

An Investigation Of Customer Awareness With Reference To Green Marketing Of Automobiles: An Empirical Study Conducted At Indore, Madhya Pradesh

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INTRODUCTION

Although environmental issues influence all human activities, few academic disciplines have integrated green issues into their literature. This is especially true in case of marketing. As society becomes more concerned about the natural environment, businesses have begun to modify their behavior in an attempt to address society's "new" concerns. Some businesses have been quick to accept concepts like environmental management systems and waste minimization, and have integrated environmental issues into all organizational activities.

Terms like "Green Marketing" and "Environmental Marketing" appear frequently in the popular press. Many governments around the world have become concerned about green marketing activities and they have attempted to regulate them. One of the biggest problems with the area of green marketing is that there has been little attempt to investigate it in the Indian scenario. This paper attempts to measure awareness level of the market comprising of Indore district of M.P. with reference to green marketing of automobiles. The emergent issues considered for this purpose were purchase behavior with reference to the possible price hike due to green design, agreement of the market for promotion of long term benefits, its acceptance in rural and urban market by the owners of two and four wheelers. Later, a factor analysis was also carried out to determine the composition of awareness level of the respondents participating in the study. Green marketing being a virgin area in the Indian context, and to understand the present study, some of the important terms associated with it are explained below.

LITERATURE REVIEW

What Is Green Marketing?

Many researchers (Ottman 1993 Davis 1993 and Kangun et al 1994) believe that green marketing refers solely to the promotion or advertising of products with environmental characteristics. Green or Environmental Marketing consists of all activities designed to generate and facilitate any exchanges intended to satisfy human needs or wants, such that the satisfaction of these needs and wants occurs with minimal detrimental impact on the natural environment.

Green marketing incorporates a broad range of activities, including product modification, changes to the production process, packaging changes as well as modifying advertising. Having said this, defining green marketing is not a simple task. Many terminologies are used in this area such as: Green Marketing, Environmental Marketing and Ecological Marketing. While green marketing came into prominence in the late 1980s and early 1990s, it was first discussed much earlier (Henion et al 1976a, and b). The definition of Green Marketing (Coddington 1993) also includes the protection of the natural environment by attempting to minimize the detrimental impact this exchange has on the environment. This second point is important. Human consumption by its very nature is destructive to the natural environment (to be accurate, products making green claims should state they are "less environmentally harmful" rather than "environmentally friendly"). Thus green marketing should look at minimizing environmental harm, not necessarily eliminating it.

Importance of Green Marketing

People have enormous wants while our planet has limitations in terms of resources. Consumerism in society results in fulfillment of all the needs and wants. The companies around the world have to manage within their resources to seek customer satisfaction. Therefore, green marketing seeks to utilize these limited resources while satisfying wants of both individuals and industry, and simultaneously fulfilling the objectives of achieving organization's sales revenues.

Green Marketing Opportunities

Presently, both individual and industrial consumers are becoming more concerned and aware about the natural

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environment. In a 1992 study of 16 countries (Ottman 1993), more than 50% of consumers in each country, other than Singapore, indicated they were concerned about the environment. A study in Australia (EPA-NSW 1994) found that 84.6% of the sample believed that all individuals had a responsibility to care for the environment. A further 80% of this sample indicated that they had modified their behavior, including their purchasing behavior, due to environmental reasons. As demands change, many firms see these changes as an opportunity to be exploited. Given these figures, it can be assumed that firms marketing goods with environmental characteristics will have a competitive advantage over firms marketing non-environmentally responsible alternatives. More opportunities (Global Compact Policy Dialogue, 2004) are also arising due to constantly changing environmental issues, reflecting new discoveries such as a hole in the Ozone Layer, scarcity of natural resources and fewer places to bury everyone's trash.

Reasons for Practicing Green Marketing

Looking through the literature (Dalhammer et al, 2002, Yurman 1994 and Lawrence 1991) there are several suggested reasons for firms' increased use of Green Marketing. In light of the above research, following important reasons may be cited:

1. Organizations perceive environmental marketing to be an opportunity that can be used to achieve their objectives.
2. Organizations believe they have a moral obligation to be more socially responsible.
3. Governmental bodies are forcing firms to become more responsible.
4. Competitors' environmental activities pressure firms to change their environmental marketing activities.
5. Cost factors associated with waste disposal or reductions in material usage forces firms to modify their behavior.

Integrating Environmental Issues in Corporate Culture

The environmentally responsible behavior (Davis 1992) originates from the realization that they (organizations) belong to the world community. As a result of this, organizations achieve their profit objectives along with environmental objectives. Thus, environmental issues are also integrated into the firm's corporate culture.

Firms in this situation can take two perspectives; (1) they can use the fact that they are environmentally responsible as a marketing tool; or (2) they can become responsible without promoting this fact.

There are examples (Murphy 1985) of firms adopting both strategies. Organizations like the Body Shop heavily promote the fact that they are environmentally responsible. While this behavior is a competitive advantage, the firm was established specifically to offer consumers environmentally responsible alternatives to conventional cosmetic products. This philosophy is directly tied to the overall corporate culture, rather than simply being a competitive tool. An example of a firm that does not promote its environmental initiatives is Coca-Cola. They have invested large sums of money in various recycling activities, as well as having modified their packaging to minimize its environmental impact. While being concerned about the environment, Coke has not used this concern as a marketing tool. Thus, many consumers may not realize that Coke is an environmentally committed organization. Another firm, who is environmentally responsible but does not promote this fact, at least outside the organization, is Walt Disney World (WDW). WDW has an extensive waste management program and infrastructure in place, yet these facilities are not highlighted in their general tourist promotional activities.

Role of the Government

The governments have a key role in protecting the customer (Kangun et al 1994, Polonsky 1994, and Eugene and Eurel 2005). It becomes significant due to regulations enacted for protection of consumers in the following ways:

- 1) Discouraging production of harmful goods or by-products;
- 2) Modify consumer and industry's use and/or consumption of harmful goods;
- 3) Ensure that all types of consumers have the ability to evaluate the environmental composition of goods.

Governments establish regulations designed to control the amount of hazardous wastes produced by firms. Many by-products of production are controlled through the issuing of various environmental licenses, thus modifying organizational behavior.

Competition

The firms, in order to maintain their competitive position, also practice environmental marketing. In many cases, firms observe competitors promoting their environmental behaviors and attempt to emulate this behavior. In some instances (Lawrence 1991), this competitive pressure has caused an entire industry to modify and thus reduce its detrimental environmental behavior.

Cost or Profit Issues

Firms may also use green marketing in an attempt to address cost or profit related issues, like disposing of environmentally harmful by-products. Reduction of harmful wastes may incur substantial cost savings. When attempting to minimize waste, the production processes should be re-examined. This approach can become useful to develop more effective production processes that not only reduce waste, but also reduce the need for some raw materials. This serves as a double cost saving, since both waste and raw material are reduced (Yurman 1994).

In other cases, firms attempt to find end-of-pipe solutions instead of minimizing waste. In these situations, firms try to find markets or uses for their waste materials, where one firm's waste becomes another firm's input of production. The last way in which cost or profit issues may affect firms' environmental marketing activities is that new industries may be developed. This can occur in two ways: 1) a firm develops a technology for reducing waste and sells it to other firms; or 2) a waste recycling or removal industry develops.

Some Problems with Going Green

No matter why a firm uses green marketing, there are a number of potential problems that they must overcome. One of the main problems is that firms using green marketing must ensure that their activities are not misleading the consumers or industry, and do not breach any of the regulations or laws dealing with environmental marketing. For example, marketers in the US (Lawrence 1991) must ensure their green marketing claims can meet the following set of criteria. Green marketing claims must :

- Clearly state environmental benefits;
- Explain environmental characteristics;
- Explain how benefits are achieved;
- Ensure comparative differences are justified;
- Ensure negative factors are taken into consideration; and
- Only use meaningful terms and pictures.

Some consumers in the U.S. market gave the following reasons (Ottoman 1993) for why they damage the environment. 8% said it was due to costly nature of green products, 10% did not understand the issue, 12% had no time to think, 21% did not find it convenient, 23% said they are lazy while 26% responded that there were no alternatives !.

Thus it appears that consumers are not overly committed to improving their environment and may be looking to lay too much responsibility on the industry and government. Ultimately, green marketing requires that consumers want a cleaner environment and are willing to "pay" for it; possibly through higher priced goods, modified individual lifestyles, or even through governmental intervention. Until this occurs, it will be difficult for firms alone to lead the green marketing revolution.

The New Marketing Paradigm

The new paradigm is the making of the green products. Now the point is that, it is more important to view consumers as human beings concerned about the conditions of the world around them rather than viewing them as individual consumers who have unending material needs. It is necessary to make the consumer aware about how material goods impact their lives positively as well as negatively, short term as well as long term. We need to create brands that give way to more flexible products offering the best-fit regional environmental consideration (Polonsky 1991).

Innovative products with innovative design even with dematerialized services are replacing resource intensive products. These offerings are marketed with ads and promos that derive added value from educational messages they impact and the values they project (Table 1).

Winning Strategies of Green Marketing Success

The profit of the green market is the innovation, flexibility and change (Polonsky 1991). The new rules have emerged from the cloud of green marketing. It is learnt what really works and what does not.

Ottoman consulting has suggested seven winning strategies of green marketing, which are as below:

1. Understand the full range of environmental, economic, political and social issues that affect consumer, products and services now and over the long term.
2. Create new products and services that balance consumer desires for high quality, convenience and affordable pricing with minimal environmental impact over the entire life of the product.
3. Empower consumers with solutions. Help them understand the issues that affect your business as well as the benefits of your environmentally friendly products.

4. Establish credibility for marketing effort.
5. Build coalition with corporate environment stakeholders.
6. Communicate corporate commitment and project your values.
7. Don't quit. Continuously strive for 'Zero' environmental impact of your products and processes; learn from mistakes.

Table 1: The New Green Marketing Paradigm

Criteria	Conventional Marketing	Green Marketing
Consumer	Consumer with lifestyles	Human being with lives
Products	"Cradle to grave" one size fits all products	"Cradle to cradle" flexible services
Marketing & Communication	Selling oriented, End benefits	Educational values
Corporate	Reactive Independent Competitive Departmentalized Short term oriented Profit Maximizing	Proactive Interdependent Cooperative Holistic Long term Oriented Double Bottom Line

Source: William McDonough, Ottoman Consulting Inc. 1993.

Green Communication

Environmental themes can add relevance to advertising, public relations and promotional messages.

Green marketing issues (Stride and Nick 1993) often enhance overall product quality; environment related communication and can also reinforce a product's primary benefit e.g. low operating cost or convenience and sometimes they can evoke powerful emotional benefits and imagery that can increase impact and add perceived value. Green communication can bolster corporate imagery and ward off legislative threats.

Some of the strategies for effective green communication are as below:

1. Educate the consumers and employees.
2. Empower consumers with solutions.
3. Provide performance re-assurance.
4. Consider a mix of media.

The authors have derived motivation from the reviewed literature in formulating the present study, with specific consideration to the Indian context and taking care of the local parameters.

RESEARCH OBJECTIVE

The objective of the study was to explore the basic parameters for development of new marketing strategy encompassing "Green Marketing" of automobiles among the consumers of the region chosen for this study. To be able to meet the above objective, research was conducted to measure the awareness for the green automobiles among the customers of various segments and to measure their willingness to pay extra, if the green automobiles cost more.

PROBLEM DEFINITION

A specific definition of the problem under taken is now presented, which is mentioned below:

To measure the awareness about the green automobiles (that shall be promoting long term benefits to the society) amongst the customers in the age group of 20 to 24 years and in the age group of 25 & above; analyze the acceptance level of this concept in the rural and urban market and among the customers of two and four wheelers. Further, the study was undertaken to investigate the willingness of the respondents to pay a premium for the green automobiles, and to bring out the major factors that contribute to the awareness level of the respondents in Indore district of Madhya Pradesh.

RESEARCH HYPOTHESES

Following hypotheses were used to solve the problem and to meet the objectives of the study:

H0: The awareness level about green automobiles among the consumers is low.

H1: The awareness about the green automobiles among the consumers is significant.

H0: There is no significant difference in the awareness level of people for green automobiles who are in the age group of 20-24 and in the age group of 25-40.

H1: The awareness level of the people about green automobiles in the age group of 20-24 is less than the awareness level of people who are in the age group of 25-40.

H0: The consumers have a positive opinion for the green automobiles, even if they have to pay 5% extra of the current price.

H1: The consumers are of the negative opinion in paying 5% extra of the current price of the automobiles.

RESEARCH DESIGN

Research design for the present study was planned and structured along with an investigation strategy so as to obtain answers to research questions or objectives and also to control the variances. The said study was conducted during the period of April to June 2006. The major issues related to the research design are explained in the following statements:

- The data used is primary data.
- The data is collected by means of a questionnaire.
- A carefully selected sample of 80 respondents is used.
- A statistical tool (SPSS software) is used for the analysis.
- Z-Test is applied.
- Factor analysis of the variables is carried out using varimax rotation technique.

The Study

The present study comprises of an exploratory investigation, in which, an attempt has been made to understand the awareness of green automobiles among the respondents in the age group of 20-24 and 25-40 years.

The Sample

Stratified random sampling method is used on a sample comprising of 80 randomly selected voluntary respondents. The respondents included post- graduate students, working executives, academicians etc. 40 respondents were in the age group of 20-24 years and balance 40 were in the age group of 25 -40 years.

Tools for Data Collection

After reviewing relevant literature on the subject, a structured questionnaire was developed. It constituted of 45 statements, out of which 18 questions pertained to the awareness about the green automobiles, 07 questions related to cost issues, 04 to design issues, 12 to societal well being, while 01 question each related to two wheeler, four wheeler, rural and urban categories respectively. The questionnaire was implemented on 5 point Likert scale. (1= Strongly Disagree and 5= strongly agree).

All the filled up questionnaires were selected for statistical analysis. The questions incomplete in any respect were rejected at this stage and all the valid responses were scored and tabulated. For the purpose of testing the hypotheses, Z-test was used, as it determines the difference between a sample mean and the population mean; to check whether it is large enough to be statistically significant to interpret the result.

Testing of Hypotheses

Notations Used for Testing the Hypotheses

For One Tail Test:

\bar{X} = Sample mean, μ = Population mean, n = Sample size, σ_p = Std. deviation of mean, σ_s = Std. deviation of means and Z = Std. normal variate.

For Two Tail Test:

\bar{X} = Sample mean of the first sample (age group 20-24), \bar{Y} = Sample mean of second sample (age group 25-40), S = Std. error difference between two sample means, n_1 = Sample size of first sample, n_2 = Sample size of second sample.

Hypothesis-1

H0: The awareness level about green automobiles among the consumers is low.

H1: The awareness about the green automobiles among the consumers is significant.

One tail test:

Formulae used:

$$Z = \frac{\bar{X} - \mu}{\sigma_p / \sqrt{n}}$$

$$\sigma_p = \sigma_s = \sqrt{\frac{\sum (\bar{X}_i - \bar{X})^2}{n - 1}}$$

$$\bar{X} = \sum_{i=1} X_i / n$$

Interviews of 80 respondents were held and relevant data on statistical parameters such as \bar{X} , σ_p and Z were

calculated as indicated below.

Calculated Value of \bar{X} from the collected data

$$\bar{X}=169.9$$

Assumed Mean $\mu = 165$

$$n=80$$

$$\sigma_p = \sigma_s = \sqrt{\frac{12325}{79}} = 12.49$$

Calculating the value of Z:

$$Z = \frac{169.6 - 165}{12.49 / \sqrt{80}}$$

$$Z = \frac{4.6}{1.395}$$

$$Z=3.297$$

$$\text{i.e. } Z=3.3$$

The calculated value of $Z = 3.3$ is more than 1.96 (at 5% level of significance). Hence, the null hypothesis is rejected and alternate hypothesis is accepted (i.e. the awareness about the green automobiles among the consumers is significant).

Hypothesis-2

H0: There is no significant difference in the awareness level of people about green automobiles who are in the age group of 20-24 and in the age group of 25-40.

H1: The awareness level of the people about green automobiles in the age group of 20-24 is less than the awareness level of people who are in the age group of 25-40.

Formula for conducting the two-tail test

$$Z = \frac{\bar{X} - \bar{Y}}{S \times \sqrt{1/n_1 + 1/n_2}}$$

Where

$$S = \sqrt{\frac{\sum (X_i - \bar{X})^2 + \sum (Y_i - \bar{Y})^2}{n_1 + n_2 - 2}}$$

$$S = \sqrt{\frac{\sum (X_i - \bar{X})^2 + \sum (Y_i - \bar{Y})^2}{n_1 + n_2 - 2}}$$

Data is collected from respondents and the relevant statistics are calculated as shown below.

From the collected data:

$$\sum (X_i - \bar{X})^2 = 3483.775$$

$$\sum (Y_i - \bar{Y})^2 = 6698.975$$

$$n_1 = 40, n_2 = 40$$

Substituting the values:

$$S = \sqrt{\frac{3483.775 + 6698.975}{78}}$$

$$S = 11.425$$

$$Z = \frac{\bar{X} - \bar{Y}}{S \times \sqrt{1/n_1 + 1/n_2}}$$

$$Z = \frac{164.425 - 174.775}{11.425 \times \sqrt{1/40 + 1/40}}$$

$$Z = \frac{-10.35}{11.425 \times 0.223}$$

$$Z = -4.05$$

The calculated value of Z is - 4.05, which happens to be in the rejection region and hence H₀ is rejected in favor of H₁ and it can be concluded that the awareness level is higher amongst the respondents who lie in the age group of 25-40 years.

Hypothesis-3

H₀: The consumers have a positive opinion for green automobiles even if they have to pay 5% extra of the current price.

H₁: The consumers are of the negative opinion in paying 5% extra of the current price of the automobiles.

One Tail Test:

For the purpose of testing the above hypotheses, the data related only to the relevant question of the questionnaire is considered instead of all the responses (which are considered for analysis in the previous two cases). The pertinent question is “Customers will favor green automobile if the price hike is up to 5% of the current price of the automobile”.

The values obtained from collected data as stated earlier are mentioned below.

$$\bar{X} = 3.15$$

Assumed Mean $\mu = 3$

$$\sum (X_i - \bar{X})^2 = 70.2$$

$$Z = \frac{\bar{X} - \mu}{\sigma_p / \sqrt{n}}$$

$$\sigma_p = \sigma_s = \sqrt{\frac{\sum (\bar{X}_i - \bar{X})^2}{n - 1}}$$

$$\sigma_p = \sigma_s = \sqrt{\frac{70.2}{79}}$$

$$\sigma_p = \sigma_s = 0.94$$

$$Z = \frac{3.15 - 3}{0.94 / \sqrt{80}}$$

$$Z = \frac{0.15 \times 8.94}{0.94}$$

$$Z = 1.43$$

The calculated value of Z is 1.43 which is less than 1.96 (at 5% level of significance). Hence, the null hypothesis is accepted which is “The consumers have a positive opinion for the green automobiles if they have to pay 5% extra of the current price” and the corresponding alternate hypothesis is rejected.

In order to unfold the remaining objectives of the study, analysis of some respondent data was carried out. The detailed results of which are illustrated below.

ANALYSIS OF SOME RESPONDENT DATA

Impact of Increased Price

A question exploring the possibility of customers paying up to 25 % extra for acquiring the green automobile was

posed to the respondents. The details of responses obtained are as under:

80 Respondents were asked to give their opinion.

50 Respondents strongly disagree with the above view.

25 Respondents are not sure whether they would pay extra or not.

Only 5 Respondents agree with the above view.

The response clearly indicates that customers are not willing to pay a very high price for the green product.

The rise in the price to the tune of 25% extra is not acceptable to the customers (Figure 1).

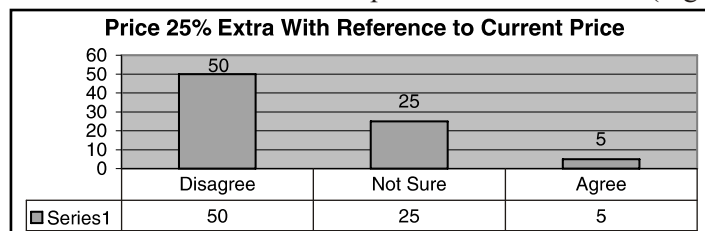


Figure -1: Willingness to pay 25% more for the green automobile

PERCEPTION OF LONG TERM BENEFITS

When the customers were probed for their perception about green marketing promoting long term benefits, the details of the responses obtained are as under:

80 Respondents were asked to give their opinion.

61 Respondents are aware of the benefits which green products are likely to give.

18 Respondents are not sure whether green marketing will promote long term benefits to the customers or not.

Only 1 Respondent disagrees with the above view.

Figure -2 clearly indicates that there is sufficient awareness in the market about the long-term benefits which green marketing shall promote.

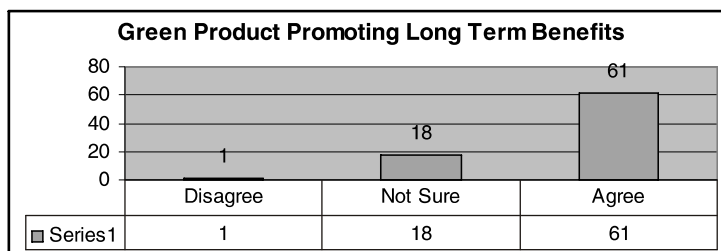


Figure 2: Responses relating to the long term societal benefits

RURAL V/S URBAN SCENARIO

All the respondents were asked to give their opinion about possible higher acceptance of the Green Automobiles in the rural market, as compared to likelihood of higher acceptance of the Green Automobiles in the urban market. The following scenario has emerged:

80 Respondents were asked to give their opinion on these two questions.

The response indicates that 20 respondents disagree about the acceptance of green products in the rural market; while only 4 respondents disagree when the urban scenario is posed to them.

Approximately 35% of the respondents are not sure about their opinion.

47 respondents are in agreement about its success in the urban market as compared to only 30 predicting its success in the rural market. It is further illustrated in Figure 3.

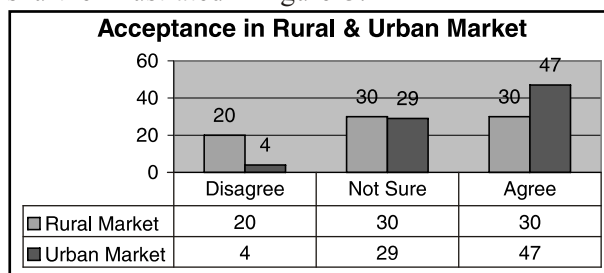


Figure - 3: Likely acceptance of the green automobile in rural v/s urban market

Product Acceptance in Two Wheeler and Four Wheeler Segments

When the respondents were asked to assess the relative product acceptance in four wheeler and two wheeler segments, the responses obtained are as under:

80 Respondents were asked to give their opinion.

24 respondents disagree about the acceptance of the product by the owners of two wheelers while only 17 respond in a similar fashion when asked to predict about the four wheeler category.

Approximately 33% of the respondents are not sure about their opinion.

Out of the total sample, 38 respondents agree about the product's acceptance among the four wheeler category, and 27 respondents do so in the two wheeler category.

It indicates that the sample is of the opinion that acceptance of green products will be slightly higher with the owners of four wheelers; the fact is illustrated in Figure 4 below.

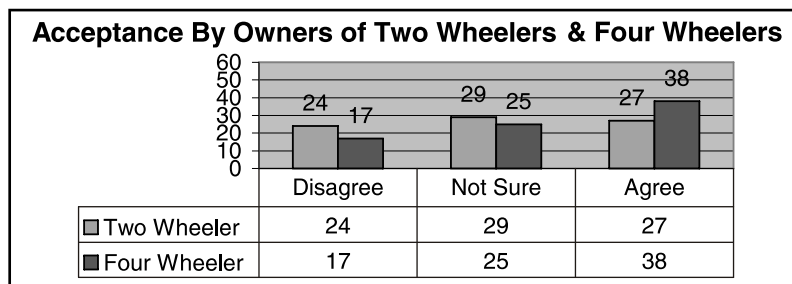


Figure 4:

Prediction about the acceptance of Green Automobiles among owners of two and four wheelers

FACTOR ANALYSIS

All the 45 variables appearing in the questionnaire were subjected to factor analysis using SPSS software. Out of which 14 factors are identified when the VARIMAX converged after 56 iterations. These factors are again analyzed and after 9 iterations, 5 factors emerge as the major factors. These are illustrated in Table 2 and Table 3. These are compared in Figure 5. Subsequently, interpretation of these results is also presented.

Table 2: Emerging factors

Factor No.	Factor Name
1	Awareness
2	Readiness
3	Impact
4	Pollution
5	Green Future

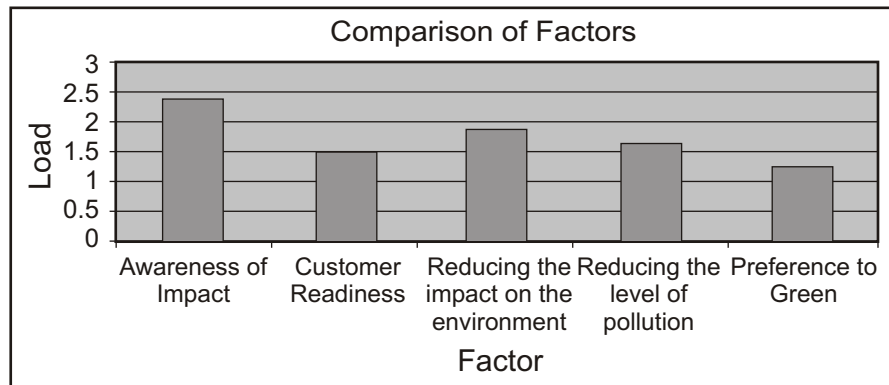
Table 3: Factor Load and percentages obtained

Factor No.	Factor Name	Factor Load	Percentage
1	Awareness of the impact on the environment	2.39	27.72%
2	Customer Readiness to buy the green automobiles	1.47	17.05%
3	Reducing the impact on the environment	1.88	21.80%
4	Reducing the level of pollution	1.63	18.90%
5	Preference to green products	1.25	14.50%
	Total	8.62	100%

Factor 1: Awareness of the impact on the environment accounts for 27.72% of the total load. It comprises of

1. Impact on environment.(0.68)
2. Preference to green if total cost of ownership is less.(0.64)
3. Disposing the product in landfills.(0.62)
4. Promotion of Sustainable Production.(0.44)

Figure-5 : Comparison of Factors



It shows that the general awareness prevails amongst the customers, and they have indicated keenness in moving towards the green automobile.

Factor 2: Customer Readiness to buy the Green products accounts for 17.05% of the total load. It comprises of

1. Eco-friendly automobile is need of the day.(0.73)
2. Preference to Green Automobile(if available up to 5% increase in present price level).(0.73)

This means sufficient readiness is shown by the respondents for acquiring the green automobile at an incremental increase in price.

Factor 3: Reducing the impact on the environment accounts for 21.80% of the total load. It comprises of

1. Design reducing the environmental impact.(0.69)
2. Market growth of conventional automobiles likely to enhance environmental impact. (0.61)
3. Green marketing philosophy shall protect the environment.(0.57)

Respondents are aware that impact is being created by the usages of automobile and there is a need to reduce the impact on the environment, and it is time to adopt green marketing.

Factor 4: Reducing the level of pollution accounts for 18.90% of the total load. It comprises of

1. Reduction in the usage of Plastic & Rubber parts in the product.(0.63)
2. Market is ready to accept green product in question. (0.58)
3. Need for national policy reducing level of pollution.(0.40)

Automobile accounts for creating maximum pollution in the environment and the need has been felt by the respondents to reduce pollution levels.

Factor 5: Preference for Green products accounts for 14.50% of the total load. It comprises of

1. Market shall prefer green automobiles.(0.67)
2. Future market is likely to be driven by green design of automobiles.(0.57)

Respondents have shown preference to green automobile if it is designed green.

SUMMARY OF RESULTS

- Hypothesis one clearly indicates that there is significant awareness amongst the respondents in the market and organizations should adopt right green marketing strategies for the overall benefits of the organization and society.
- Hypothesis two clearly indicates that awareness level amongst the youngsters is to be increased as this generation will be major users of the products. The observed value of Z is - 4.05, which happens to lie in the rejection region and hence H₀ was rejected in favor of H₁, and it is concluded that the awareness level is higher amongst the respondents in the age group of 25 - 40.
- The above notion is further illustrated by the factor analysis which shows the customers' awareness about the impact of automobiles on the environment and their intention to subsequently reduce it. Further, it also shows their readiness to buy the green automobiles; they also intend to prefer the green automobiles so that level of pollution can be reduced.
- Hypothesis three clearly indicates that the marketers should work out product pricing strategy by reducing their profit margins and improvising on manufacturing so that there is a small increment in price (not exceeding 5 to 7 percent) which will be generally acceptable.
- 25% extra price with reference to the current price cannot be the price tag, since the response indicates that

customers are not willing to pay a very high price for the green product.

- The response obtained regarding green products promoting long term benefits indicates that there is sufficient awareness in the market about advantages of using them.
- The response indicates that acceptability of green products in rural and urban market is of similar nature. However, in the urban market, the acceptability is slightly more.
- The response also indicates that the acceptance of green product shall be slightly higher among the owners of four wheelers.

CONCLUSIONS

Following conclusions can be drawn from the study:

Looking to the significant awareness about green marketing prevailing among the customers, the firms must adopt suitable green marketing strategies.

The middle aged segment, urban segment and four wheeler segments of the study exhibit more awareness as compared to the younger people and people with rural background as well as owners of two wheelers. Therefore, programs creating awareness about green products are needed in these less aware segments.

The green technologies in the automobile sector cannot be allowed at the cost of an increased price tag of the green products, only because they offer a sustainable product. But to the contrary, other methods like use of economies of scale should be used to avoid undue escalation of prices. This shall serve the dual purpose of keeping the price low and also that of recovering the costs associated with development of green technology.

The Government policies should aim at encouraging the innovations and development of low cost technologies associated with the Green Automobile.

Finally, it is felt that green marketing will lead to all round development of the society. This fact should be kept in mind by the corporates and the consumers both and the market should be slowly shifted towards green products.

This study is likely to help the marketers to design the marketing strategies, so that benefits of the green products are continuously demonstrated in their product promotion. For example, the green automobile can first be launched in the premium segment, and then once the infrastructure is in place, it can go for full market coverage.

The green leaders should be motivated by a double bottom line; a bottom line that recognizes the potential for business to affect societal changes as well as to create economic wealth.

SCOPE FOR FURTHER WORK

The present study is limited to a particular geographic region. It surveyed limited segments of potential buyers of the green automobile. Therefore, the authors suggest that the scope of this study can be enhanced in future from regional to the national level and more customer segments based on demography, social status, culture, education level, gender etc., may be incorporated in it.

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