

Green Marketing: A Study on Manufacturer's Perspective with Special Reference to Guwahati City

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Abstract: *Green marketing is the marketing of environmentally safe products. The manufacturers of green products has a very wide scope as it includes many activities like modifying existing product to make it environmentally safe, promoting green products, and inducing the habit of purchasing green product. The manufacturer's prime duty is to protect the environment by curbing the use of harmful elements keeping in mind about the consumer's well being. The present study tries to find out the manufacturer's perspective about green marketing in Guwahati city about the prospects and challenges of practicing it and to analyze the key factors for preferring it. It is found that respondents choose green marketing because the buyer's insist on purchasing green products as the buyers now a days are more environment conscious and they also want to bequeath a clean earth to their offsprings.*

Key Words: *Certification, Green Marketing, Green Product, Problems, Prospects*

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I. Introduction

Marketing is an age old term which refers to the process of identifying, anticipating and satisfying customer's needs and desires. It tries to create demand amongst customer through the process of promotion and awareness creation. Of late, there has been great deal of discussion and concern regarding green marketing. It is an emerging concept and is in a nascent stage in India. It has flourished well in developed countries due to its features. But in India and its various states there is very little awareness about this concept.

Green marketing is the marketing of environmentally safe products. It has a very wide scope as it includes many activities like modifying existing product to make it environmentally safe, promoting green products, educating customers about the importance of green marketing and inducing the habit of purchasing green product, etc. Green marketing, the term was coined in early eighties. Since then it has evolved by increasing its use, customer base, advantages and forms.

II. Literature Review

Michael Jay Polonsky, (1994) introduced the terms and concepts of green marketing, importance of going green, examined some reasons for adopting a green marketing philosophy by the organizations and mentioned some problems for practicing green marketing. Green marketing has evolved into a complex, integrated, strategic, and tactical process. As such, it is a holistic approach rather than a simple "marketing hype" or a tactical opportunity practiced by some. It expands on the basic transaction concept by minimizing a transaction's negative impact on the natural environment.

Michael Jay Polonsky *et al.* (2001) suggests in the paper that green marketing is a complex tool that must be integrated across all organizational areas like strategic activities and tactics, including targeting, pricing, design, positioning, logistics, marketing waste, promotion, and green alliances. If it is to be successfully implemented and long-term benefits are to be achieved then an integrated approach has to be applied. Failure to develop an integrated approach will increase the probability that a firm's activities would not match consumers' expectations. So the actions taken will be ineffective, both from business and environmental perspectives.

Aseem Prakash (2002) examined how market (primarily, consumers) and nonmarket environments create incentives for firms to adopt green marketing strategies. It reviews some key issues in marketing literatures relevant to green marketing. It also focuses primarily on issues contributing in promoting green products/ firms and secondarily to product, pricing and strategy issues. Thus the paper helps in understanding the relationship between the marketing discipline, public policy process and the natural environment. The paper corroborates its findings from Marc Lampe, *et al.* (1995).

Stephen F. Hamiltona, *et al.* (2006) considered the performance of eco-certification policy under circumstances where consumers cannot discern environmental attributes in goods, but are able to form rational expectations regarding the extent of illicit activities in the green market. Consumers voluntarily pay significant price premium to acquire unobservable environmental attributes in green markets. The main results are (i) fraud is less prevalent in green markets when entry barriers limit the number of firms (ii) traditional policies related to environmental pollution increase the incidence of fraud, and can even prevent the use of non-polluting techniques

which would otherwise emerge in green markets (iii) voluntary eco certification policies can decrease fraud, increase output, and raise profits per firm and (iv) in cases where the socially optimal resource allocation can be supported, the optimal policy involves negative unit certification fees, positive fixed certification fees and is revenue-generating for the certifying agent.

Huan Feng Li *et al.* (2008) introduced the influence of green marketing on sustainable development of garment industry. It analyses the cost and profit to implement green marketing, both in short term and long run. In short term the cost may increase. However, in the long run, the income will outweigh the cost. There are five reasons for which green marketing should be implemented in the sustainable development. The reasons are: reduced cost, expanding export by breaking down green barriers, establishing the enterprise's green image, being more competitive and avoiding green tax. Therefore, implementing green marketing is pivotal for the sustainable development of garment industry.

Mohammed El Dief *et al.* (2010) in the paper explores the determinants of green marketing practices in Red Sea hotel sector in Egypt. The research model assesses green marketing practices against the personal and organisational values of the marketing managers, together with a range of organisational and demographic variables expected to influence hotels' environmental behaviour. From a sample of 89 marketing managers responsible for 194 hotels, it was found that organisations targeting Western tourists are affiliated to international hotel chain and the marketers' own demographics, including age, academic subject studied and gender, were the best predictors of more proactive green marketing. Personal environmental values did not explain the pro-environmental behaviour of marketers, and the organisational environmental values that had explained part of their ethical behaviour had resulted from voluntarism rather than utilitarian or conformance-based values. Government policies also appeared to be the ineffective determinants. The implications for green marketing practices were also discussed in the paper.

As evident from the literature review the firms have to undertake an integrated approach if they want to match customer's expectation level. Many firms have taken many green initiatives few initiatives undertaken at national level by the firms are listed below:

State Bank of India : Best Green IT Project: State Bank of India: Green IT @ SBI

By using eco and power friendly equipment in its 10,000 new ATMs, the banking giant has not only saved power costs and earned carbon credits, but also set the right example for others to follow. SBI is also entered into green service known as "Green Channel Counter". SBI is providing many services like paperless banking, no deposit slip, no withdrawal form, no cheques, 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. The State Bank of India became the first Indian bank to harness wind energy through a 15 –megawatt wind farm developed by Suzlon Energy. The wind farm located in Coimbatore uses 10 Suzlon wind turbines, each with a capacity of 1.5 MW. The windfarm is spread across three states- Tamil Nadu, with 4.5 MW of wind capacity, Maharashtra with 9 MW and Gujarat with 1.5 MW. The wind project is the first step in the State Bank of India's green banking program dedicated to the reduction of its carbon footprint and promotion of energy efficient processes especially among the bank's clients.

Kansai Nerolac:

Kansai Nerolac Paints Ltd. has taken initiatives in the areas of health, education, community development and environment preservation. It worked on removing hazardous heavy metals from the paints. The hazardous heavy metals like lead, mercury, chromium, arsenic and antimony which throw adverse impact on human health. Lead in paints can cause damage to Central Nervous System, kidney and reproductive system. Children are more prone to lead poisoning leading to lower intelligence levels and memory levels.

Indian Oil

Indian Oil is supplying EURO-III compliant fuels to all parts of the country since 2010. Indian Oil has invested about Rs 7,000 crore till 2010 in green fuel projects at its refineries. Motor Spirit Quality Improvement Unit commissioned at Mathura Refinery, also is a type of green initiative. Similar such units are coming up at three more refineries. Diesel quality improvement facilities are also working in all seven Indian Oil refineries. The R & D Centre of Indian Oil is engaged in the formulation of eco friendly biodegradable lube formulations. The Centre has been certified under ISO-14000:1996 for environment management systems.

Wipro Green

Wipro Infotech was India's first company to launch environment friendly computer peripherals. For 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.

Tata Motors

Tata Motors is in the process of setting up an eco friendly showroom using natural building material for its flooring and energy efficient lights. The Indian Hotel Company, which runs the Tajchain is in the process of creating eco rooms which will have energy efficient mini bars, organic bed linen and napkins made from recycled paper. But there won't be any carpets since chemicals are used to clean those. The rooms will have CFLs or LEDs. One of the most interesting innovations has come in the form of a bio gas based power plant at Taj Green Cove in Kovalam, which uses the waste generated at the hotel to meet its cooking requirements. Another eco friendly consumer product that is in the works is IndicaEV, an electric car that will run on polymer lithium ion batteries. Tata Motors plans to introduce the Indica EV in select European markets.

Need for the study: Green marketing is an emerging dimension which gives stress on protecting the environment. As resources are limited and human wants are unrestricted, it is indispensable for the manufacturers to utilize the resources efficiently. This has become the new mantra for marketers to satisfy the needs of consumers and to earn better profits. So, knowing about the prospects and challenges of practicing green marketing amongst the manufacturers of Guwahati will help to identify the grey areas and give scope for developing it deriving benefits out of it. The study will also focus on finding out the key factors from manufacturer's point of view for preferring green marketing.

III. Objectives

1. To study the prospects and challenges of practicing green marketing in Guwahati amongst the manufacturers.
2. To analyze the key factors for preference of green marketing by the firms.

Methodology: The study is descriptive in nature and both primary and secondary data has been used in it. The primary data was collected through structured telephonic interview with the owners of manufacturing and service units of various firms established in Guwahati city. The firms are engaged in manufacturing wooden furniture, incense sticks and mosquito coils, Transportation and logistics, plastic pipes manufacturing. Six firms from manufacturing and service sector was selected on convenience basis (i.e., convenience sampling). The firms belong to micro, small and medium categories scattered in various parts of the Guwahati city.

The collected data is analysed using tables and hypotheses testing is done by using Kendall's Co-efficient of Concordance and chi square test is used. Kendall's Co-efficient of Concordance or Kendall's W is a non-parametric statistical test which assumes normally distributed values and compare two sequences of outcomes at a time. It makes no assumptions regarding the nature of the probability distribution and can handle any number of distinct outcomes.

If the test statistic W is 1, then all the judges or survey respondents have been unanimous, and each judge or respondent has assigned the same order to the list of objects or concerns. If W is 0, then there is no overall trend of agreement among the respondents, and their responses may be regarded as essentially random. Intermediate values of W indicate a greater or lesser degree of unanimity among the various judges or respondents.

Analysis and Findings:

Guwahati has witnessed the growth and development of a number of manufacturing units in a short period. This growth of industry has led to the increase in pollution, degradation of air quality level, etc. Initiative from manufacturers in this regard of protecting the environment can go a long way in the sustainable development of the city. There has been an initiation in the process of awareness towards environment friendly activities in Assam but only in a specific sector. The introduction of organic farming in Majuli (the smallest river island of the world), opening up of organic vegetable markets in various places of Guwahati city, where vegetables and fruits produced by using organic manure is being sold. Apart from these small sustainable development initiatives no other major constructive initiative by the business houses is visible. There are many industrial parks where production and manufacturing takes place but the initiative for promoting green practices or any sort of move to curb the harmful induction of poisonous gases, fumes and water in the environment is not taken. Any stringent implementation of rules from the government, certification, strategic implementation or initiative from the public also does not exist to check the industrial activities. There is a very wide scope for the development of green marketing activities, strategies and initiative in Assam. The various problems and prospects of implementation in Guwahati which is found from the interaction with the manufacturers and firm owners helps to know the present scenario for implementation of green marketing in the region.

Problems: The problems identified by the owners are as follows:

1. Price: Green products are costly. Majority of consumers are not found ready and are not inclined to pay a higher price to purchase green products
2. Training to employees: Employees have to be trained about using the firm specific green technology elements which will involve a high expense on the part of the firm.

3. Production cost: Green products incur a heavy cost in the process of production. As implementing the Water treatment technology alone leads to a heavy expenditure.
4. New concept: As green marketing is a new concept proper awareness about it is not available as a result the manufacturers have to spend heavily on promotion and awareness campaign.
5. Need for standardization: There is lack of standardization to authenticate the green claims. There is no standardization currently in place to certify a product as organic. A standard quality control board needs to be in place for such labeling and licensing.
6. Over exposure and lack of credibility: So many companies made environmental claims that the public became skeptical of their validity. Government investigations into some green claims (e.g. the degradability of trash bags) and media reports of the spotty environmental track records behind others only increases consumer's doubts. This backlash resulted in many consumers thinking environmental claims are just marketing gimmicks.
7. Consumer behavior: Research studies have shown that consumers as a whole may not be willing to pay a premium for environmental benefit. Most consumers appear unwilling to give up the benefits of other alternatives to choose green products. For example, some consumers dislike the performance, appearance or texture of recycled paper and household products. Some consumers are unwilling to give up the convenience of disposable product such as diapers.
8. Faith on Traditional products: After investigating the environmental behaviour of Jordanian consumers it is revealed that there exists a high level of environmental consciousness. Unfortunately however this positive tendency and preference in the "green" products does not appear to have any effect on the final decision, because these consumers have a strong faith in the traditional products and a little confidence in the green statements. The above obstacles are further strengthened by lack of environmental conscience by a lot of enterprises and existence of a wide variety of prices for the same product, many of which included an impetuous estimate of environmental responsibility. (Alsmadi, S. (2007))

Prospects: The prospects identified by the owners are as follows:

1. Environment friendly: As the green products are environmentally friendly sustainable use is being promulgated through it.
2. Compete in global market: Green products is accepted widely in the global market due to its unique nature.
3. Enhances the green image of the enterprise: The brand image of the enterprise is enhanced when they sell green products. The company's products are thought to be better than its competitors selling the traditional products.
4. Increase of exports: The manufacturer's can engage in production of green products for the purpose of export. This will lead to increase in the turnover of green products. Green products are very well demanded outside India (as said in the study by Lei Zhang n, Yang Wu in the paper Market segmentation and willingness to pay for green electricity among urban residents in China: The case of Jiangsu Province, 2012) and level of awareness about it is also very appreciating.
5. Reduction in cost by minimizing waste: Wastages can be reduced by using greener technology.
6. Grow in practice and demand: Pavan Mishra *et al.* (2010) in the paper discusses the increasing rate at which the business houses are targeting the green consumers, those who are concerned about the environment and allow it to affect their purchasing decisions. It identifies three particular segments of green consumers and explores the challenges and opportunities businesses have with green marketing. It also examined the present trends of green marketing in India and describes the reasons for companies adopting it and the future of green marketing and concludes that green marketing will continuously grow in both practice and demand.
7. Increase in environmental consciousness: Dr. V. Mohanasundaram (2012) in the paper highlights the importance of using green marketing by the firms, problems and opportunities of using it. The author stressed on the need of having green marketing in a developing country like India where the awareness about environment conservation is increasing at a faster pace.

There are many hurdles (highlighted above) which have to be overcome before the concept of green marketing starts reaching the grass root level. The problems of costly production process, high price of finished products, no proper certification to proof the authenticity of a green item, etc. There are a few electronic appliances which show the energy efficient stars, but the consumers still doubt the credibility as they lack proper awareness. At this juncture the task that the companies can take up is a strong research and development work to come up with ways of using the green technology there by protecting the environment and manufacturing products at a comparatively lower price so that consumers find it easy to accept it. The non-government organizations can take up the task of awareness creation amongst the public about the benefits, certification process and need of purchasing green items. The common man has to accept the benefits of using green items for the benefit of the society at large.

Table no 1: Sample profile

Particulars	Respondents	Percentage
Type of organization	Sole proprietor	2 33

	Partnership Firm	2	33
	Private Limited Company	2	34
	Total	6	100
Experience	Below 10 years	1	17
	10-20 Years	2	32
	Above 20 years	3	51
	Total	6	100
Source of finance	Owned capital	1	17
	Borrowed capital	1	17
	Owned & Borrowed	4	66
	Total	6	100
Annual Turnover (in Crs)	Below 5	3	51
	5-10	2	33
	10 & above	1	16
	Total	6	100

The Partnership firm has been chosen by 34% of the respondents as the decisions and the risk is shared among them which is essential for business. 33% and 33% of the respondents opted sole trading and company form of organization as their business.

There are more number of experienced persons in the business (51%) with above 20 years of experience, as compared to those with below 10 years' experience (17%). 17% of the exporters invested their own money in the business. 17% of them have taken up the risk of borrowing money from external sources to run the business whereas 66% of the respondents have sourced both own and borrowed capital. 33% of the exporters contacted, have an annual turnover between Rs.5-10 crores, while those exceeding Rs.10 crores turnover target have been 16%.

IV. Attributes of Green Marketing

Table no 2 shows the respondent's preference for the attributes of green marketing. 5 variables have been ranked by the respondents as their preference for the attributes of green marketing.

Hypothesis: There is similarity amongst the preference of attributes chosen by manufacturer's for green marketing.

Table 2-PREFERENCE FOR THE ATTRIBUTES OF GREEN MARKETING

Sl. No	Attributes	Total Scores	Rank
1	Recyclable	52	1
2	Ozone friendly	40	2
3	Energy saving	36	3
4	Hazardous chemicals free	30	4
5	Environmental protection	12	5

It is found that the respondents preferred recyclable attribute as most important as the company can recycle their own product to produce another by-product; Ozone friendly considered as next since the product produced will not affect the ozone layer; Energy saving considered as the next factor as power consumption will be very low when the green product is being produced; Fourth rank had given to hazardous chemical free as the product is safe to use even for children; Environmental protection preferred to be the next important factor.

Kendall's Co-efficient of Concordance: Kendall's Co-efficient of Concordance has been used to find whether the ranks assigned by the respondents have the same order or the ranks assigned by the respondents have any similarities. It is found to be 2.4, and its related chi square value is 57.6 which is greater than table value at 5% level of significance with 4 degrees of freedom. Therefore null hypothesis is rejected and we infer that there is no similarity amongst the attributes chosen by manufacturer's for green marketing.

V. Reason for Choosing Green Marketing

Green marketing is the process of developing products and services and promoting them to satisfy the customers who prefer the products of good quality, performance and convenience at affordable cost and environmental friendly. Table 4 shows the preference of the respondents for choosing green marketing.

Table 3 -REASON FOR CHOOSING GREEN MARKETING

Sl. No	Reason	Total Scores	Mean value	Rank
1	Buyer's insistence	56	9.33	1

2	Increases consumers recognition	52	6.67	2
3	To maintain corporate social responsibility	42	7	3
4	To gain competitive advantage	40	6.66	4
5	To realize continuous thriving	36	6	5

Buyer's insistence ranked as the most preferable reason, the buyers now a days are more environment conscious ; Increases consumers recognition considered as next since awareness has been increased among the consumers all over the world regarding protection of the environment in which they live, People do want to bequeath a clean earth to their offspring; To maintain corporate social responsibility regarded as the next reason as the regulation of the government reduces the industry's production and consumers' consumption of harmful goods, including those detrimental to the environment;; Fourth rank has been given to gain competitive advantage; To realize continuous thriving considered as the next preferable factor.

VI. Challenges Faced While Adopting Green Marketing

The production of green product required new technology in product line which is a challenge to the manufacturers who enter into the green marketing. Table 5 shows the challenges faced by the respondents while adopting green marketing

Table 4 -CHALLENGES FACED WHILE ADOPTING GREEN MARKETING

S.No	Contents	Respondents	Percentage
1	Expenses on R&D	2	33.33
2	High input cost involved	1	16.66
3	Lower sales volume due to high price	1	16.66
4	High promotional charges	1	16.66
5	Lack of consumer awareness	1	16.66
TOTAL		6	100

33.33% of the respondents says expenses on R&D has been the main challenge for them in adopting green marketing , 16.66% of the respondents says high input cost involved has been the main challenge faced while adopting green marketing , 16.66% of the respondents says that it leads to lower sales volume because the enterprise has no choice to enhance the price as they have to incur high cost from design to production of green products, 16.66% of the respondents says it is lack of consumer awareness and 16.66% of the respondents says that it involves high promotional charges.

VII. Future Prospects in Implementing Green Marketing

Creating green image and green brand, can make the enterprise more competitive, increase its market share and promote its product sales in turn lead to enterprise's long-term growth. Table 6 shows the respondents preference for the future prospects in implementing green marketing

Table -5 FUTURE PROSPECTS IN IMPLEMENTING GREEN MARKETING

Sl. No	Prospects	Total score	Mean Value	Rank
1	Reduction in cost by minimizing waste	32	8	2
2	Increase of exports	38	9.5	1
3	Enhances the green image of the enterprise	18	4.5	3
4	Avoidance of green tax	12	3	4

Increase of exports has been the preferable factor by most of the respondents since companies come up with new innovations like eco friendly products, they can access new markets; look up their market shares and profits and the buyers also insisting nowadays for green products. Reduction in cost has been considered as the next factor as they often develop more effective production processes that not only reduce waste, but reduce the need for some raw materials. This serves as a double cost savings, since both waste and raw material are reduced by using the waste as an input for other product production. As the consumers are becoming conscious about the environment, the green marketing improves the green image of the company; Avoidance of green tax which is a kind of tax imposed on behavior or contaminations by the government preferred as least one.

CHI-SQUARE TEST: To establish the relationship between experience and change in turnover, a **chisquare test** was applied with a hypothesis

Hypothesis: There has been no significant difference between the number of years of experience and changes in turnover.

Table no 6: NO OF YEARS OF EXPERIENCE VS CHANGE IN TURNOVER

Change in turnover	No. of year of Experience			Total
	Below 10 years	10-20 years	Above 20 years	
Below 5	1	-	-	1
5-10	-	2	-	2
10 & above	-	-	3	3
Total	1	2	3	6

It is found that the calculated value of correlation coefficient (r) is less than probable error (PE) therefore r is not significant. Thus, it can be concluded that there is a significant relationship between the number of year of experience and increase in turnover i.e. with the years of experience the owner can learn the green marketing technique which in turn increases or makes change in turnover.

VIII. Conclusion

From the business point of view, a clever marketer is one who not only convinces the consumer, but also involves the consumer in marketing his product. With the threat of global warming rising in an alarming rate, it is extremely important that green marketing becomes the rule rather than an exception. Recycling of paper, metals, plastics, etc., in a safe and environmentally harmless manner should become much more systematized and universal. Marketers should bear the responsibility to make the consumers understand the need for and benefits of green products as compared to non-green ones. In green marketing, there is only a selected set of consumers who are willing to pay more to maintain a cleaner and greener environment. Green marketing assumes even more importance and relevance in developing countries. Manufacturer can make an appeal to the Government to provide subsidy to make investment for research and development.

From the present study it is found that new methods can be identified to reduce the waste or recycle the waste. Awareness programme should be arranged to make people environmentally conscious which will induce manufacturers and consumers to engage in green marketing. Manufacturers should not only aim for profit but also has to keep an eye on sustainable development for future generations.

Taking a strategic action now will help to yield benefits in the long run and the generations to come will be able to reap the benefits of the efforts of the present generation. There is scope to bring in change in many other sectors like introduction of green building, more use of mass transport mode, use of CNG in vehicles, use of energy efficient electrical appliances. These are just a few steps, which can help change the present scenario of our state. But the whole idea will catch up pace only when the business houses, society and the government join hands to respond to the growing menace of green marketing.

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