are equally green and demand green products (Chan K., 2000; Diamantopoulos et al., 2003; Ottman, 1992.) In order to examine the responses given in environmental concern statements and actual behavior of consumers, a number of statements regarding their purchase behavior of green products were included. The items on the green product purchase behavior aimed to determine whether consumers who are environmentally concerned were highly informed about green products and were more likely to make environmentally friendly purchase decisions. The analysis of two tables shows that actively concerned consumers were almost 50%, however those who purchase green products on regular basis is just 33%. This indicates that to large extent consumers who show concern about environment do not translate it into green product purchase behavior.

Most consumers are likely to buy green products if the price premium for products that are environmentally safe is not too high or if the products do not require a drastic change in lifestyle (Carlson, Grove, & Kangun, 1993; Ottman, 1992). Thus in the study an attempt was also made to find out the reasons for not buying green products.

**Table 4:** Reasons for not buying green products

Reasons for not buying green products	Frequency	Percentage
Non-availability of green products	33	20
High price of green products	40	23
Lack of information about green products	28	16
Lack of trust about green claims made by companies	52	31
It requires a change in the lifestyle	17	10

From the analysis of above table it can be inferred that lack of trust about the marketers is one of the major reason for non-purchase of green products. Non-availability of green products and high price of green products also contribute to consumers' reluctance to buy green products. The analysis also indicated that many consumers are not able to distinguish between environmentally safe products and environmentally harmful products.

## 8. Limitations and Future Research

The present study has analyzed the consumer environmental concern and purchase behavior of green products in India. This study, like most others, is not totally free from limitations. It is conducted in a single state of India i. e. Goa and as such the present finding may not be able to capture variations at a national level. The sample size was restricted to only to hundred and seventy respondents; the results may



vary if sample size is increased. In this respect, further research is clearly needed in order to enhance the understanding of consumers' environmental concern and purchase behavior of green products.

## 9. Conclusion

Most of the time consumers themselves are major contributors to environmental problems and hence any environmentally responsible behavior on their part can go a long way in mitigating the problem of environmental degradation. Consumers concern for the environment and the resultant demand for green products can act as a pressure point on business firms to turn green and start marketing green products. If consumers exhibit positive attitude toward environmental issues and convert them into environmentally responsible purchase behavior then business enterprises will be forced to apply the concept of green marketing to their operations. Business organization will have to find solutions to environmental problems by designing environmentally safer products, recyclable and biodegradable packaging, and providing information to consumers through eco-labeling and green advertising in order to remain competitive. Consumers in developing countries also need to be educated about green products so that, they can contribute significantly to the green movement. Thus, successful environmental marketing will be the result of identifying and satisfying consumer norms. The government of developing countries also needs to take initiatives in educating the relatively environmentally apathetic consumers so that they can become an integral force in the green movement. Once consumers' environmental concerns have been raised, they themselves will act more environmentally responsible and in turn, make more demands on the government to do more to preserve ecological well-being. Thus the interaction between business enterprises, consumers and government will eventually drive the consumers and business enterprises to act more socially responsible.

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