# GREEN PRODUCTS AWARENESS IN CITY LUCKNOW: A DETAILED STUDY

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## ABSTRACT

*The rise in economic growth has led to doubling of real household disposable income and consequently changes in the consumption pattern. These changes have placed a heavy load on environment. Sustainability of economic development itself hinges crucially on the protection of environment. Government has recognized environmental concerns, but Government approach is through legislative routes, which are more mitigative rather than preventive. The purpose of this study is to examine the level of awareness of the consumers of green products and whether they have made any green purchases and what type of green purchases have been made by them. In the study, Descriptive Cross-sectional research design has been employed. A close-ended questionnaire has been developed as the survey instrument, after detailed exploratory process. A pilot survey has also been carried out. Content Analysis has been performed to identify potential errors in the survey administration. Quota and Shopping Mall Intercept Sampling schemes have been employed for the data collection. Data was collected from 450 respondents, out of which 395 questionnaires were found complete in all the aspects. The study shows the awareness of the green products and their motivating factors which induce them to make green purchases.They are aware of the environmental friendly products or green products, most of them considered green product is good for the environment and are willing to buy green products if it is available in the category. Product characteristics are the instigators for the consumers to make purchases. As a producer and marketer companies should focus upon marketing their product in a way that it is easily identifiable by the consumer which will help them in gaining competitive advantage.*

**Keywords:** Green products; Economic growth; Environment; Consumers.

**INTRODUCTION:**

Due to increase in global warming and climate change the public concern for environmental issues is gradually increased over the past decades. The companies have started adopting green production, marketing, distribution practices in their activities as a part of social responsibility and they were trying to reach the customers with their green messages. The "Green movement" then has entered the mainstream status in many developed countries, where eco-friendliness is becoming a major consumer preference among the best living in such nations. But though in India, the green movement has started in the late 1990s and 2000s, it was still in the infancy stage. Way back in 1991, the Government recognized the need for increased consumer awareness on eco-friendly (or green) products and launched the eco-labelling scheme known as `Ecomark'. The aim was to have a mechanism for easy identification of environment-friendly products. However, the scheme did not succeed. Over the years there are some internationally accepted eco-labels which are available in India. However the manufacturers who have applied these schemes have mostly done so with the aim of accessing the developed country market worldwide. The Indian market for green products has over the years has been driven by green claims made by the manufactures with little evidence to back up the claims. Climate change has been recognized as one of the most eminent challenges of the 21st century. A number of recent surveys indicate that people around the world are increasingly concerned about the wellbeing of our planet. The movie "An inconvenient truth" released in 2006 by environmental activist Al Gore had a catalytic impact on the growing concerns among people. The movie made the mass aware what environmentalists had been voicing for decades; if we don't start to change our life-style soon, we will do irreversible damage to our planet, destroying our home. Although the debate about the contribution of humans on climate change is still heated, Intergovernmental Panel on Climate Change (IPCC), an scientific intergovernmental body, released a report in 2007 stating that human actions are "very likely" (90% or higher probability) the cause of global warming. As awareness of the environmental impact of our life-style increases, more people are willing to change their behaviours and purchasing habits in order to help improve the environment. The deterioration of the environment led to the adoption and the development of consciousness of consumers' attitude towards eco-friendly products in order to preserve the planet (Luck et al., 2009, p. 2). With the researchers conducted in the recent past which revealed the products (focussing upon FMCG food products) , with  high content of MSG and lead which was confirmed through laboratory tests. The research conducted will also help us to know are the consumers ready to switch from conventional non-green products and practices to green and healthy products, keeping into account the recent tests conducted.

The Indian consumers, particularly the middle class consumers, over the last two decades have become environmentally more conscious. This has been reflected in various surveys. The 2012 Greendex4 survey reflected that Indian consumers are choosing to buy environmentally friendly products but it also found that amongst the 17 countries surveyed, the Indian consumers have the highest percentage of respondents who are sceptical of green products. None of the research has started from the micro level to move towards the macro level so as to make the green consumerism imbibe in the consumers. These finding led us to make up our own opinion about this subject: consumers' attitudes toward green products and purchase behaviour at the micro level pertaining to a particular city. The results of this study will be a stepping stone to business planners and will give valuable insights on consumer behaviour as it will give them understanding of the green market segments in Lucknow City, and this will help to develop effective green strategies. This study aims at understanding the communication gap between the consumers and the producers.The survey data was analysed to understand the perception of the consumers on green products, the gaps and barriers to the adoption of green products. The outcome is expected to support the identification / development of mechanism that can be most effectively used in communicating greenness of product. This study on the perceptions of consumers about green products is expected to act as a catalyst in developing a better policy framework on green products. Also, it would be insightful for companies to know better ways of communicating with the consumers with appropriate and easily understandable information on their products. Lucknow city was chosen for the research as this city is one of the largest city of the largest (area as well as population wise) state,

Uttar Pradesh of India, and also this city is growing in to build a large consumer base as well as industrial base. With the development in the city in form of metros, big shopping places like the Connaught place in Delhi, with various schemes and subsidies provided by the state government to set up industries. The city is moving at a great pace towards other big cities and in this course this research will help to know whether the consumers are ready to adapt the new green movement prevalent or they still want to stick to old conventional products and practices

**LITERATURE REVIEW:**

According to Mostafa (2007), green purchase behaviour refers to the consumption of products that are benevolent or beneficial to the environment, recyclable or conservable and sensitive or responsive to ecological concerns.

Clem (2008) reveals that going green reflects a social consciousness around saving and advancing the Earth's natural resources, preserving and protecting them for the sake of civilization. Consumers are becoming more and more aware of environmental issues and this has increased the demand for ecological products. If consumers have a favourable attitude toward greening environment, they are more inclined to purchase green products. The continuous awareness of environmental problems may in turn change consumers' attitudes and purchase intentions as well. Consumer purchase intention has been an important concept in marketing literature.

The effective and efficient use of the natural resources and preservation of it has led to consumers' segments to form green consumerism (Solomon, 2010, p. 401).

Vernekar and Wadhwa (2011, p. 65) have defined the green consumer as a person "who adopts environmentally-friendly behaviours and/or who purchases green products over the standard alternatives" Consumer behaviour trends toward eco-friendly attitudes have been increasing.

Blackwell et al. (2001) has indicated that purchase intentions represent what consumers think, they will buy.

Studies have indicated that many consumers are unwilling to forgo essential product benefits during their purchase decision. So therefore, green products must also perform competitively not only according to environmental aspects, but also on the basis of other important product characteristics for instance convenience or durability (Diamantopoulos et al, 2003).

Owing to the conceptual and moral complexity of 'ecologically responsible consumer behaviour' and to the perplexity of ecological information, different consumers have different conceptions of ecologically oriented consumer behaviour and, thus, myriad ways of acting out their primary motivation for being green consumers (Antil, 1984)

Dobson (2007) argues that behaviour change towards sustainable development that is driven by environmental citizenship considerations is more likely to last than behaviour driven by financial incentives. Consumers who have positive attitude towards the environment are more willing to purchase green products (Balderjahn, 1988, p.53).

However it is also true that even if consumers are concerned about environmental issues; they will not necessarily purchase green products (Mc Eachern and Carrigan, 2010, cited in Solomon et al., 2010, p. 229) as the following studies show it. The neoclassical view implies that people buy green products only for selfish reasons such as the taste, the superior quality or the fact that green products are healthier than conventional ones.

Green product is known as an ecological product or environmental friendly product. Shamdasami et al., (1993) defined green product as the product that will not pollute the earth or deplore natural resources, and can be recycled or conserved. It is a product that has more environmentally sound content or packaging in reducing the environmental impact (Elkington and Makower, 1988; Wasik, 1996). In other words, green product refers to product that incorporates the strategies in recycling or with recycled content, reduced packaging or using less toxic materials to reduce the impact on the natural environment. Krause (1993), in his research found that consumers were becoming more concerned about their everyday habits and the impact on the environment. The outcome of this is that some of the consumers translated their environmental concern into actively purchasing green products commitment (Martin and Simintiras, 1995).

Consumers who are aware of and interested in environmental issues are called green consumers (Soonthonsmai, 2007). These green consumers usually organized petitions, boycotted manufacturers and retailers and actively promote the preservation of the planet (Fergus, 1991). Ottman (1992) reported that consumers accepted green products when their primary need for performance, quality, convenience, and affordability were met, and when they understood how a green product could help to solve environmental problems. The knowledge gap on the uses and values of green products prevents consumers in committing themselves to any purchase decisions.

According to Schultz and Zelezny (2000), attitudes of environmental concern are rooted in a person's concept of self and the degree to which an individual perceives him or herself to be an integral part of the natural environment".

In 2007, Chitra made a survey on 60 respondents in India and showed that he could classify respondents in four categories the "aspirants", "the addicts", the "adjusters" and the "avoiders". This survey showed that the majority of the respondents can be categorized as "aspirants"; that means those individuals are aware of environmental issues and want to develop green purchase behaviours (Chitra, 2007, p. 181).

Hamid (2014) investigated the relationship between consumer attitude, perceived value and green products in the developing countries and conclude that consumer had negligible attitude and low perceived value towards environment friendly products. The possible reason behind such attitude was country's low compatibility in the field of ecology and some local economy related constraints.

Tseng and Chang (2015) studied buying behaviour of consumers towards Organic products in Taiwan. They found that consumer behaviour can be segmented as ecologically conscious while the perceived behaviour control of consumer had no impact on purchase intention of consumers towards green product if their knowledge level towards ecological consciousness was low and vice versa.

## OBJECTIVES OF THE STUDY:

- ➢ To know the level of awareness of green products and
- ➢ To know the factors that affects the purchase of green products.

## RESEARCH METHODOLOGY:

Descriptive Cross-sectional research design has been employed. A close-ended questionnaire has been developed as the survey instrument, after detailed exploratory process. The exploratory process has been aimed to identify the relevant variables and attributes for the study. As the initial step, existing literature (secondary data) consisting of relevant research papers, books and other published materials have been surveyed. Quota and Shopping Mall Intercept Sampling schemes have been employed for the data collection. Data was collected from 450 respondents, out of which 395 questionnaires were found complete in all the aspects. The data analysis of the above study was based on descriptive statistics, binomial/sign test and factor analysis using SPSS.

## DATA ANALYSIS:

| Factors | Classification | Frequency | Percentage |
|---|---|---|---|
| Gender | Male | 229 | 57.3% |
| | Female | 171 | 42.8% |
| Age | 18-24 | 114 | 28.5% |
| | 25-34 | 204 | 51.0% |
| | 35-44 | 45 | 11.3% |
| | 45-54 | 26 | 6.5% |
| | >55 | 11 | 2.8% |
| Marital status | Yes | 156 | 39.0% |
| | No | 244 | 61.0% |
| Children | Yes | | |
| | No | | |

| Factors | Classification | Frequency | Percentage |
|---|---|---|---|
| Educational Qualifications | Upto HSC | 13 | 3.3% |
| | Graduate | 112 | 28.0% |
| | Post-graduate | 167 | 41.8% |
| | Professionals and others | 108 | 27.0% |
| Occupation | Salaried | 98 | % |
| | Self-employed | 37 | % |
| | Professional | 63 | % |
| | Business | 31 | % |
| | Student | 90 | % |
| | Retired | 11 | % |
| Income (INR) | >100000 | 102 | 25.5% |
| | 50000-99000 | 116 | 29.0% |
| | 25000-49000 | 130 | 32.5% |
| | 5000-14900 | 41 | 10.3% |
| | Below 5000 | 11 | 2.8% |

## ANALYSIS AND INTERPRETATION:

**Hypothesis Testing:**
H0: There is no significant difference in the relative frequency between the outputs
H1: There is significant difference in the relative frequency between the outputs

**Do you agree Environment Degradation has risen in last decade:**

### Descriptive Statistics

| | N | Mean | Std. Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| 1.000000 | 400 | 4.25 | .616 | 3 | 5 |

### 1.000000

| | Observed N | Expected N | Residual |
|---|---|---|---|
| NEUTRAL | 38 | 133.3 | -95.3 |
| AGREE | 223 | 133.3 | 89.7 |
| STRONGLY AGREE | 139 | 133.3 | 5.7 |
| **Total** | **400** | | |

### Test Statistics

| | 1.000000 |
|---|---|
| Chi-Square | **128.705[a]** |
| Df | **2** |
| Asymp. Sig. | **.000** |

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 133.3.

**Table 1.1 Chi-Square Test Outputs 1:**

Test Statistics states that the difference between observed and expected is significant. Table shows difference between expected and observed, positive residuals can be seen in case of agree and strongly agree.

**Interpretation:**
A higher number of people agree to the fact that environment degradation has arisen in the past.

**If a green product is available in the category I buy, I will:**

**Descriptive Statistics**

|  | N | Mean | Std. Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| 7.100000 | 393 | 3.96 | .780 | 1 | 5 |

**7.100000**

|  | Observed N | Expected N | Residual |
|---|---|---|---|
| Definetely not buy | 4 | 78.6 | -74.6 |
| Probably not buy | 13 | 78.6 | -65.6 |
| Neutral | 64 | 78.6 | -14.6 |
| Probably buy | 225 | 78.6 | 146.4 |
| Definetely buy | 87 | 78.6 | 8.4 |
| **Total** | **393** |  |  |

**Test Statistics**

|  | 7.100000 |
|---|---|
| Chi-Square | 401.847[a] |
| Df | 4 |
| Asymp. Sig. | .000 |

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 78.6.

**Table 1.2 Chi-Square Outputs 2**

Test Statistics states that the difference between observed and expected is significant. Table shows difference between expected and observed, positive residuals can be seen in case of probably buy and definitely buy.
**Interpretation:**
If the green product is available majority number of people would probably buy them

**HYPOTHESIS TESTING:**

H0: If the true probability of 'Yes' is what theory does not predict
H1: If the true probability of 'Yes' is what theory predicts

**Have you heard of Environment Friendly or Green Products?**

**Descriptive Statistics**

|  | N | Mean | Std. Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| 2.000000 | 400 | 1.06 | .242 | 1 | 2 |

**Binomial Test**

|  |  | Category | N | Observed Prop. | Test Prop. | Exact Sig. (2-tailed) |
|---|---|---|---|---|---|---|
| 2.000000 | Group 1 | YES | 375 | .94 | .50 | .000 |
|  | Group 2 | NO | 25 | .06 |  |  |
|  | **Total** |  | **400** | **1.00** |  |  |

**Table 2.1 Binomial Output 1**

Since we have 375 'Yes' out of total, observed proportion is .94. Null hypothesis states that this proportion is .50 of the entire population. Reject Null hypothesis since this proportion is much higher than predicted.

**Interpretation:** It shows a higher proportion of population who have heard about green products.

**Have you made any purchase of green products:**

### Descriptive Statistics

|  | N | Mean | Std. Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| 4.200000 | 399 | 1.23 | .423 | 1 | 2 |

### Binomial Test

|  |  | Category | N | Observed Prop. | Test Prop. | Exact Sig. (2-tailed) |
|---|---|---|---|---|---|---|
|  | Group 1 | Yes | 306 | .77 | .50 | .000 |
| 4.200000 | Group 2 | No | 93 | .23 |  |  |
|  | **Total** |  | **399** | **1.00** |  |  |

**Table 2.2 Binomial Output 2:**

Since we have 306 'Yes' out of total, observed proportion is .77. Null hypothesis states that this proportion is .50 of the entire population. Reject Null hypothesis since this proportion is much higher than predicted

**Interpretation:** It shows a higher proportion of population who have purchased green products

**FACTOR ANALYSIS:**

| Dimensions of Perceptions | No of items | Perception (Cronbach's Alpha) |
|---|---|---|
| Product Characteristics | 7 | .65 |
| Product Influencers | 3 | .77 |

### KMO and Bartlett's Test

| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. |  | .848 |
|---|---|---|
| Bartlett's Test of Sphericity | Approx. Chi-Square | 2327.355 |
|  | Df | 55 |
|  | Sig. | .000 |

| Factor Group | Factors | Total factor Load |
|---|---|---|
| **Product Characteristics** | Awareness about green products | **4.96** |
|  | Availability of green products |  |
|  | Past experience |  |
|  | Information provided on the product |  |
|  | Price |  |
|  | Environment friendly packaging |  |
|  | Advertising or promotional techniques |  |
| **Product Influencers** | It is an unplanned decision taken at a supermarket | **2.278** |
|  | Recommendations by family, friends and peer groups |  |
|  | Environment consciousness |  |

The value of KMO statistic is very high (0.848) and Bartlett's test of sphericity is significant (sig = 0.000), which reveals that data are appropriate for factor analysis. The total variance accounted for by

all of the six components explains nearly 60.93 per cent of the variability in the original 11 variables. So, we can reduce the original dataset by using these two components (Eigen values greater than 1) with only 21.7 percent loss of information. The Rotated Component Matrix reveals two factors (which represent the two broad perceptual dimensions termed as product characteristics, product influencers) derived from 11 variables

## DISCUSSIONS AND IMPLICATIONS:

### Product Characteristics:
The factor load of the component is 4.96 and total variance explained is 36.69%. It includes seven variables. Companies must always keep in mind that consumers are unlikely to compromise on traditional product attributes, such as convenience, availability, price, quality and performance. It's even more important to realize, however, that there is no single green-marketing strategy that is right for every company (Prothero,, and McDonagh, 1992). Information on packaging has an important role to play because it is the first thing that the consumer sees (Solomon et al., 314-317). Promotion of eco-friendly products contribute to consumers' awareness of the green alternatives. These elements help the consumers to know where the environmentally products are. Advertising encourages consumers' purchase decisions because it develops eco-friendly products' concern and the willingness to buy is important as well as where to buy it. (Hartmann and Apaolaza-Ibanez, 2009, p.717) Advertising plays essential role in the green marketing.

### Product Influencers:
The factor load of the component is 2.28 and total variance explained is 60.93%. It includes three variables. "80% of all buying decisions are influenced by someone´s direct recommendations" (Solomon et al. 2010, 14 402). This shows the vital role of the word of mouth in promoting particular products to the consumers. WOM has three characteristics, credible, personal and timely, indeed consumers trust more their family and friends than sellers for example, it is often an "intimate dialogue" evoking personal experience and finally it happens when people "want it to and when they are interested" (Kotler and Keller, 2009, p. 529). Impulse buying is considered as typical in contemporary consumer and retailing environments (Phillips and Bradshaw, 1993). Impulse Buying is growing especially in emerging economies because consumers have quickly accepted the methods of buying certain merchandising innovation by the retailers.

## CONCLUSIONS:

On the basis of analysis of collected data, majority of the respondents are aware of the environmental degradation and its aftermath. They are aware of the environmental friendly products or green products, most of them considered green product is good for the environment and are willing to buy green products if it is available in the category. Some of the respondents have also made purchases of the green products.
Product characteristics are the instigators for the consumers to make purchases. As a producer and marketer companies should focus upon marketing their product in a way that it is easily identifiable by the consumer and information should be clearly defined on the packages and labels. This would help the consumers to distinguish between a green and a non-green product and proper advertising, promotion and packaging would instigate the environment consciousness in the consumer so as to make him buy the green product.
Companies can gain a competitive advantage by producing green products as in a way they can gather support from the government in form of subsidies or any other liberal reforms, NGO's and other support systems working in the environment, as in the current dynamics it can be noticed environment protection and prevention and concepts related to it have expeditiously gained momentum, and of course in a way contributing to prevention of global warming and conserving the resources for future generations.

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