

## Going Green – An Exploratory Study on Adoption of Environment Friendly Products

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### Abstract

The use of natural resources and non-biodegradable substances is leading us to the brink of extinction throughout the last century and continuing in the current one. It is high time that everyone awake to this disaster. This research paper studies about the adoption of environment friendly by consumers in their lifestyle. Adequate literature was reviewed and five factors were identified as 'environment knowledge', 'attitude towards environment', 'conservation behavior', 'barriers to the adoption of green lifestyle' and 'purchase intention towards green products'. A sample of 1200 was selected randomly from the State of Gujarat, India. Data was collected through an online questionnaire. Three hypotheses were tested by applying appropriate statistical tests like ANOVA, Chi Square, T-Test, etc. By testing the first hypothesis, it was found that there was lack of relationship between consumers' attitude towards environment conservation and purchase intention for green products. Through the second hypothesis it was established that there was lack of awareness about conservation of environment in Gujarat. Finally, the third hypothesis suggested that environmental concern was same across all age groups as well as all educational levels of respondents in Gujarat.

Key Words: green marketing, energy conservation, attitude, purchase intention, knowledge.

### INTRODUCTION

The concept of Green Marketing came up in the year 1975 when the American Marketing Association held the first workshop on "Ecological Marketing". However, the concept of Green Marketing was defined in the 1980s and started gaining importance since 1990s.

American Marketing Association defines Green Marketing as –

- Retailing Definition - The marketing of products that are presumed to be environmentally safe.
- SocialMarketing Definition - The development and marketing of products designed to minimize negative effects on the physical environment or to improve its quality.
- Environments Definition - The efforts by organizations to produce, promote, package, and reclaim products in a manner that is sensitive or responsive to ecological concerns.<sup>1</sup>

In other words, Green Marketing comprises the marketing and selling process of eco-friendly products or products which are environmentally safe or adopting an eco-friendly

<sup>1</sup> <https://www.ama.org/resources/pages/dictionary.aspx?dLetter=G>

marketing process. This research paper focusses on the study of consumers' adoption of Green Products and the factors that affecting their adoption in Gujarat, India.

## LITERATURE REVIEW

The concept of Green Marketing is a relatively new concept. Some of the contributions to this field of research are presented here.

SeemaBhate and Kevin Lawler (1998) observed that the psychological and situational variables are important as far as environment friendly behaviour of consumers is concerned. It was also found that environment friendly behaviour correlates significantly with innovativeness. Involvement scores have been very low and are not statistically significant with any of the variables studied indicating that consumers are not yet involved enough in these issues. The research also pointed that consumers are willing to pay a more for environment friendly products but are not ready to go out of their way to look for such products. They rate availability of these products higher than price. Thus, if environment friendly products are easily available in the market, consumers have no complaints in paying higher price.<sup>2</sup>

In a research carried out by Sanjay Jain and Gurmeet Kaur (2004), it was found that respondents had belief in the sudden rise of environmental issues and are willing to take steps to amend the problems. According to the research, respondents felt that people can contribute to a little extent without the support of Government agencies and legal framework. The research found that people believed that there is lack of knowledge about legislations and consumer education on various environmental issues.<sup>3</sup>

Ottman, Jacquelyn A et al., (2006), believed that Green Marketing should be able to fulfill two objectives-improved environmental quality and customer satisfaction. The terms "green product" and "environmental product" are used commonly to describe those that strive to protect or enhance the natural environment by conserving energy and/or resources and reducing or eliminating use of toxic agents, pollution, and waste (Paul Hawken, Amory Lovins, and L. Hunter Lovins)<sup>4</sup>.

Jaime Rivera-Camino (2007) examined the influence of stakeholders on green marketing strategy (GMS). Research shows that stakeholders play an important role in influencing organizations and markets, but has not used an integrated approach to determine the relationship between stakeholder management and GMS. The study identified the stakeholders associated with GMS and their impact on the strategy adopted by the firms,

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<sup>2</sup>BhateSeema, Lawler Kevin, (1998), Environmentally Friendly Products: Factors that influence their adoption, *Technovation*, Volume 17, Issue 8, pp. 457-465.

<sup>3</sup> Sanjay K. jain&Gurmeetkaur (2004), Green Marketing: An Attitudinal and Behavioural Analysis of Indian Consumers, *Global Business Review*, Vol.5 no. 2 187-205.

<sup>4</sup>Ottman, Jacquelyn A., Edwin R. Stafford, and Cathy L. Hartman (2006), "Avoiding Green Marketing Myopia: Ways to Improve Consumer Appeal for Environmentally Preferable Products," *Environment*, 48 (June), 22-36

and established how this was moderated by the firm's own economic sector and organizational characteristics.<sup>5</sup>

Mahama Braimah and Ernest Yaw Tweneboah-Koduah (2011) studied Ghanaian consumers' awareness of green marketing issues and whether it impacted their purchase decisions. 200 respondents were interviewed from four satellite markets within Accra. The findings suggested Ghanaian consumers had a low level of awareness of green marketing issues. Price was ranked more important than green concerns as influencing purchase decisions. It was established that younger consumers are more likely to be influenced by green issues. Ghanaian consumers' awareness of green issues can be enhanced if green brands producers and campaigners develop strategic promotional activities.<sup>6</sup>

Dr. Ketaki Sheth and Dr. Pinakin Sheth (2012) opined in their research that there is growing interest about environment protection among consumers in the entire world. Research indicates people are concerned about the environment and as a result, are changing their buying behavior. As a result of this, green marketing has emerged which speaks for growing market for sustainable and socially responsible products and services.<sup>7</sup>

Dr. V. Mohanasundaram (2012) observed that environmental problems in India are growing very fast. Economic development, rapid population and industrial growth in India is straining the environment, infrastructure and the country's natural resources. So it's the right time to implement the Green Marketing in India. He suggested that Green Marketing makes far-reaching change in the business not only in India but has the potential to save the world from pollution. Corporates should create awareness among the consumers. Consumers should be educated about the benefits of green products as compared to non-green ones. Green marketing is more important and relevant in developing countries like India.<sup>8</sup>

R. Vandhana et al. (2013) focused on the concept, need, importance & strategy of green marketing in India. The researchers deliberated the present scenario of green marketing and reasons for organizations to adopt green marketing as a tool for sustainable development. Research was carried out to find whether the manufacturers are conscious about green products and eco-labeling, and also the difficulties in implementing green marketing. The research claimed that demand for green products undoubtedly exists and Green Marketing provides an opportunity to the companies to increase their market-share by introducing eco-friendly products. Stricter environmental regulations across the world,

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<sup>5</sup> Jaime Rivera-Camino, (2007) "Re-evaluating green marketing strategy: a stakeholder perspective", European Journal of Marketing, Vol. 41 Iss: 11/12, pp.1328 – 1358

<sup>6</sup> Mahama Braimah, Ernest Yaw Tweneboah-Koduah, (2011) "An Exploratory Study of the Impact of Green Brand Awareness on Consumer Purchase Decisions in Ghana" Vol. 5, Iss. 7, pp. 11 – 18

<sup>7</sup> Sheth Ketaki, Sheth Pinakin, (2012), Role of Green Marketing in Current Scenario, *Arth Prabhand: A Journal of Economics and Management*, Vol.1, Issue 3, pp.22-27.

<sup>8</sup> V. Mohanasundaram, (2012), Green Marketing – Challenges and Opportunities, *International Journal of Multidisciplinary Research*, Vol.2(4), pp.66-73

growing consumer preference for eco-friendly companies, and the inherent cost advantages in lowering toxic waste, are encouraging industries big and small to clean up. Researchers found that, consumers are not too committed in improving their environment and may be looking to lay higher responsibility on industry and government.<sup>9</sup>

Gupta Sangeeta et al. (2014) found that Green marketing should not neglect the economic aspect of marketing. There is a need to change perception about the consumers that they are generally not willing to pay premium price for eco-friendly products. The research concluded that Green marketing is still in its initial phase and a lot of research is to be done to fully explore its potential. It was observed that consumers have shown consciousness about the concept of green marketing and companies going green. Also, consumers are aware that the productivity of companies can be significantly improved through enriched processes. People are aware of green environment. From the results of data analysis it was found that the pressure of government plays an important role in green marketing. It is believed that all are equally responsible for green marketing.<sup>10</sup>

## RESEARCH METHODOLOGY

This exploratory and descriptive research was carried out by collecting data from major cities in Gujarat State of India. For this purpose, a questionnaire was designed and sent online to respondents across Gujarat. A total of 1200 responses were received which were analysed with the help of SPSS. The questionnaire was divided into five parts. Except the first part which was about the demographic information, remaining four parts were on a five point likert scale and were designed to gather information on factors that lead to adoption of green products. The factors were; respondents' knowledge about environment, purchase intention for environment friendly products, conservation behavior and barriers in adoption of a green lifestyle. In this research the term 'eco-friendly products' and 'green products' has been used as carrying same meaning.

## RESEARCH OBJECTIVES

The research was carried out with following objectives-

- To study and analyse environment knowledge of respondents in Gujarat.
- To study respondents' attitude towards environment in Gujarat.
- To study purchasing intention towards green products in Gujarat.
- To study conservation behavior for renewable energy sources in Gujarat.
- To study and assess the awareness regarding green products in Gujarat.

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<sup>9</sup>Vandhana R., Karpagavalli G., Dr. A. Ravi, (2013), Green Marketing – A Tool for Sustainable Development, *Global Research Analysis International*, Vol. 2 (12), page 133-135.

<sup>10</sup> Gupta Sangeeta, Shallu, Kapoor Mansi, (2014), A Study of Consumer Attitude and Awareness towards Green Marketing and Green Branding, *Indian Journal of Applied Research*, Vol. 4(1), Page 315-319

## HYPOTHESES

H1: There is no relationship between consumers' attitude and purchase intention for green products in Gujarat.

H2: There is lack of awareness about conservation of environment in Gujarat.

H3: Environmental concern varies with age and education of consumers in Gujarat.

## DATA ANALYSIS

For the purpose of establishing reliability of the data collected, Cronbach's Alpha was calculated which was found to be 0.781. A value of above 0.70 is considered as reliable. This meant that the data was found to be reliable and fit for further in depth analysis. Table No.1 highlights the demographic characteristics of respondents whose opinions were collected during this research. These characteristics were considered as independent variables and factors that lead to adoption of environment friendly products were considered to be dependent variables.

### 1. Table Showing Demographic Characteristics of Respondents in Gujarat

Factor		N	N%	Factor		N	N%
Age	10-20	86	7.17	Occupation	Student	174	14.50
	21-30	276	23.00		Housewife	178	14.83
	31-40	329	27.42		Business	254	21.17
	41-50	311	25.92		Service	432	36.00
	Above 50	198	16.50		Profession	162	13.50
<b>Total</b>		1200	100.00	<b>Total</b>		1200	100.00
Education	Undergraduate	342	28.50	Gender	Male	789	65.75
	Graduate	234	19.50		Female	411	34.25
	Post Graduate	411	34.25	<b>Total</b>		1200	100.00
	Professional	213	17.75				
<b>Total</b>		1200	100.00				

In order to study the consumer adoption of green products in Gujarat, five factors were identified and relevant data was collected. The following Table No.2 shows the results obtained for these factors-

### 2. Table Showing Factors Affecting Adoption of Green Products in Gujarat, India

Factor	Mean	S.D.	T Value	Sig.	Chi Square	Sig.
Environment Knowledge	2.91	1.11	20.382	0.000	33.375	0.015
Attitude towards Environment	3.08	0.94	25.779	0.000	30.219	0.007
Conservation Behaviour	2.75	0.94	22.833	0.000	31.594	0.025

(Awareness)						
Barriers to Green Lifestyle	2.68	1.02	20.948	0.000	27.875	0.003
Purchase Intention	2.15	0.93	18.395	0.000	29.938	0.027
Overall Environment Conservation	2.74	0.53	23.574	0.042	26.472	0.038

(S.D. = Standard Deviation, Sig.= Significance Value at 5%)

It is clear from the above Table that mean values for all the factors affecting the adoption of green products are on the lower side. On a five point scale where five was the most favourable option, all the values range between 2.15 to 3.08. From the results obtained, it can be said that respondents' attitude towards conservation of environment is positive and has the highest value among all variables. However, purchase intention has the least mean value suggesting that even though people have a favourable attitude towards conservation of environment in Gujarat, it is not getting translated into actual purchase of eco-friendly products. Overall environment concern was also found to be moderate (Mean = 2.74) as is clear from the table. The table also shows that the data was highly significant in terms of t-values and chi square values.

**H1: There is no relationship between consumers' attitude and purchase intention for green products in Gujarat.**

### 3. Table Showing Relationship between Purchase Intention for Green Products and Attitude towards Environment Conservation in Gujarat

	Sum of Squares	Mean Square	F Value	Sig.	Correlation (r)	Sig.
Attitude towards Environment Conservation	18.375	1.081	1.271	0.253	0.27	0.23

(Sig.= Significance Value at 5%)

As mentioned earlier, the mean value of 'purchase intention' was lowest (2.15) and that of 'attitude towards environment' was highest (3.08). Thus, there was positive attitude towards conservation of environment but the same did not result in purchase intention for green products. This was further established through ANOVA as shown in Table No.3 which shows a very low F-value (1.271, p=0.253). Also, correlation values (0.27, p=0.23) also are low which again indicates that there is lack of relation between the two variables. Thus, the null hypothesis is accepted.

**H2: There is lack of awareness about conservation of environment in Gujarat.**

From the responses and the resultant analysis, it was observed that mean value for the factor 'conservation awareness' was found to be average (Mean = 2.75). In other words, awareness about conservation of environment is to be increased in Gujarat.

#### 4. Table Showing Awareness about Conservation of Environment in Gujarat

Demographic Factors	Sum of Squares	Mean Square	F Value	Sig.	Correlation (r)	Sig.
Education of Respondents	5.231	1.744	6.079	0.001	0.24	0.04
Income of Respondents	1.452	0.207	0.568	0.779	0.07	0.55
Age of Respondents	3.976	0.994	3.204	0.018	0.38	0.01
Gender of Respondents	0.775	0.775	2.260	0.137	0.11	0.35
Occupation of Respondents	2.364	0.591	1.766	0.146	0.07	0.52

Table No.4 compares environment conservation awareness of respondents with respect to their demographic characteristics through ANOVA. It shows that respondents with different educational levels and different age groups showed significant results. However, the value of correlation is low (0.24,  $p=0.04$ ) and moderate (0.38,  $p=0.01$ ) for education and age respectively. The correlation levels for other demographic characteristics was found to be very low and insignificant. Thus, based on the data analysis, it can be said that the hypothesis H2 that there is lack of awareness about conservation of environment in Gujaratis accepted. Hence, it can be said that as age and educational levels of individuals increase, there is increase in awareness about environment conservation in Gujarat.

**H3: Environmental concern varies with age and education of consumers in Gujarat.**

#### 5. Table Showing Environmental Concern of Respondents in Gujarat

	Sum of Squares	Mean Square	F Value	Sig.	Correlation (r)	Sig.
Education of Respondents	2.042	0.681	2.567	0.062	0.116	0.332
Age of Respondents	0.421	0.105	0.359	0.837	0.033	0.784

In order to check environmental concern of respondents, all the factors affecting adoption of green products were taken together and ANOVA and correlation was calculated which is shown in the above Table No.5. It is clear from the results obtained that environmental concern across all age groups and all educational levels was found to be insignificant. Also a mean value of 2.74 suggests moderate level of concern amongst respondents. Hence, it can be said from the data collected and analysis done on it that environmental

concern does not vary with age or education but remains unchanged across all respondents in Gujarat.

To further study the data it was found out that the opinion of respondents for some of the basic aspects about environment conservation were not favourable which is clear from Table No.6

#### 6. Table Showing Opinion of Respondents in Gujarat about Aspects of Eco-Friendly Products

Fact	Mean	s.d.	Chi Square	Sig.
Green Products are expensive	3.28	0.47	33.437	0.00
Buy products that contribute money for environment protection	2.37	0.53	52.028	0.00
knowledge about environmental certifications	2.28	0.62	83.296	0.00

People believe that eco-friendly or green products are expensive to purchase (Mean = 3.28). Also, it is also noteworthy that people do not like to contribute money for environment protection (Mean = 2.37) and also lack the knowledge about various environmental certifications (Mean = 2.28).

#### FINDINGS

The major findings of this research are as under-

- There is moderate level of knowledge about environment conservation in Gujarat (Mean=2.91).
- However, consumers' attitude towards environment conservation is favourable (Mean=3.08) and they like to contribute towards environment conservation.
- There is moderate level of concern for conservation of environment in Gujarat (Mean=2.74).
- 73.4% believed that individuals can contribute to improve environment.
- 82.6% people felt that Government and 94.27% believed that corporates can do a lot to protect the environment by implementing green technologies.
- 62% people believed that plastic is an integral part of their lifestyle.
- 88.7% respondents were aware about conservation of energy, water and other natural resources.
- 63% were aware about recycling of bottles, can and other materials.
- 61.7% respondents believed that excessive packaging should be avoided.
- 67% respondents felt that lower wattage electrical equipment like light bulbs should be used.
- 63.4% respondents said that there are obstacles faced by them in adopting a green lifestyle.

- 62.4% respondents said that they had no information about availability of green products.
- 78.9% respondents said that green products are expensive.

## CONCLUSION

From the data collected and resultant analysis, it can be concluded that there is lack of awareness in the people of Gujarat for environment conservation. However, educated people were found to be more environment conscious. Also, Government and Corporates have to put their best step forward to conserve the natural resources and stop the erosion of nature.

## LIMITATIONS OF THE STUDY

This study was limited to Gujarat only. Also, only those respondents who had access to internet could be connected for collecting data. Because of shortage of resources a sample size of 1200 only could be selected. Due to lack of time and resources, the analysis was superficial in nature. Further in depth analysis of each of the factors affecting to the adoption of green products could be carried out.

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