A STUDY ON EFFECTIVENESS OF GREEN PRODUCTS IN VELLORE CITY

Ms. S. Shrilatha*   Ms. P. Subha Devi**
*Assistant Professor in Commerce (Shift –II),Auxilium College,Gandhi Nagar, Vellore, TN,India.
**Student, Auxilium College, Gandhi Nagar, Vellore, TN, India.

Abstract
In present scenario the consumers are concerned with safe environments. Hence, the marketers are focusing on green marketing by encouraging the green products. This study is intended to create awareness regarding pollution, ozone layer, global warming and non- biodegradable solid waste. It also encourages the consumer for alternate solutions like go green, solar energy, e-billing, paper bags, battery cars, organic food and Eco friendly products. The main purpose of the study is to analyze the preference of green products and factors influencing towards purchase of green products. The researcher collected 50 samples from Vellore City in order to analyze the effectiveness of green marketing reference to green products. It also provides a few suggestions in order to increase the awareness regarding green products.

Keywords: Green Products, Green Marketing, Pollution, Global Warming.

1.1 INTRODUCTION
Green marketing refers to selling product or rendering services based on environmental benefit. There have been little analysis of the impact of this new market for the consumers and the environment so far. Green marketing affects all areas of our economy, it does not just lead to environmental protection, but it also creates new market and job opportunities. Many governments around the world have become so concerned about green marketing activities that they have attempted to regulate them. Thus "Green Marketing" refers to holistic marketing concept wherein the production, marketing consumption a disposal of products and services happen in a manner that is less detrimental to the environment with growing awareness about the implications of global warming, non-biodegradable solid waste, harmful impact of pollutants etc. Both marketers and consumers are becoming increasingly sensitive to the need to switch into green products and services. While the shift to "green" may appear to be expensive in the short term, it will definitely prove to be indispensable and advantageous, cost-wise too, in the long run.

1.2 MEANING AND DEFINITION
Pride and Ferrell define Green Marketing, also, alternatively, known as environmental marketing and sustainable marketing refers to an organization's efforts at designing, promoting, pricing, and distributing products that will not harm the environment.

A majority of people believe that green marketing refers solely to the promotion or advertising of products with environmental characteristics. Terms like Phosphate Free, Recyclable, Refillable, Ozone Friendly, and Environmentally Friendly are some of the things consumers most often associate with green marketing. While these terms are green marketing claims, in general green marketing is a much broader concept, one that can be applied to consumer goods, industrial goods and even services.

Green Products can be defined in following words:
- Products those are originally grown
- Those products are recyclable, reusable and biodegradable
- Products with natural ingredients
- Products containing recycled content and non-toxic chemical
- Products contents under approved chemical
- Products that do not harm or pollute the environment
- Products that will not be tested on animals
- Products that have eco-friendly packaging i.e. reusable, refillable containers etc.
- Locally produced
- Third party certified for public or transport standard (e.g., organic, certified wood)

1.3 IMPORTANCE OF THE STUDY
The products those are manufactured through green technology and that caused no environmental hazards are called Green Products. Promotion of green technology and green products is necessary for conservation of natural resources and

sustainable development. Organic food, beverages and supplements, for example, delivered revenues of US$51 billion in 2008 and are expected to grow by 12.8 per cent annually until 2015, reaching nearly US$105 billion in the year 2012. In Asia, this growth is projected to reach an even higher rate of 20.6 per cent. Many companies started implementing green technology and green products. This study is an attempt to analyze the factors leading to purchase green products, preference of green products and finally problems in implementing the green products. Thus, green products and green marketing are essential for the following reasons:

- To enhance the business opportunity.
- To create environmentally conscious business and environmentally conscious consumers.
- To expand the supply chain management.
- To accept paying higher prices for products that actually integrate the environmental impacts.
- To increase the transparency of business in terms of production policies and information about manufacturers.

1.4 COMPANIES INVOLVED IN GREEN MARKETING

1. **Tata Metaliks Limited (TML):** Every day is Environment Day at TML, one of the **top green firms in India**. A practical example that made everyone sit up and take notice is the company's policy to discourage working on Saturdays at the corporate office. Lights are also switched off during the day with the entire office depending on sunlight.

2. **State Bank of India: Green IT@SBI** SBI entered into green service known as "**Green Channel Counter**". SBI is providing many services like paperless banking, no deposit slip, no withdrawal form, no checks, no money transactions form all these transactions are done through SBI shopping & ATM cards. State Bank of India turns to wind energy to reduce emissions.

3. **HCL Technologies**
   This IT major may be considered as the icon of **Indian green initiatives**, thanks to the "go green" steps taken in solving the problem of toxics and e-waste in the electronics industry. HCL is committed to phasing out the hazardous vinyl plastic and Brominated Flame Retardants from its products and has called for a Restriction on Hazardous Substances (RoHS) legislation in India.

4. **Oil and Natural Gas Company (ONGC)** India's largest oil producer, ONGC, is all set to lead the list of **top 10 green Indian companies** with energy-efficient, green crematoriums that will soon replace the traditional wooden pyre across the country. ONGC"s Mokshada Green Cremation initiative will save 60 to 70% of wood and a fourth of the burning time per cremation.

5. **Tata group of companies:** Tata Motors ltd. has developed their showroom by using green items and elements in its design. It shows eco-friendly atmosphere that attracts people towards itself. They are also going to launch a low cost water purifier which is made of pure and natural ingredients.

6. **Digital tickets by Indian Railways:** IRCTC has allowed its customers to carry PNR no. of their E-Tickets on their laptop and mobiles. Customers do not need to carry the printed version of their ticket anymore.

7. **IDEA Cellular** One of the best Indian companies, IDEA, paints India green with its national „Use Mobile, Save Paper" campaign. The company had organized Green Pledge campaigns at Indian cities where thousands came forward and pledged to save paper and trees. IDEA has also set up bus shelters with potted plants and tendril climbers to convey the green message.

8. **Coca-Cola's Environmental Initiative** The Coca Cola Company is one of the largest worldwide beverage retailers, manufacturers, and marketers of various non-alcoholic beverages. They maintain a large focus on the environmental impact of their products and use different methodologies and initiatives in order to reduce waste and sustain the environment.

9. **Wipro's Green Machines (In India Only)** Wipro InfoTech was India's first company to launch environmentally friendly computer peripherals. In the Indian market, Wipro has launched a new range of desktops and laptops called **Wipro Green ware**. These products are RoHS (Restriction of Hazardous Substances) compliant thus reducing e-waste in the environment.

1.5 OBJECTIVES
1. To analyze the factors influencing the consumer persuasion to buy green products.
2. To evaluate the preferences of green products.

1.6 REVIEW OF LITERATURE
Solomon et.al.,(2010), reveals that product attributes in general have little influence on the attitude and purchase intention of green products, but that could be due to the fact that some of the consumers buy green products to preserve the earth.
Dharmendra Mehta (2011), indicated that Indians are not only conscious about their environment but also health conscious as well. This paradigm shift in attitude has made Indian consumers attractive to green marketers. It has made the population more responsive and aware towards green marketing appeals.

Jacob Cherian and Jolly Jacob (2012), views that consumers are aware of   environmental issues like Acid Rain, Ozone Layer Depletion, Degradation of Land etc.,In order to overcome all these problems their consuming green products. So that the companies are also promoting green products.

Syed Ahamed.S and Ravi. A(2012),views that green products have substantial awareness. This study reveals that consumers are willing to pay more on green products. Package plays an important factor as they are recommending ecofriendly packing of products.

Parag Shil (2012), views that marketers not only convinces the consumers, but also involves the consumers in marketing the green products. Green marketing should look at minimizing environmental harm not necessarily eliminating it.

Mayank Bhatia and Amit Jain (2013), says that consumers have shown a positive attitude towards green products at the same time marketers should make the availability of green products and can create awareness about the benefits of green products as compared to that of traditional products.

1.7 DATA ANALYSIS AND INTERPRETATION
1.7.1 RESEARCH DESIGN
The researcher collected 50 samples from the consumers regarding green marketing and green products. The data are collected by adopting a convenient sampling technique and circulating the proper structured questionnaire. Further, this study made use of statistical tools like Chi square analysis, percentage analysis and ANOVA.

1.7.2 PERSONAL DETAILS
Around 32% of the respondents belongs to the age group of 20-30 years, 52% of the respondents are female. Nearly 38% of the respondents had completed UG degree. Further, 34% of the respondents occupation is own business and 30% of the respondents are earning an income level of between Rs.40,000-50,000 .

Table No. 1.7.3, Factors Influencing Towards Purchasing Of Green Products

Factors	Very High	High	Medium	Low	Very Low
Recycling of Raw materials	17	23	5	5	0
Minimum wastage	12	20	8	7	3
Reducing the pollution	14	16	12	7	1
Health conscious	18	15	7	7	3
Ozone problem	21	14	5	5	5
Avoid soil Degradation	11	19	3	11	6

Nearly 46% of the respondents are highly influenced by recycling of raw-materials and 40% of the respondents are highly influenced towards minimum wastage. It is also analyzed that 32% of the respondents are influenced in reducing the pollution.

Around 42% and 38% of the respondents are very high and highly concerned about the factors such as ozone problem and avoid soil degradation. Moreover 36% of the respondents are very highly concerned about their health conscious.

TableNo. 1.7.4, Ranking the Preference of Green Products

Products\Ranking	1	2	3	4	5
Organic food items	16	18	7	2	7
Paper bags\Cotton bags	16	14	10	5	5
Wind Energy\Solar system	8	16	12	10	4
Battery Vehicles	7	15	12	11	5
Savings tree	15	18	7	5	5

Around 36%, 30%, 36%, 32% of the respondents are given 2nd rank for the organic foods, battery vehicles, saving the trees, solar system and 32% of the respondents are given 1st rank for the paper bags.

CHISQUARE ANALYSIS

Table no. 1.7.5, The Association between the Educational Qualification and Ozone Problem

Educational Qualification	Ozone Problem					Total
	Very High	High	Medium	Low	Very Low	
SCHOOLING LEVEL	1	0	0	0	1	2
UG	8	8	0	2	1	19
PG	8	1	3	0	0	12
DIPLOMA	3	3	2	1	3	12
OTHERS	1	2	0	2	0	5
Total	21	14	5	5	5	50

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Squares	26.832[a]	16	.043
Likelihood Ratio	28.395	16	.028
Linear-by-Linear Association	1.615	1	.204
N of Valid Cases	50		
Source: Primary Data			

From the above table it is found that χ^2 = 26.8332, P = .043 is statistically significant at 5% level. Therefore, it can be concluded that there is association between Educational qualification and ozone problem. So it implies the educated people are aware of the problem of ozone issues

Table 1.7.6 Association between Educational Qualification and Health Conscious

Educational Qualification of The Respondent		Health Conscious					Total
		Very High	High	Medium	Low	Very Low	
	SCHOOLING LEVEL	0	1	0	1	0	2
	UG	9	5	2	2	1	19
	PG	5	5	0	0	2	12
	DIPLOMA	3	4	1	4	0	12
	OTHERS	1	0	4	0	0	5
Total		18	15	7	7	3	50

Source: Primary Data

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	33.697[a]	16	.006
Likelihood Ratio	30.813	16	.014
Linear-by-Linear Association	.731	1	.392
N of Valid Cases	50		

From the above table it is found that c2 = 33.697, P = .006 is statistically significant at 5% level. Therefore, it can be concluded that there is association between Educational qualification and health conscious. So it implies the educated people has got same level of awareness regarding their health.

Table1.7.7 Educational Qualification and the Minimum Wastage

Educational Qualification Of The Respondent		Minimum Wastage					Total
		Very High	High	Medium	Low	Very Low	
	SCHOOLING LEVEL	0	1	0	1	0	2
	UG	3	4	2	8	2	19
	PG	2	1	2	7	0	12
	DIPLOMA	3	1	4	4	0	12
	OTHERS	4	0	0	0	1	5
Total		**12**	**7**	**8**	**20**	**3**	**50**

Source: Primary Data

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22.385[a]	16	.131
Likelihood Ratio	23.748	16	.095
Linear-by-Linear Association	2.991	1	.084
N of Valid Cases	50		

From the above table it is found that χ^2 = 22.385, P = .131 is statistically insignificant at 5% level. Therefore, it can be concluded that there is no association between Educational qualification and minimum wastage. So it implies the educated people possess varied level of influence from minimum wastage.

Table 1.7.8, Association between Educational Qualification and Factors Influencing to Buy Green Products

Factors Influencing		Sum of Squares	df	Mean Square	F	Sig.
Raw materials	Between Groups	5.120	1	5.120	6.678	.013
	Within Groups	36.800	48	.767		
	Total	41.920	49			
minimum wastage	Between Groups	1.620	1	1.620	1.175	.284
	Within Groups	66.160	48	1.378		
	Total	67.780	49			
Reducing pollution	Between Groups	.180	1	.180	.148	.702
	Within Groups	58.320	48	1.215		
	Total	58.500	49			
health conscious	Between Groups	2.000	1	2.000	1.278	.264
	Within Groups	75.120	48	1.565		
	Total	77.120	49			

ozone problem	Between Groups	.180	1	.180	.097	.757
	Within Groups	89.200	48	1.858		
	Total	89.380	49			
avoid soil degradation	Between Groups	.720	1	.720	.381	.540
	Within Groups	90.800	48	1.892		
	Total	91.520	49			

Inference
From the above table it is found that factors influencing the recycling of raw materials (F= 6.678;P=0.13) statistically significant at 5% level. Hence, it is concluded that there is an association between the educational qualification and recycling of raw materials.

Table 1.7.9, Association between Educational Qualification and Preference of Green Products

Preference of Green Products		Sum of Squares	Df	Mean Square	F	Sig.
organic foods	Between Groups	5.082	4	1.271	.682	.608
	Within Groups	83.798	45	1.862		
	Total	88.880	49			
paper bags and cotton bags	Between Groups	16.190	4	4.047	2.695	.043
	Within Groups	67.590	45	1.502		
	Total	83.780	49			
wind energy and solar energy	Between Groups	1.090	4	.272	.178	.949
	Within Groups	68.990	45	1.533		
	Total	70.080	49			
battery vehicles	Between Groups	3.041	4	.760	.491	.742
	Within Groups	69.679	45	1.548		
	Total	72.720	49			
saves tree	Between Groups	8.908	4	2.227	1.386	.254
	Within Groups	72.312	45	1.607		
	Total	81.220	49			

Inference
From the above table it is found that preference on cotton and paper bags (F=2.695;P=0.43)are statistically significant at 5% level. Hence it is concluded that there is an association between the educational qualification and paper and cotton bags. This highly implies that customers prefer the cotton and paper bags.

1.8 SUGGESTIONS
* Consumers agree that "In the future more and more consumers will prefer green products".
* Consumers agree that "companies which can establish themselves with green image will have a distinctive advantage in the marketplace.
* Marketers also have the responsibility to create awareness among the consumers' benefits of green products as compared to non-green ones.

1.9 CONCLUSION
Green Marketing is a relatively quiet recent phenomenon and it is growing awareness amongst the younger generation too. Hence the consumers are willing to purchase green products. Many business organizations still in behind the need for eco-friendly society. So the marketers can identify customer's environmental needs and develop products to address this issue, produce more environmentally and responsible.

In Vellore city the people are affected through the environmental factors such as soil degradation and ozone problem. To overcome all these issues there are few practices includes avoiding the use of plastic covers instead there are using cotton bags to carry their products or goods. In earlier stage their no cooperation from the public, but later the consumers are ready to use greener products even though the price is too high.

BIBLOGRAPHY&REFERENCES

1. Jacob Cherien and Jolly Jacob "Green marketing: "A Study of consumer attitude towards environmental friendly products. "Publications by –Canadian centre of science and education. Volume No:-8, No:-12,2012,
2. Mohanasundaram.V "Green Marketing- Challenges and oppournity", Volume.12, issue-4, April 2012, p-68.
3. P.B.Singh and Kamal, Pandey "Green Marketing –Policies and practices for sustainable development" Journal of Management, volume-5,issue no-1,June-2012,pp-22 to 30.
4. Polonsky MJ "Introduction to Green Marketing". (1994) Electronic green journal volume-I, Issue no-2, pp.1-10.
5. Rashad and Mercy "The impact of Green Marketing on customer satisfaction and environmental safety", proc of CSII-volume-V,(2011), pp-639-640.
6. Ravindra and Saxena. P "Consumer attitude towards Green Marketing: An exploratory study", 2008.
7. Suresh.G "A Study of the constructive factors influencing green marketing in Tamil Nadu." IUP Journal of Marketing Management IUP Publications, volume no-XIII, Issue No-1, 2014, pp-45-56.
8. Syed Ahamed.S and Ravi.A "Consumer perception and Green Marketing Impression on FMCG sector- An empirical study". VOLUME.1,Issue-2,September-2012.p-2
9. Tapan K Pandda "Marketing Management" published by –Excel books,pp-687 to 702.(2007).
10. Asia pacific journal of research ISSN:2320-5504,E -2347-4793..