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# **Consumer Attitude towards Green Marketing: An Exploratory Study**

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## **Introduction**

Green Marketing can be viewed both as a type of marketing and a marketing philosophy. As a type of marketing it is like industrial or service marketing, and is concerned with marketing of a specialized kind of product, i.e. green product (including green goods such as fuel efficient cars or recycled products as well as green ideas such as “save oil” or “conserve natural habitat”). As a philosophy, green marketing runs parallel to the societal marketing concept and espouses the view that satisfying customers is not enough and marketers should take into account ecological interests of the society as a whole. It is a part of Corporate Social Responsibility (CSR).

Green marketing concept emerges from societal marketing (Kotler, 1999). Green marketing is an attempt to characterize a product as being environmental friendly (ecofriendly). It holds the view that marketing which is a part of business not only has to satisfy customers in particular, but also has to take into account the interests of society in general. That is, all those who are affected by the activities of a business should be kept in mind when setting the objectives and the policies of an organization. This has already helped to increase the recent trend towards the “greening” of the companies.

It is only since 1990’s that the researchers have started academically analyzing consumers and industry attitude towards green marketing. Most of the studies are done in developed countries but such studies however, remain conspicuously missing in the context of developing nations like India.

The present exploratory research discusses the concept of green marketing and its interface with consumers. It is based on the data collected through a field survey of consumers to assess their attitude towards green marketing.

## **Literature Review**

During the last two decades the burgeoning environmental movement was named as the “green movement”; environmentally aware consumers called the “green consumers”, product designed to protect the environment called the “green products” and marketing that uses the environmental claims called the “green marketing” (Peattie,1997). According to the authors like Ottaman, (1993) and Ken Peattie, (1993) conventional marketing is out and Green Marketing is in.

Green Marketing might be a result of pragmatic policy, referring to the changes of preferences of the customers and /or to follow the mainstream development of the industry. However, there are companies, which are really centered on green values and try to realize their ecological worldview in their business activities (e.g. the Body Shop, Ben and Jerry’s, Tom’s of Main, Interface).

An average green company can be described by using the models and experiences reported by John Elkington, Peter Knight and Julia Hailes in their book *The Green Business Guide* (Elkington et al., 1992).

A green company is based on its corporate vision that includes environmental concerns as the company's functioning. This simply means that the company realizes the needs of the ecosystem with which it interacts. For example, any company wants "to be a good company, having concern for the community and the environment".

According to Hawken (*Ecology of Commerce*, 1995) business has three issues to face. These are what it takes, what it makes and what it wastes. What it takes is materials from the environment, (its ecosystem) through extracting, mining, cutting, hunting and other means. What it makes is the products of commerce, goods and services that are derived from the natural environment through the process of conversion and transformation. What it wastes represents eco-costs arising from garbage, pollution and destruction of natural systems, which are the consequences of taking and making processes. And these costs are not internalized in most of the accounting systems so far.

The critical importance of industrial greening, in particular, is highlighted by a consideration of the factors that contribute to large-scale environmental deterioration. Environmental Impact equals a product of population (P), time's affluence (A), time's technology (T) (Ehrlich and Ehrlich 1991).

$$I = P \times A \times T$$

P and A are socio-political phenomena and are beyond the control of an industry or business. However, technology co-efficient is controllable. Technology applications reflect consumption of resources in qualitative and quantitative terms, energy used and the efficiency level of production and marketing and disposal of wastes. These are controllable technology decisions that can increase or reduce eco-costs. The goal is to reduce the use of unsustainable technologies and increase the use of clean technologies so that in the long run T is reduced to Zero which theoretically means I would be Zero at any quantity of P and A.

It is predicted that the future markets would be directly linked to the development, transfer and implementation of eco-friendly technologies, referred to as Environmental Technologies (ET). All kinds of ET is available now. Also, technology has made available substitutes, which are less resource intensive, for example, Copper has been substituted by fiber optic cables in telecommunication industry, thus reducing the demand for copper as well impact on environment associated with copper mining.

Corporate attitude to environmental issues have changed significantly over the years. For many years, most companies regarded environmentalists as unfriendly and environmental regulation as something to be fought off as long as possible, and then complied with reluctantly. This approach began to change in the late 1980's, first among large companies in the most polluting industries, such as chemicals and oils. By the time of 1992 Earth Summit, (Rio Conference) some corporates had already embraced green philosophy.

Under the chairmanship of Stephan Schmidheiny, a charismatic Swiss with a private business, the Business Council for Sustainable Development (BCSD) was formed. Its fifty-nine members put together guidelines on environmental friendly behaviour for companies and held their own conference in Rio, a week before the world's leaders assembled there.

One of the earliest efforts was the "Responsible Care" program set up by America's chemical manufacturers. Under it, companies committed themselves to tracking the fate of their products through their life cycle, from manufacture to final disposal and to adhering to a set of basic environmental principles.

While looking through the literature one finds that there are several reasons for firms to adopt use of Green Marketing. Five possible reasons given by many authors are: -

1. Organizations perceive environmental marketing to be an opportunity that can be used to achieve its objective (Keller, 1987; Shearer, 1990).
2. Organizations believe that they have to be more ethically and socially responsible (Davis, 1992; Freeman & Liedtka, 1991; Keller, 1987; McIntosh, 1990; Shearer, 1990).
3. Governmental bodies are forcing firms to become more responsible (NAAG, 1990).
4. Ecofriendly competitor pressure makes the firms to change their environmental marketing activities (NAAG, 1990).
5. Cost factors associated with waste disposal, or reductions in material usage forces firms to modify their behaviour in favour of green marketing (Azzone & Mazini, 1994).

Greening product or market is viewed as the outcome of rational strategic choice. It may thus involve the search for different types of competitive advantage (Gladwin, 1992a).

As a result of staggering pollution levels and the diversity of environmental concerns, a wide range of pressures is coming to bear upon industry/firms from many sides. The intensity of these pressures varies by country, sector, industry and firm. It is clear, however, that firms need to respond in order to ensure further use of scarce resources, public and political legitimacy, profitability and financial assurance (Schot, Johan & Fisher, Kurt 1993). These green pressure groups include the customer's pressure, government pressure (legislation pressure), investor pressure, community pressure, business-to-business customers, pressure and employees' pressure.

**Customers Pressure:** Consumers are increasingly better informed and becoming aware of the environmental impact of consumer products and are thus demanding that industry improves the environmental performance of its products. Today consumers are more enlightened and especially in developed countries, they even seek for sustainable development for their children.

**Government Pressure:** The threat of tougher legislation and the rising costs of complying with environmental regulations and penalties in case of noncompliance are possible motivating factors for firms to incorporate environmental concerns in their strategies (Banerjee 1998). In India the Governments enacted laws concerning pollution control and environmental protection, including Environment (Protection) Act 1986, the Air (Prevention & Control of Pollution) Act 1981 & the Water (Prevention & Control of Pollution) Act 1974. While environmental legislation represents the main pressure, increasing costs associated with managing emissions

are also an important factor. Legislation can lead to different degrees of corporate environmentalism, depending on the level of strategy in which the firm includes environmental concerns. At a purely functional level, responses to legislative pressure can mean complying with existing regulations. At a higher corporate level of strategy, threat of environmental legislation and liability could influence decision on new business opportunities.

**Investor Pressure:** Investors are increasingly examining the environmental records of potential investments, and some are showing a tendency to invest in “Greener” companies. This behaviour is based on the expectations that these companies will benefit commercially from their green image and there are efficiency gains associated with the adoption of cleaner technologies (Kahlenborn, Walter 1999). A survey indicated that, among the different kinds of environmental information required by investors, liabilities and litigation were ranked first and second respectively (Mastrandonas and Strife, 1992). The US Securities and Exchange Commission have also mandated that corporation must disclose estimates of current and future environmental expenditures and liabilities. Companies are liable not only for any present damage to the environment but also for all future damage and they must disclose the environmental risks known to be potentially significant.

**Community Pressure:** Local communities represent a powerful pressure for improved environmental performance, particularly where firms are located in close proximity to residential areas. This is applicable to both developed and developing countries. Where problems and nuisance are associated with noise, vibration, and dirty/ foul smell; local communities, both directly and indirectly through complaints to local environmental health departments are capable of bringing considerable pressure to reduce environmental problems. The result of many national polls tracking environmental concern among the general public indicate that environmental protection remains high on the agenda of the public in many countries, despite escalating economic woes in some areas. Three separate national surveys, conducted in the US more than a decade ago by the Yankelovich Organisation, the Roper Organization and Simmons Market Research Bureau, indicate that between 25 % and 43 % of the American population constitute the “Green” segment: consumers who are concerned about the environment (Earle, 1993). Many industries, such as the chemicals industry or the oil industry, by the very nature of their products and processes, have a negative environmental image in the public. This probably explains why the most visible polluters such as the chemical industry and the oil industry are the ones that are publicly and privately paying utmost attention to the environmental impact of their operation. A negative public image can influence firms in this industry to adopt corporate environmentalism as a strategy to survive and grow in the marketplace. All the chemical corporations publicly affirm their commitment to environmental protection and have developed environmental mission statements or policy statements.

**Business-to-Business Customers Pressure:** They evaluate supplies on ISO 14000 standards, the environmental counterpart to ISO 9000, the International quality standard. Moreover, the buyer looks for suppliers who follow environmental friendly processes or Good Manufacturing Practices (GMP).

**Employees Pressure:** The interests and aspiration of the work force of trade unions represent potential pressure resulting in lies a strong interest in the environmental performance and

health and safety aspects of the plant.

Other stakeholders include environmentalist, academicians, scientific community, media, retailers, local government, suppliers and buyers. The attitude and behaviour of the corporate stakeholders suggest that those companies which can establish themselves with a green image will have the following distinct advantages in the marketplace: Positive company image; increased sales and market share; improved employee moral and productivity; access to superior talent and enhanced competitive advantage.

One of the significant references relevant to review of literature is that of Hentze (1991) who writes that, the decade of the nineties, like the sixties, appears to be an era in which social and cultural concerns were becoming increasingly paramount. As the “me” attitude of the 1980s becomes less prevalent, it is becoming apparent that consumers are looking at far more than a company’s product offerings. These more sophisticated consumers are also concerned with a holistic view of corporate image, particularly with regard to social concern and responsibility, and are “... Changing their purchasing patterns in accordance to their more socially responsible beliefs”

The adoption of a green marketing orientation by a firm is principally a response to the increased pressures by society for business to meet its comprehensive ethical and moral responsibilities, while adhering to the marketing concept’s basic tenants as suggested by McCarthy and Perreault (1984) of meeting customer needs at a profit. In addition, an eco-marketing orientation may provide the organization with a strategic competitive advantage in both domestic and international markets. Crosby, Gill, and Taylor (1981) segmented U.S. consumers by their utilizing consumers’ self-designated “greenness” to segment consumer markets (Schwartz and Miller, 1991).

The “green” consumer point of view cannot be ignored. In a survey conducted in the United States of 400 Midwestern consumers, 36 percent of the respondents were found to be “very likely” to change from one food brand to another competitive label which used a recycled carton; only 2.8 percent stated that they would be “some what unlikely” to make brand changes because of recycled packaging (Eisenhart, 1990). In many cases, mandatory environmental legislation is also forcing behavioral changes in consumers. Business may adopt an eco-marketing orientation as a strategic response to the dynamic environments of the nineties (Clarke, Geri, 2004).

In the developed countries, the surge of environmental consciousness that followed Earth Day in 1990 washed over the marketplace rapidly. In poll after poll, consumers claim they are willing to change their buying habits – and even pay more for products – to protect the environment (Pearce, 1990; Consumer Reports, 1991; Berger and Corbin, 1992; Coddington, 1993; Davis, 1993; McDougall, 1993; Ottoman, 1993). Manufacturers got the message that the Marketing Intelligence Service (Consumer Reports, 1991), which tracks new product introductions, reports that the percentage of new packaged products making some kind of green claim more than doubled between 1989 and 1990, rising from 4.5% to 11.4% of the total. During the same year, the number of green advertisements appearing on television and in major print outlets more than quadrupled, according to an audit by the advertising agency J. Walter Thompson (Consumer Reports, 1991).

Suddenly, consumer-product companies are being confronted with millions of newly aroused consumer consciences. Marketers discovered that catering to environmental worries might be the hottest sales strategy since advertising agencies discovered in the 1950s that sex sells. Between 1989 and 1990, industries were hastily setting up various “institutes” and “councils” to establish the green credentials of their products or materials. Unfortunately, *The Economist* (1990) affirms that exaggerated claims of greenery on product packaging and in advertisements may be making shoppers cynical. Some marketers have also used the opportunity to charge higher prices, implying better quality. Some have gone further and engaged in “green washing”. This is where managers of so-called green companies only pay lip service to green issues without actually practicing them. Consequently, green marketing suffered a backlash because of its failure to achieve its promises (Crane, Andrew 2000).

The basic ideas behind environmentalism dictate that corporations have responsibilities that go beyond the production of goods and services. These responsibilities involve helping to solve important social problems, especially those they have helped create (Buchholz 1991; Porter & Van der Linde 1995; Peattie, 1995). Corporations such as McDonald’s, Wal-Mart, Procter & Gamble, and Du Pont acknowledge that the environment must be protected and enhanced for economic growth to take place, and have taken action towards that goal. McDonald’s has made a \$100 million commitment to its consumers for recycling purposes. Wall-Mart encourages the purchase of environmentally friendly products and reports that the green labeling program that they initiated in 1989 contributed to an overall 25% increase in sales for the year. Procter & Gamble has pledged to spend \$20 million per year to develop a composting infrastructure. (Lodge and Rayport, 1991).

Yet, note that the Procter & Gamble example is quite telling. To a large extent, the company has been under fire by environmentalists mostly for its disposable diapers and its detergents. As a response, Procter & Gamble has implemented a strategy that takes the concepts of recycling and reusing to heart, particularly regarding packaging. Still, they have discovered that the synergistic relationship between issues and trends can yield criticism and consumer resistance. Even though their formula for Cheer laundry detergent (or Ariel outside of the U.S.) has been changed to minimize the amount of phosphates in the product, the company is still being strongly criticized for its overt reliance on animal testing.

In spite of some setbacks, green marketing efforts on the part of corporate America continue to grow. As a result of the re-greening of society, environmentalism has slowly become a buzz word for corporate policies of the 1990s. Within the context of corporate activities, environmentalism is interpreted as a higher level of corporate consciousness geared toward the protection, preservation, and conservation of the physical environment.

The intention behind the introduction of eco-labels and organic food labels is to make it possible for the consumers to distinguish products less harmful to the environment from other products. Furthermore, consumer’s preference for eco-labeled products could give producers of relatively environmentally friendly products a competitive advantage, allowing them to gradually push less environmentally friendly products out of the market. Such a competitive advantage could give companies an incentive to develop new, and more environmentally benign, products (Thøgersen, 2002).

Results from a number of studies suggest that two of the major reasons why consumers choose eco-labelled food products are consideration for the environment and/ or for their own health (Davis, Titterington, & Cochrane, 1995; Fotopoulos & Krystallis, 2002; Harper & Makatouni, 2002, Chinnici, D'Amico, & Pecorino, 2002).

It is a fact that most studies on green consumers and green marketing have been carried out in developed countries and only a few of them originate from developing countries. Such studies are conspicuously lacking in the Indian context. It is against this backdrop that a survey of Indian Consumers was carried out to know their attitude towards green marketing.

## **Methodology**

Researchers have used exploratory research design in the study. A structured questionnaire is used, and a five point balanced Likert Scale is used for measuring consumer attitude towards green marketing and green brands. Cronbach Alpha Index is used for checking the validity and reliability of hypothesis and corresponding questions in the questionnaire. It is found that all the below mentioned four hypothesis are reliable on the basis of their respective cronbach alpha value and internal consistency of data is very high as Cronbach alpha value for all the hypothesis is on the upper side.

Following hypothesis were formulated to articulate the objectives of the present research:

1. Now a day's consumer preference has shifted from non-green products to green products.
2. Consumer awareness for environmental concern is high.
3. In future more and more consumers will prefer green products.
4. Companies, which can establish themselves with a green image, will have distinctive advantages in the marketplace.

Primary data is collected from 400 consumers by using the personal survey method. Out of which 321 responses are found valid for the study. Non probability approach of sampling is adopted by the researchers, and Judgment and convenience sampling methods are used for selecting the subjects to ensure that subjects are from metro, city and town representing both the genders, different age groups, education level, marital status and monthly income. To maintain heterogeneity in sample and to cover the whole country survey is done in the cities of Ghaziabad, Delhi, Bangalore, Chennai and Jaipur. Collected data is analyzed by using T-Test, Z – test, One Way ANOVA and Two Way ANOVA (Analysis of Variance).



## **Findings and discussions**

**Table 1 (a): General Profiles of Respondents**

<b>Characteristics</b>	<b>Numbers</b>	<b>Percentage (n = 321)</b>
<b><u>Gender</u></b>		
Male	202	62.92
Female	119	37.07
<b><u>Age</u></b>		
16 – 21 Years	39	12.14
22 – 25 Years	143	44.54
26 – 35 Years	84	26.16
36 & above	55	17.13
<b><u>Education</u></b>		
Secondary School	15	4.67
Graduate	131	40.81
Post Graduate	161	50.16
Professionals	14	4.36
<b><u>Monthly Family Income</u></b>		
No income (Std. & H. Wife)	144	44.86
1,000 – 9,999	34	10.59
10,000 – 19,999	63	19.62
20,000 – 34,999	53	16.52

35,000 & above	27	8.41
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**Marital Status**

Married	123	38.31
Unmarried	198	61.68

**Location**

City	211	65.73
Town	23	7.16
Metro	87	27.10

The consumer data collected from 321 consumers has been segregated on the demographic profiles such as gender, age, education and annual income. Moreover, with respect to hypothesis 1,2,3 and 4, mean scores were found for these hypothesis and tabulated with respect to the demographic profiles as in table 1 (b) shown below:

**Table 1 (b): Demographic Profiles of Respondents with respect to hypotheses mean scores**

**GENDER (AVERAGE VALUES)**

	MALE (202)	FEMALE (119)	GRAND AVG
HYP1	3.86	4.02	3.92
HYP2	4.2	4.34	4.25
HYP3	4.16	4.2	4.18
HYP4	4.02	4.13	4.02

**AGE (AVERAGE VALUES)**

	Less than or equal to 21 (39)	22-25 (143)	26-35 (84)	36 and above (55)
HYP1	3.96	3.69	4.07	4.25
HYP2	4.42	4.08	4.32	4.46
HYP3	4.09	4.12	4.23	4.3
HYP4	4.24	3.95	4.12	4.13

**EDUCATION (AVERAGE VALUES)**

	<b>Secondary school (15)</b>	<b>Graduate (131)</b>	<b>Post Graduate (161)</b>	<b>Professionals (14)</b>
<b>HYP1</b>	4.16	3.94	3.85	4.2
<b>HYP2</b>	4.33	4.33	4.18	4.24
<b>HYP3</b>	4.32	4.17	4.15	4.32
<b>HYP4</b>	4.08	4.07	4.05	4.04

**ANNUAL INCOME (AVERAGE VALUES)**

	<b>No income (144)</b>	<b>Less than 10000 (34)</b>	<b>10000-19999 (63)</b>	<b>20000-24999(53)</b>	<b>35000 and above (27)</b>
<b>HYP1</b>	3.81	3.9	4.09	3.96	4.06
<b>HYP2</b>	4.19	4.21	4.39	4.2	4.42
<b>HYP3</b>	4.09	4.11	4.29	4.27	4.29
<b>HYP4</b>	4.03	4.04	4.08	4.12	4.08

1. Hyp. = Hypothesis
2. Numbers in parenthesis indicate the sample size.

## T-Test Applied to Hypothesis

### Hypothesis 1

**Proposition** : Now a days consumer preference have shifted from grey (non-green) products to green products.

From consumer response data, mean scores were taken and grouped into two groups. One with mean score of more than or equal to 3.5 and other with less than 3.5 for T Test

**Group Statistics**

Green Vs Non Green		N	Mean	Std. Deviation	Std. Error Mean
HYPO1	Non Green (NG)	75	2.8791	0.53498	0.06177
	Green (G)	246	4.2434	0.44397	0.02831

The above table shows that out of 321 consumers; 246 respondents mean score is 4.24 on a scale of 5 (likert scale), which signifies that 76.63% of the consumer have preference for green products.

**Independent Samples Test**

HYPO1	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	99% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	1.496	0.222	-22.165	319	0.000	-1.36435	0.06156	-1.52386	-1.20484
Equal variances not assumed			-20.078	106.915	0.000	-1.36435	0.06795	-1.54256	-1.18614

Null hypothesis  $H_0 : X_g = X_{ng}$

Altherrnate hypothesis  $H_1 : X_g \neq X_{ng}$

**Decision** : Null hypothesis is rejected and alternate hypothesis is accepted.

**Conclusion**: From the consumer response data 76.63% of the respondents had given 4.24 mean score out of 5 which clearly indicates that consumer preference have shifted from grey (non-green products) to green products.

## Hypothesis 2

**Proposition** : Consumer awareness for environment protection is high.

From consumer response data, mean scores were taken and grouped into two groups. One with mean score of more than or equal to 3.5 and other with less than 3.5 for T Test

**Group Statistics**

Awareness for environment	N	Mean	Std. Deviation	Std. Error Mean
Low Awareness (LA)	32	3.0313	0.47140	0.08333
High Awareness (HA)	289	4.3903	0.44866	0.02639

The above table shows that out of 321 consumers; 289 respondents mean score is 4.39 on a scale of 5 (likert scale), which clearly signifies that 90% of the consumers awareness for environment protection is high.

**Independent Samples Test**

Hyp 2	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Equal variances assumed	1.365	0.244	-16.178	319	0.000	-1.35906	0.08401	-1.52434	-1.19378
Equal variances not assumed			-15.548	37.490	0.000	-1.35906	0.08741	-1.53610	-1.18203

Null hypothesis  $H_0 : X_{HA} = X_{LA}$

Alternate hypothesis  $H_1 : X_{HA} \neq X_{LA}$

**Decision** : Null hypothesis is rejected and alternate hypothesis is accepted.

**Conclusion**: The consumer awareness for environment protection is high as 90% of the respondents gave positive response with a mean score of 4.39 on a scale of 5 (likert scale).

### Hypothesis 3

**Proposition** : In future more and more consumers will prefer green products.

From consumer response data, mean scores were taken and grouped into two groups. One with mean score of more than or equal to 3.5 and other with less than 3.5 for t-test.

FUTURE PREFERENCE	N	Mean	Std. Deviation	Std. Error Mean
Prefer Non Green (NG)	30	3.2267	0.30050	0.05486
Prefer Green (PG)	291	4.2784	0.38333	0.02247

The above table shows that out of 321 consumers response; 291 respondents mean score is 4.27 on a scale of 5 (likert scale); which clearly indicates that even consumers think that - in future more and more consumers prefer green products.

#### Independent Samples Test

Hyp3	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	99% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	3.110	0.079	-14.565	319	0.000	-1.05168	0.07221	-1.23879	-0.86457
Equal variances not assumed			-17.739	39.435	0.000	-1.05168	0.05929	-1.21214	-0.89123

Null hypothesis  $H_0 : X_{PG} = X_{NG}$

Alternate hypothesis  $H_1 : X_{PG} \neq X_{NG}$

**Decision** : Null hypothesis is rejected and alternate hypothesis is accepted.

**Conclusion**: In future more and more consumers will prefer green products since 90% of the respondents gave a positive response with a mena score of 4.27 out of 5.

**Hypothesis 4**

**Proposition :** Companies which can establish themselves with green image will have distinctive advantage in the market place

From consumer response data, mean scores were taken and grouped into two groups. One with mean score of more than or equal to 3.5 and other with less than 3.5 for t-test

**Group Statistics**

COMPANIES IMAGE	N	Mean	Std. Deviation	Std. Error Mean
Non Green Image (NG)	59	3.0949	0.44776	0.05829
Green Image (GI)	260	4.2838	0.43216	0.02680

The above table shows that out of 321 respondents ; 260 respondents mean score is 4.28 on a scale of 5 (likert scale); which clearly indicates that even consumers feels that - *Companies which can establish themselves with a green image will have distinctive advatage in the market place.*

**Independent Samples Test**

Hyp 4	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	99% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	0.878	0.349	-18.951	317	0.000	-1.18893	0.06274	-1.35151	-1.02635
Equal variances not assumed			-18.531	84.269	0.000	-1.18893	0.06416	-1.35802	-1.01984

Null hypothesis  $H_0 : X_{NG} = X_{GI}$

Altharnate hypothesis  $H_1 : X_{NG} \neq X_{GI}$

**Decision :** Null hypothesis is rejected and alternate hypothesis is accepted.

**Conclusion:** 81% of the consumers agree that companies which can establish themselves with green image will have distinctive advantage in the market place.

## SINGLE WAY ANOVA APPLIED FOR CONSUMERS

### "To study the attitude of Indian consumer towards Green Marketing"

Here, Single -Way ANOVA was applied for hypothesis 1, 2, 3 and 4 simultaneously for consumer response towards green marketing.

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
H <sub>1</sub>	321.00	1259.67	3.92	0.55
H <sub>2</sub>	321.00	1365.80	4.25	0.37
H <sub>3</sub>	321.00	1341.80	4.18	0.24
H <sub>4</sub>	321.00	1305.40	4.07	0.40

**GRAND AVERAGE                      4.106**

**The Grand average score of 4.106 on a five point scale shows that CONSUMERS have a STRONG positive attitude towards GREEN marketing.**

H<sub>1</sub> = mean rating of hypothesis 1 for consumers

H<sub>2</sub> = mean rating of hypothesis 2 for consumers

H<sub>3</sub> = mean rating of hypothesis 3 for consumers

H<sub>4</sub> = mean rating of hypothesis 4 for consumers

#### Single - Way - ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	19.98	3.00	6.66	17.06	0.00	2.61
Within Groups	499.62	1280.00	0.39			
Total	519.60	1283.00				

Null hypothesis      H<sub>0</sub>: H<sub>1</sub>=H<sub>2</sub>=H<sub>3</sub>=H<sub>4</sub>

Alternate hypothesis H<sub>1</sub> = Atleast one H's is different from one or more of the other.

**If F Critical > F calculated, then Accept Null Hypothesis**

**Decision      : Reject NULL HYPOTHESIS**

**Conclusion   : There is a significant difference between the mean ratings between the the average scores of all the four hypothesis. But the overall mean rating is 4.106 on a five point scale shows that consumers have a strong positive attitude towards green marketing.**



## Major Findings

1. The research findings show that consumers have a strong positive attitude towards Green Marketing.
2. These days consumers are more aware of environmental issues.
3. Consumers agree to that: *"In future more and more consumers will prefer green products."*
4. Consumers agree to that: *"Companies which can establish themselves with green image will have distinctive advantage in the market place."*

## Limitations

Due to the constraint of time; only 321 consumers, data were collected to know their attitude towards green marketing. This data may not be the true representative of Indian consumer on all India basis. Since the sampling method adopted is judgmental; there might be some error in this method. Since the finding is qualitative in value and not quantitative in nature, there may be some short comings. Rural population data were not taken, due to constraint of time and resources. Further, from the study of literature survey it was found that consumer living in urban areas are more environmentally concerned in comparison to the rural consumers ( Durand and Sharma,1982; Antil,1984; Samdahl and Robertson,1989; Schwartz and Miller,1991).Therefore, researchers have not taken into consideration the rural population for data collection. There is not much research work done in this field or similar field in India. Hence, it was not possible to find literature in Indian context.

## Direction for future research

An in-depth study of rural Indian Consumers with regard to Green Marketing will help us to know their attitude.

Intensive research can be done on Indian Automobile Industry with respect to green marketing issues.

Research should be done on Indian Power Sector with respect to GREEN POWER.

Research can be done on Indian Housing Sector with reference to GREEN HOUSES or GREEN BUILDINGS.

Research should be done on Indian Tourism Industry with respect to GREEN TOURISIM.

Research can be undertaken in financial sector with GREEN INVESTMENT versus

Non Green Investment /Traditional Investment.

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