CHAPTER 1

INTRODUCTION AND RESEARCH METHODOLOGY

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CHAPTER 1

INTRODUCTION AND RESEARCH METHODOLOGY

1.1 Introduction
Global warming, various types of pollutions and its impact on human life are a matter of concern of world population. People around the globe showing keen interest in protecting the environment and to get rid of adverse effects of environmental imbalance.

As a result, people exhibit environment conscious behaviour at the time of purchasing any product. Such type of environment conscious behaviour is termed as “Green buying behavior”.

According to Mostafa (2007), green purchase behavior or environmental friendly buying behavior is the consumption of products that are benevolent/beneficial to the environment, recyclable or conservable, Sensitive/responsive to ecological concerns. The increasing number of consumers preferring environment friendly products forcing the manufacturers to add “eco friendliness” to their products.

1.2 Research Problem
With the scientific and industrial revolution in the recent past, there has been immense impact of the activities of man on his environment. Huge industrial installations every year, the introduction of the faster mode of transport, sprouting up large, crowded cities, changing food habits, deforestation and decreasing the agricultural land, widespread use of insecticides, pesticides, improper use of fertilizers and chemicals are some other contributing factors which challenged the life of man, animals especially birds and other organisms. (Kumar, 2012) Everyone seems to be aware about these impacts, but unable to take initiative in reducing the harm to the environment. Somewhere in the mind of everyone, there is an innermost feeling about protecting the environment. The majority of people want to actively participate in environment protection movement, but some other limitations may hinder them from being in it. So at individual level, whenever, they get a chance to reduce environmental hazards, they try to do it. Showing inclination towards buying eco friendly product can be termed as one such moment. Reports from various eco friendly product manufacturers show the recent trend about eco friendly product purchasing.
A report by Juniper Research (Punzalan, 2012) shows that sales of environmentally-friendly cell phones will reach almost 400 million by 2017, more than ten times the number that is expected to be shipped in 2012. General Electric has doubled sales from environmentally friendly products to $12 billion over the past two years, Financial Times reports. Nikoleta Panteva, a senior analyst with IBIS world says demand for eco-friendly products and a service is increasing. Not only does that boost the residential housing market, where 'green' homes and renovations are increasingly in demand, but it also drives business-to-business demand for services such as environmental consulting and water conservation. “There is a definitive shift toward finding ways to make things more efficient and longer-lasting,” says Panteva, who notes that government programs such as Energy Star are also helping drive consumer demand for eco friendly products.

David Wigder, Senior Director, Marketing Strategy, at Ogilvy, and a senior member of the Ogilvy earth team, says in his blog that Green marketers might first need to educate consumers about green brands before those brands can become relevant in their lives. One powerful tool is to communicate a goal-driven message around green products, while showingcasing their actual use by people that consumers can readily identify with. He continues that an innovative green product spurs new demand across an entire product category, rather than just replacing the existing generation of products in market. He gave example of household lighting. Most of us are aware that switching from incandescent to fluorescent light bulbs can result in a dramatic reduction in energy use. But, overall adoption has been relatively modest in comparison to the potential market, likely due to the premium price commanded for the bulbs. Report published by GfK, market research Company, in 15 Aug, 2012 explains that purchases of environmentally protective products have grown significantly in two of the world’s leading markets – China and Brazil; but the widespread perception that these products are too expensive may be blocking deeper adoption. Philips Electronics (18 Feb,2008), which counts products ranging from MRI scanners to light bulbs as "green" depending on energy usage, said sales of green products rose 33% to 5.3 billion Euros ($7.7 billion) during 2007.

Unilever’s eco-friendly detergent started as a way to boost the company’s green credentials, but is now driving growth in the company’s once-lackluster laundry unit, Business Week reports. Consumer Behaviour Report ‘Eco friendly Parenting’ (Sept,
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2007), highlights, 74 % of survey respondents says that being a positive eco friendly example to others is important to them. 68 % of online shoppers say that purchasing eco friendly products is important while 35% say that it is extremely or very important to them.

According to a report, in spite of increasing awareness about using eco friendly product among the customers, the market of eco friendly product is the niche market. In past studies it is evident that, customers belonging to specific educational class, income class, and social class show some intention towards using eco friendly products. Still large amount of population is deprived of it. Through this study researcher intended to explore the buying behavior of the customers who are using eco friendly FMCG products, factors affecting their buying behaviour, demography wise changes in buying behaviour, reasons for its limited popularity amongst the masses.

From above discussion of review of literature, few questions raised into the mind of researcher like,

i. How many of customers are exactly aware about eco friendly products?
ii. How many of them know exactly the meaning of eco friendly products?
iii. Is education really helping customers in buying eco friendly products?
iv. Whether price is the major determining factor in purchasing eco friendly products?
v. And most importantly, the customers who are having positive attitude towards eco friendly products and who are well versed with environmental issues, do they actually exhibit the environmental conscious behavior?

1.3 Statement of Research Problem

The aforesaid discussion raised several questions in which in depth enquiry is necessary. In the entire chain of business customer is the most important aspect since the change in the behaviour of customer’s influences entire chain of business. Economy has witnessed closure of industries and birth of new industry as well. The issues related to environment protection have voiced a lot on global platform. Especially the factors responsible for environment pollution and its consequences. To the greater extent business is also held responsible for the destruction of an
environment. For fulfilling raising wants of people in a specific economy business need to sourced resources from nature. Ultimately everything comes from nature. The unending wants puts pressures on nature and environment which coins several savior problems which needs attention of business as well as common people who are acting as a customer, an important agent of this entire chain of business. Since the end user is important which influences entire chain of business and if end user become eco friendly and reflects environment friendly while purchasing products then it would help immensely to solve issues related to nature and environment. In the light of aforesaid discussion researcher wish to study the behaviour of customers with reference to eco friendly products. Hence, the statement of research problem is “A Study of Green Buying Behaviour of Customers with reference to FMCG Products in Satara District.”

This statement detailed a study of buying behaviour towards eco friendly products focusing on fast moving consumable goods in defined geography called Satara district of state of Maharashtra, India. The FMCG products are focused owing to its daily consumption is reasonably large quantity.

1.4 Hypotheses of the Study
i. Present research postulates following hypotheses to test.

ii. Education affects customer’s awareness about Eco Friendly Products.

iii. Customers are indifferent of price while purchasing Eco Friendly Products.

iv. There is no gender bias in buying of Eco Friendly Products.

v. There is no significant difference into attitude of customers towards buying Eco Friendly Products and actual buying of Eco Friendly Products.

1.5 Objectives of the Study

Objectives of the study are as following,

1. To study the awareness of customers about Eco Friendly Products.

2. To know the attitude of customers towards Eco Friendly Products with respect to price of products.

3. To study the factors that affect customers buying behaviour about Eco Friendly Products.

4. To study the marketing strategy of suppliers of Eco Friendly Products in Satara District.
1.6 Scope of the Study

Study was conducted in Satara district only. Study was focused on studying green buying behaviour of customer’s from Satara district. Concepts like, eco friendly product, green marketing, factors affecting buying behavior, concept of Fast Moving Consumer Goods have been studied during study. Only Fast Moving Consumer Goods were focused during study. Data from samples were collected from June 2013 to December 2013.

Statistical tools like, measures of central tendency, measures of dispersion, t test, chi2 test, ANOVA, Conjoint Analysis, Kolmogorov Smirnov test, and Binomial test have been used for data analysis.

The uncontrolled experimentation study was conducted to understand the behaviour of samples who are not actually buying the eco friendly products but they are aware of such products. Even the experimentation study was conducted on samples that are made aware of eco friendly products during the study and then became ready to buy the products.

The experimentation also conducted on select samples where samples were selected using purposive sampling method to assess the part utility extended by select samples to the attributes of products. The study has detailed in the section conjoint analysis in data presentation and analysis chapter.

1.7 Importance of the Study

Green marketers are facing a challenge as green products and messages becoming more common that creating confusion among customers.\textsuperscript{vii} The reason may be lack of proper knowledge amongst customers about the eco friendly products. The present study has found the reasons of such confusion among the customers. For knowing the level and nature of awareness about eco friendly products among the customers, this study is beneficial.

To understand the need, want and preferences of customers about Eco friendly products, findings from this study will be utilitarian. Pricing of Eco friendly products is one of the important topics for producers as well as marketers; findings of this research will offer insight for them in determining suitable pricing policy.

While interviewing samples for the study, researchers observed it wisely, that samples have tended to purchase the promoted merchandise. And it was observed that, the samples are unaware about any such advertisement of Eco friendly product. So,
marketers should think about innovative means of advertising, for reaching their products to the masses. Availability of Eco friendly products is another matter which came forward during a survey. Marketers can study and develop an effective distribution system for providing eco friendly products to desired customers.

The findings of the study are useful for policy makers as well. Findings highlight that customers are well aware about the causes of increasing pollution and environmental deterioration. This awareness paves way to their green buying behavior. But factors like, price, availability becomes a hurdle for this. Encouragement for eco friendly production, wide awareness campaign and developing schemes manufacturing of eco friendly products, such initiatives will be definitely beneficial for all the stakeholders of green marketers.

Findings of this study may help to suggest some marketing practices to enhance the marketing of eco friendly products. Study may also help in designing the awareness program about eco friendly products.

1.8 Research Methodology

Present study has used diagnostic research design with one section of experimentation.

1.8.1 Data Required

Study requires data regarding customer’s demographic profile, information about eco friendly products. Conceptual information regarding buying process, factors affecting buying behavior was required for the study. The data regarding suppliers of eco friendly products in Satara district, reactions on experimentation towards buying eco friendly products was needed.

1.8.2 Data Sources

Data required for the study has collected using primary and secondary data sources.

1. Primary Data Sources

Primary data regarding customer’s demographic profile, customer’s attitude towards eco friendly products, various factors that affect customers buying behaviour about eco friendly product, information about suppliers of Eco friendly products in Satara district has collected using structured interview schedule and through observations.

2. Secondary Data Sources

Secondary data regarding customer’s buying behavior, eco friendly products market, factors influencing buying behavior, information about suppliers of Eco friendly
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products in Satara district was collected through various reference books, magazines, journals, newspapers and websites.

1.8.3 Instrument

Structured Schedule has used to collect primary data. Schedule has following parts:
Part I-Questions determining Socio Economic Class of samples

Part II-Demographic Information

Part III-Awareness about Eco Friendly Products

Part IV- For samples that are aware about Eco Friendly Products and buy Eco Friendly Products

Part V- For samples that are aware about Eco Friendly Products but do not buy

Part VI- For samples that never heard of Eco Friendly Products

Part VII-VALS Personality schedule for determining personality type of samples

Every part of schedule has relevant variables. The narration of variables, part wise is as follows:

Part I–
Questions to determine Socio economic class is the first part of schedule. Market Research Society of India has developed Socio-Economic Classification-2011, “The New Sec System”. According to this system, the classification of households in India is based on two variables:
1. Education of chief wage earner in the family.
2. Number of “consumer durables” (from a predefined list)-owned by the family.
   The list has 11 items, ranging from ‘electricity connection’ and ‘agricultural land’-to cars and air conditioners

On the basis of these parameters, 12 grades in the new SEC system, ranging from A1,A2,A3, B1,B2,C1,C2,D1,D2,E1,E2 andE3 has been developed. Researcher has used these variables, for determining socioeconomic class of samples.

Part II–
This part of schedule seeks to get demographic as well as personal information of samples. The variables viz., name, address, contact no., e mail id, gender,
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birth date, age, individual monthly income and house hold monthly income, occupation, religion/cast, hobbies, nature of exercise, member in family more inclined to be eco friendly, demographic information of that family member, show card of organic/nature friendly products to know whether samples use it.

Part III–

This part of schedule seeks to study awareness of samples about Eco friendly products. The awareness were sought on five point likert scale (1-Strongly Agree, 2-Agree, 3-Neither Agree nor Disagree, 4-Disagree, 5-Strongly Disagree)Five statements were constructed seeking opinion of samples about present material life has been developed. The variables were Industrial activities, like use of harmful chemicals by industries that causes air, water, soil pollutions, faulty government policies, lack of strict environmental laws, lack of awareness among citizens about environment protection, various individual human activities, like use of polythene bags for shopping, unnecessary use of water etc.

A dichotomous question to know the awareness of samples about buying activity of human being may result in environment deterioration has been asked.

Opinion of samples on steps would like to take for minimizing environment deterioration for being environment friendly has been asked on nominal scale with nine statements. These variables were I will try to avoid waste generation, I will reuse the product to maximum extent instead of purchasing new one or throwing it away, I will not use disposables, as disposables don’t decompose, I would prefer to share things with friends like, prefer public transport, sharing of a bike etc. thus minimizing usage of natural resources as well as minimizing pollution, I’ll prefer to carry cloth bags while shopping instead of plastic carry bags, I’ll prefer to purchase the products with natural ingredients than those with chemical ingredients, I’ll prefer to purchase eco friendly FMCG products from nearer shop and thus avoid using vehicle leading to less use of fuel and minimizing air and noise pollution, I’ll prefer purchasing products whose packaging is also eco friendly, I’ll spread the message of being environment friendly among my friends, relatives and
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colleagues. Question to know awareness about eco friendly product has been asked which was provided with 3 responses, viz,

A) I have heard of eco-friendly products and I buy eco-friendly products

B) I have heard of eco-friendly products but I don’t buy eco-friendly products

C) I have not heard of eco-friendly products

On the basis of response given to this question, schedule was subdivided accordingly. For each response distinct set of questions has been asked.

Part IV-

This part of schedule has been developed for samples that have given response “A” to above question, means samples that are aware about Eco Friendly Products and buy Eco Friendly Products.

The first question of this part is open ended, which seeks answers from samples, about which eco friendly products they are aware of as well as they buy. Sub part of this question seek specific answer from sample, like samples have to answer , the generic eco friendly product, brand of eco friendly product they buy, as well as any other generic eco friendly product, with brand, they are aware of but do not buy.

Second question of this part seeks to study the awareness among samples about determining criteria of eco friendly product. Seven variables on nominal scale, as determining criteria have been developed. These variables were products with eco mark label, products that saves energy, products whose manufacturing process do not harm environment, products that can be recycled, products that saves water, while consumption of the product, it do not cause any type of pollution, viz, air, water, noise, soil pollution, and products that decomposes after use.

Third question of this part seeks prime reasons behind purchasing eco friendly products. Nominal scale with ten statements indicating reasons to purchase eco friendly products have been developed. The statements were, feel pride in using EFPs, I wish to have contribution in conservation of nature and preservation of an environment, it gives me a sense of happiness/satisfaction that I am contributing to a noble thought of EFPs, to change/reduce guilt of
environment pollution, it’s my moral duty to purchase EFPs, (Gielissen, 2011), social Influence (Yong-Ki Lee, 2012), EFPs are economical, I consider buying EFPs because they are less Polluting (A.H. Lizawati Aman, 2012), to change/reduce guilt of environment pollution (Jurate Banyte, 2010). EFPs are of good quality and EFPs are healthy.

Fourth question of this part seeks attitude of samples towards eco friendly products. Eight variables, has been constructed and opinions were taken on five point likert scales (1-Strongly Agree to 5- Strongly Disagree). The variables of scale were, the price of EFPs is usually more than the other product, lack of variety in EFPs, I believe that EFPs are not user friendly, I couldn’t find EFPs easily available at any shops, EFPs available in green label or packaging, using EFPs is for luxury and showing-off not for protecting the environment, I trust that companies producing EFPs are really providing environmentally safe products and marketer/companies are not promoting/communicating eco-friendly products so as to reach it to us.

Fifth question seeks to study post purchase behavior of samples. Six variables has been discussed on five point likert scale (1-Strongly Agree to 5- Strongly Disagree). These variables were, henceforth, I’ll only purchase EFPs, while purchasing any Personal care, Home care product, and any other kind of product, I’ll look for its Eco friendliness, I’ll recommend purchasing EFPs to my friends, relatives, colleagues etc., under any circumstances, I’ll not purchase non EFPs, I’ll always try to get more information on EFPs through various means and I’ll spread the message of being eco friendly among my friends, relatives and colleagues.

Sixth question of this part discusses opinion of samples about pricing of eco friendly products. Opinions were measured on five point likert scale (1-Strongly Agree to 5 - Strongly Disagree) have been discussed. These variables were, I accept paying extra price for EFPs to preserve our environment, I am ready to pay more taxes to support government implement eco friendly policies, I purchase those products which are costlier but causing less environmental pollution, (K. P. V. Ramankumar, 2012) I purchase recycled products even they are more expensive, the benefits of protecting the
environment do not justify the expense involved. Personally, I have economic concerns which I consider more important than preserving the environment.

Part V-

This part of schedule has been developed for samples that have marked option B in the last question of part – III, that is, aware about Eco Friendly Products but do not buy. As these samples are aware of eco friendly products, but do not buy, a dichotomous question seeking answer to, intention to buy an eco friendly product has been framed. On the basis of response to this question, next questions were discussed.

For negative response, reasons for not buying eco friendly product were measured on five point likert scale (1-Strongly Agree to 5- Strongly Disagree). These ten variables were, “EFPs are costly products, buying EFPs only, may not help in safeguarding the environment, I have never purchased any such product before, so don’t have any idea about how it is, I’ll not buy any EFPs merely for environment protection; will look for few more benefits, I don’t have any idea about its economic viability, I am doubtful whether this product will be available for repeat purchase, I need to consult with my family about its purchase, conserving environment is not only my duty, government should make it compulsory to buy EFP and not ready to switch my current brand of a product.

For samples that answer in a positive way, an experimental design has been developed. After exhibiting an eco friendly product to sample, reaction of samples has been recorded in schedule as, Sample amazed to see the products, Sample found happy to see the products, Sample turns nervous to see the products, Sample did ask additional information about product (variety, price, other features – technical – non technical etc).

Next to this, behavior of sample has been recorded with questions like, whether sample purchased a product, if yes, what quantity, whether sample asked about source of second purchase of a product.

After exhibiting an eco friendly product, if sample shows positive behavior towards buying an eco friendly product, then the next set of questions were ask to opine on five point likert scale (1-Strongly Agree to 5-Strongly
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Disagree), seeking reasons to buy an eco friendly product. These six variables were, I am an environment conscious person and I know that buying this product will help in maintaining environmental balance, I have seen the advertisement of this product, my friend/relative/colleague also uses the same product, I don’t know about this product, but as you are saying it is Eco friendly, therefore I am purchasing, I am really convinced with the concept of eco friendly product and since you have come here for study purpose hence bought eco friendly product from you.

If after exhibiting an eco friendly product, sample again shows negative response, questions seeking reasons behind negative response towards buying an eco friendly product has been recorded on eleven statements with the help of five point likert scale (1-Strongly Agree to 5 - Strongly Disagree). These variables were, it seems a costly product, it don’t have variety to choose from, quality of this product do not seem worth of price, it may not be available easily at any shop for repeat purchase, I have not seen any advertisement of this product, I don’t believe that this product is Eco friendly, people use EFPs for luxury and showing-off, I don’t want to do that, I already have similar non EF product with me, so don’t want to purchase it, I don’t have money right now to purchase it, my friend/relative/colleague gave negative feedback about this product and I’ll definitely purchase it next time.

Questions seeking opinion of samples about pricing of eco friendly products has been constructed on five point likert scale (1-Strongly Agree to 5-Strongly Disagree).These seven variables were, I would accept paying extra price for environmentally-friendly products to preserve our environment, I would be willing to pay more taxes to support government implement eco friendly policies, I believe that the price of environmentally safe product is usually more than the other products, I would like to purchase those products which are costlier but causing less environmental pollution, I will purchase recycled products even they are more expensive, the benefits of protecting the environment do not justify the expense involved and Personally, I have economic concerns which I consider more important than preserving the environment.
This part has been developed for samples marked C to the last question of part – III that never heard of Eco Friendly Products. As these samples have never heard of eco friendly products, after giving detailed information of eco friendly products, a dichotomous question seeking answer to, intention to buy an eco friendly product has been framed. On the basis of response to this question, next questions have been discussed. For negative response, the scale with two statement variables on five point likert scale (1-Strongly Agree to 5-Strongly Disagree), seeking reasons for negative response has been developed. These variables were, I’ll collect some more information and then I’ll decide and I don’t have a time right now to think about this new type of product. For samples that answer in a positive way, an experimental design has been developed. After exhibiting an eco friendly product to sample, reaction of samples has been recorded in schedule as, Sample amazed to see the products, Sample found happy to see the products, Sample turns nervous to see the products, Sample did ask additional information about product (variety, price, other features – technical – non technical etc).

Next to this, behavior of sample has been recorded with questions like, whether sample purchased a product, if yes, what quantity, whether sample asked about source of second purchase of a product.

After exhibiting an eco friendly product, if sample shows positive behavior towards buying an eco friendly product, then the next set of variables with five point likert scale (1-Strongly Agree to 5 - Strongly Disagree), seeking reasons to buy an eco friendly product has been discussed. Three variables were discussed in this scale viz., I am really convinced with the concept of eco friendly product, since you have come here for study purpose hence bought eco friendly product from you and I don’t know about this product, but as you are saying it is Eco friendly, therefore I am purchasing.

If after exhibiting an eco friendly product, sample again shows negative response, questions seeking reasons behind negative response towards buying an eco friendly product has been recorded with nine statements with five point likert scale(1-Strongly Agree to 5 - Strongly Disagree). These variables were, it seems a costly product, it don’t have variety to choose from, quality of this...
product do not seem worth of price, it may not be available easily at any shop, I have not seen any advertisement of this product, I already have similar non EF product with me, so don’t want to purchase it, I don’t have money right now to purchase it, I need to consult with my family about its purchase, I’ll definitely purchase it next time.

Schedule was appended with questions seeking habits of samples. Eight habits were identified to be included in the schedule, these were, chewing tobacco, eating paan, drinking alcohol, non vegetarian, eating fast food, and smoking.

Part VII-

This part discusses type of personality sample belongs to. Strategic Business Insights developed Values, Attitudes and Lifestyles (VALS) survey to identify the VALS personality type of the person taking the survey. To find out about a person's product ownership, media preferences, hobbies, additional demographics, or attitudes (for example, about global warming), the questions in the VALS survey integrate into larger questionnaires that ask about these topics. VALS assigns individuals a VALS type on the basis of their responses to questions in the VALS Survey. The VALS personality types are, Innovators, Thinkers, Believers, Achievers, Strivers, Experiencers, Makers and Survivors. Researcher has used this survey for identifying type of personality of samples.

1.8.4 Sampling

Population for the study was infinite. Quota sampling technique was used for selecting the samples.

The Market Research Society of India developed 12 socio economic classes. These classes are based on two parameters “Education of chief earner and Number of “consumer durables”. These classes are A1,A2,A3,B1,B2,C1, C2,D1,D2,E1,E2,E3.

Quota was decided on the basis of 12 Socio-Economic Classes A1 to E3. Simultaneously the formula for calculating sample size for infinite population at 10% level of significance with 10% of estimated error has used which results in 167.3 sample size rounded to 168. Primarily it was decided to meet at least 30 samples per SEC so as to facilitate the analysis across different social classes of society.
Owing to lack of awareness of technical terms in environment and eco friendly products, it was quite difficult to get the samples from lower socio economic class hence the figure of 360 samples has achieved with unequal distribution of samples across socio economic class.

1.1. The table presented below presents the distribution of samples as per socio economic class.

**Table 1.1**

**Distribution of Sample as per SEC.**

<table>
<thead>
<tr>
<th>Sr</th>
<th>SEC</th>
<th>Sample Size</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A1</td>
<td>98</td>
<td>27.22</td>
</tr>
<tr>
<td>2</td>
<td>A2</td>
<td>105</td>
<td>29.17</td>
</tr>
<tr>
<td>3</td>
<td>A3</td>
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<td>20.00</td>
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<tr>
<td>4</td>
<td>B1</td>
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</tr>
<tr>
<td>6</td>
<td>C1</td>
<td>20</td>
<td>5.56</td>
</tr>
<tr>
<td>7</td>
<td>C2</td>
<td>7</td>
<td>1.94</td>
</tr>
<tr>
<td>8</td>
<td>D1</td>
<td>6</td>
<td>1.67</td>
</tr>
<tr>
<td>9</td>
<td>D2</td>
<td>2</td>
<td>0.56</td>
</tr>
<tr>
<td>10</td>
<td>E1</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>11</td>
<td>E2</td>
<td>3</td>
<td>0.83</td>
</tr>
<tr>
<td>12</td>
<td>E3</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>Total =</strong></td>
<td><strong>360</strong></td>
<td><strong>100</strong></td>
<td></td>
</tr>
</tbody>
</table>

Besides above sampling design the purposive sampling method has used to collect data for experimentation study. One appropriate representation of sample from each SEC has selected purposively with in-depth counseling as to retrieve at most honest opinions of samples towards selecting a product to make it amenable for regression analysis.

**1.8.5 Presentation and Analysis of Data**

The scrutinized interview schedule was codified for data feeding. The data was entered in MS-Excel with data validation check. The data was further validated with SPSS. The filtered and validated data was tested for reliability using Cronbach’s Alpha. Data was classified and presented in tables. Data analysis was done using percentage, measures of central tendency, measures of dispersion and ANOVA, Conjoint Analysis.
Hypotheses testing were done using one sample Chi-square test, one sample t test, Kolmogorov Smirnov test, and Binomial test. The data collected through experimentation has been analyzed using regression analysis to find out part worth utility extended by samples to the product attributes. The dummy variables bring in use for the same purpose. The data is presented in the nine parts as follows.

<table>
<thead>
<tr>
<th>Part</th>
<th>Title of the Part</th>
<th>Contents in the part</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part I</td>
<td>Demographic Analysis</td>
<td>Descriptive statistics of all the samples</td>
</tr>
<tr>
<td>Part II</td>
<td>Awareness of Eco Friendly Products</td>
<td>SEC frequency table about awareness of EFPs</td>
</tr>
<tr>
<td>Part III</td>
<td>Availed Eco Friendly Products</td>
<td>Frequency table of Samples buy EFP (SEC) Samples aware of EFP (SEC)</td>
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<td>Part IV</td>
<td>Know About Eco Friendly Products but do not buy</td>
<td>Frequency Tables, Mean S.D. rank</td>
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<td>Frequency Tables, Mean S.D. rank</td>
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<td>Part VI</td>
<td>SEC and EFP</td>
<td>Frequency table of SEC and EFP</td>
</tr>
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<td>Part VII</td>
<td>Inferential analysis</td>
<td>Comparative study of experiments with samples know about EFP but do not buy and samples does not know about EFP hence do not buy, Conjoint Analysis</td>
</tr>
<tr>
<td>Part VIII</td>
<td>Hypotheses testing</td>
<td>Hypotheses testing using, one sample Chi-square test, one sample t test, Kolmogorov Smirnov test, and Binomial test.</td>
</tr>
<tr>
<td>Part IX</td>
<td>Qualitative Analysis</td>
<td>Qualitative Analysis of Marketing strategies adopted by Eco Friendly Product Manufacturers</td>
</tr>
</tbody>
</table>

1.9 **Period of Study**: Study was conducted during 2012 to 2014 and data from samples were collected from June 2013 to December 2013.

1.10 **Pilot Testing**

For testing reliability of scales pilot testing has been conducted on 41 samples randomly selected from A1, A2, A3, and B1 socioeconomic class. The schedule was natured as structured schedule. The Schedule was executed on 41 samples to test reliability of schedule. The test of reliability is done using Cronbach’s Alpha and the results of scales bring in used as follows.
Introduction and Research Methodology

1.2. The table presented below presents the Cronbach’s Alpha of scale used for all the samples for knowing opinion about present material life.

**Table: 1.2**
**Reliability Statistics of scale**

<table>
<thead>
<tr>
<th>Cronbach’s Alpha</th>
<th>No of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.675</td>
<td>5</td>
</tr>
</tbody>
</table>

Part I of schedule consists of questions to determine Socio economic class of samples. Hence reliability has not tested. Part II deals with demographic Information of samples and scale for response is dichotomous so reliability has not calculated. Part III of schedule seeks to study awareness of samples about eco friendly products which has, 5 variables Cronbach alfa reliability for this scale is 0.675. (Table 1.2) So researcher carried all the five variables for the final data collection

1.3. The table presented below presents the Cronbach’s Alpha of scales used for samples that are aware and they buy eco friendly products.

**Table: 1.3**
Cronbach’s Alpha of scales used for samples that are aware and they buy eco friendly products.

<table>
<thead>
<tr>
<th>Sr.</th>
<th>Q. in schedule</th>
<th>Scale/Variable</th>
<th>Reliability</th>
<th>No. of items deleted</th>
<th>Scale/Variable</th>
<th>Reliability</th>
<th>Items added/Clubbed/deleted</th>
<th>Items for final scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I Product and Brand</td>
<td>*</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>II Parameters</td>
<td>**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>III Prime Reasons</td>
<td>**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>IV Attitude scale</td>
<td>8</td>
<td>0.601</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>V Post Purchase Behavior</td>
<td>6</td>
<td>0.768</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>VI Pricing scale</td>
<td>8</td>
<td>0.654</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3rd clubbed, 7th deleted</td>
<td>6</td>
</tr>
</tbody>
</table>

Note:  
* - Reliability cannot be calculated as the question is open ended about generic eco Friendly product and brand of a product.  
** - Reliability cannot be calculated as question is dichotomous.
Part IV of schedule has been developed for samples that are aware about Eco Friendly Products and buy Eco Friendly Products. The first question of this part is open ended, hence reliability has not calculated. Second question of this part seeks to study the awareness among samples about determining parameter of eco friendly product. Seven variables as parameters have been developed, since samples only have to show awareness by selecting variables reliability has not calculated. Third question of this part seeks reasons behind purchasing eco friendly products. This scale includes ten variables and samples have to mention prime reason by selecting variables, hence reliability has not calculated.

Fourth question of this part seeks attitude of samples towards eco friendly products. In this scale, eight variables have been discussed. Cronbach alfa reliability for this scale is good i.e. 0.601. So researcher decided to consider all eight variables in final schedule. Fifth question seeks to study post purchase behavior of samples. Six variables have been discussed in this scale. Cronbach alfa reliability for this scale is good i.e. 0.768. So researcher decided to consider all six variables in final schedule. Sixth question of this part discusses opinion of samples about pricing of eco friendly products. Eight variables have been discussed in this scale. Reliability of scale was observed as 0.654. Still it was observed that, 7th statement has similar meaning as of other statement, it was omitted from the final scale. 3rd statement has similar meaning as one of the statement from attitude scale. Hence it was clubbed in attitude scale and removed from this scale and researcher decided to include only six variables in final schedule.

1.4. The table presented below gives the Cronbach’s Alpha of scales used for samples that are aware of eco friendly products, but they don’t buy eco friendly products.
Table: 1.4
Cronbach’s Alpha of scales used for samples that are aware of eco friendly products, but they don’t buy eco friendly products.

<table>
<thead>
<tr>
<th>Sr.</th>
<th>Q. in schedule</th>
<th>Scale/Variable</th>
<th>Reliability</th>
<th>No. of items deleted</th>
<th>Scale/Variable</th>
<th>Reliability</th>
<th>Items added/Clubbed/deleted</th>
<th>Items for final scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I Intention to buy</td>
<td>**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>II Reasons for not buying</td>
<td>***</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>III Experiment questions</td>
<td>**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>IV Post experiment reasons for buying</td>
<td>***</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>V Post experiment reasons for not buying</td>
<td>11</td>
<td>0.782</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>7th deleted 11</td>
<td>11</td>
</tr>
<tr>
<td>6</td>
<td>VI Pricing scale</td>
<td>8</td>
<td>0.622</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>7</td>
</tr>
</tbody>
</table>

Note: **- Reliability cannot be calculated as the question is dichotomous.

***- no responses were obtained for this scale, hence reliability cannot be calculated.

Part V of the schedule has been developed for samples that are aware about Eco Friendly Products but do not buy. The first question of this part is a dichotomous question seeking answer to, intention to buy an eco friendly product. Hence reliability has not been calculated. For negative response to previous questions, the scale of nine statement variables seeking reasons for negative response has developed. Reliability has not been tested, as no responses were obtained for this scale.

For samples with positive response, experiment was designed. The observations of experiment were recorded through, open ended and dichotomous questions; hence reliability has not been calculated. Post experiment if sample shows positive behavior towards buying an eco friendly product, then the next set of nine variables seeking reasons to buy an eco
A friendly product has been discussed. Responses were not obtained to this scale, hence reliability has not calculated.

Post experiment if sample shows negative response, questions seeking reasons behind negative response towards buying an eco friendly product has been recorded with eleven variables. Cronbach alfa reliability of this scale was 0.782, as alfa value is good; researcher included all the eleven variables in final schedule.

Questions seeking opinion of samples about pricing of eco friendly products has been constructed with eight variables. Cronbach alfa Reliability of scale was observed as 0.622, still it was observed that, 7th statement has similar meaning as of other statement; it was omitted from the final scale.

1.5. Table 1.5 presented below depicts the Cronbach’s Alpha of scales used for samples that have not heard of eco friendly products

**Table: 1.5**

Cronbach’s Alpha of scales used for samples that have not heard of eco friendly products

<table>
<thead>
<tr>
<th>Sr.</th>
<th>Q. in schedule</th>
<th>Scale/Variable</th>
<th>Reliability</th>
<th>No. of items deleted</th>
<th>Scale/Variable</th>
<th>Reliability</th>
<th>Items added/Clubbed/deleted</th>
<th>Items for final scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I Intention to buy</td>
<td>**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>II Reasons for not buying</td>
<td>***</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>III Experiment questions</td>
<td>**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>IV Post experiment reasons for buying</td>
<td>***</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>V Post experiment reasons for not buying</td>
<td>11</td>
<td>0.128</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5th, 6th, 9th delete d, 8th added</td>
<td>9</td>
</tr>
</tbody>
</table>

Note: **- Reliability cannot be calculated as question is dichotomous.  
*** - no responses were obtained for this scale, hence reliability cannot be calculated.
Part VI has been developed for samples that never heard of Eco Friendly Products. As these samples have never heard of eco friendly products, after giving detailed information of eco friendly products, a dichotomous question seeking answer to, intention to buy an eco friendly product has been framed. So reliability has not calculated. On the basis of response to this question, next questions have been discussed. For negative response, the scale with nine statement variables seeking reasons for negative response has developed. Reliability has not been tested, as no responses were obtained for this scale. For samples with positive response, experiment was designed. The observations of experiment were recorded through, open ended and dichotomous questions; hence reliability has not been calculated. Post experiment if sample shows positive behavior towards buying an eco friendly product, the next scale with six variables seeking reasons to buy an eco friendly product has been developed. Reliability has not been tested, as no responses were obtained for this scale. Post experiment if sample shows negative response, questions seeking reasons behind negative response towards buying an eco friendly product has been recorded with scale with eleven variables. Cronbach alfa Reliability of scale was observed as 0.128. 5th, 6th, 9th items were deleted from the scale, 8th new item added to scale. Though the reliability value is not significant, with changes in scale researcher used scale with nine variables for final data collection.

1.11 Test of Reliability and Validity

The reliability of final scales has been checked using Cronbach’s Alpha. The alfa of all the four scales has been presented as below.

Table 1.6 Cronbach’s Alpha of final scale used for all the samples for knowing opinion about present material life.

<table>
<thead>
<tr>
<th>Table: 1.6 Reliability Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>n=360</td>
</tr>
<tr>
<td>Cronbach’s Alpha</td>
</tr>
<tr>
<td>0.750</td>
</tr>
</tbody>
</table>

For knowing the opinions of all the samples about present material life, scale with five variables has been framed. As compared to Cronbach’s Alpha of this scale at
pilot study, the reliability has been increased. The reliability of scale at pilot study was 0.675 which has increased to 0.750, which is significant.

1.7. Table presented below depicts the Cronbach’s Alpha of final scales used for samples that are aware and they buy eco friendly products.

**Table: 1.7**
Cronbach’s Alpha of final scales used for samples that are aware and they buy eco friendly products.

<table>
<thead>
<tr>
<th>Sr.</th>
<th>Q. in schedule</th>
<th>Scale/Variable</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I Product and Brand</td>
<td>*</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>II Parameters</td>
<td>**</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>III Prime Reasons</td>
<td>**</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>IV Attitude scale</td>
<td>8</td>
<td>0.607</td>
</tr>
<tr>
<td>5</td>
<td>V Post Purchase Behavior</td>
<td>6</td>
<td>0.713</td>
</tr>
<tr>
<td>6</td>
<td>VI Pricing scale</td>
<td>6</td>
<td>0.623</td>
</tr>
</tbody>
</table>

Note: * - Reliability cannot be calculated as the question is open ended about generic eco Friendly product and brand of a product.

** - Reliability cannot be calculated as question is dichotomous.

As compare to pilot testing reliability all the variable shows increase in Cronbach’s alpha value. From the table it reveals that the reliability is ranging from 0.607 to 0.713 which is significantly high.

1.8. Table given below presents the Cronbach’s Alpha of final scales used for samples that are aware of eco friendly products, but they don’t buy eco friendly products.

**Table: 1.8**
Cronbach’s Alpha of final scales used for samples that are aware of eco friendly products, but they don’t buy eco friendly products.

<table>
<thead>
<tr>
<th>Sr.</th>
<th>Q. in schedule</th>
<th>Scale/Variable</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I Intention to buy</td>
<td>**</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>II Reasons for not buying</td>
<td>***</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>III Experiment questions</td>
<td>**</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>IV Post experiment reasons for buying</td>
<td>***</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>V Post experiment reasons for not buying</td>
<td>11</td>
<td>0.632</td>
</tr>
<tr>
<td>6</td>
<td>VI Pricing scale</td>
<td>7</td>
<td>0.631</td>
</tr>
</tbody>
</table>

Note: ** - Reliability cannot be calculated as the question is dichotomous.
As compare to pilot testing reliability all the variable shows increase in Cronbach’s alpha value. For the scale mentioning questions seeking reasons behind negative response towards buying eco friendly product reliability was 0.782, which was reduced to 0.632. From the table it reveals that the reliability is ranging from 0.631 to 0.632 which is higher.

**1.9.** Table 1.9 presented below depicts Cronbach’s Alpha of final scales used for samples that have not heard of eco friendly products

**Table: 1.9**

Cronbach’s Alpha of final scales used for samples that have not heard of eco friendly products

<table>
<thead>
<tr>
<th>Sr.</th>
<th>Q. in schedule</th>
<th>Scale/Variable</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I Intention to buy</td>
<td>**</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>II Reasons for not buying</td>
<td>***</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>III Experiment questions</td>
<td>**</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>IV Post experiment reasons for buying</td>
<td>***</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>V Post experiment reasons for not buying</td>
<td>11</td>
<td>0.622</td>
</tr>
</tbody>
</table>

Note: **- Reliability cannot be calculated as question is dichotomous.

***- no responses were obtained for this scale, hence reliability cannot be calculated.

As compare to pilot testing reliability all the variable shows increase in Cronbach’s alpha value. At pilot study, Cronbach alfa Reliability of scale was observed as 0.128. At final study reliability of scales was 0.622, which is satisfactory.
1.12 Organization of Thesis

The Thesis contains following chapters.

Chapter 1 titled as ‘Introduction and Research Methodology’ which covers the Introduction to the study, Research Problem, Hypothesis, Objectives, Scope and Importance of the study and Research Methodology followed for the study.


Chapter 3 titled as ‘An Overview of Eco Friendly Products Industry in India’ that signifies the study about Eco Friendly Products Industry in India. It also studies the market of Eco Friendly Products in Satara District.

Chapter 4 titled as ‘Data Analysis and Interpretation’ which presents the data analysis and interpretation, classification and Tabulation of data, data analysis using statistical tools and software and its interpretation done by the researcher.

Chapter 5 titled as ‘Findings and Suggestions’ that presents the findings of data analysis, suggestions and conclusions based on data analysis.

Research report was annexed with structured schedule used for data collection, case study, list and information of Suppliers of Eco Friendly Products, Global Eco Labels, Abbreviations and Bibliography.

1.13 Scope for further research

From the review of literature it has found that the study on eco friendly products in India is at nascent stage hence there is much scope to indulge into exploratory study to construct suitable frame for further researches as present research is an effort towards the same. Besides this as present study was limited to FMCG category of eco friendly products. Research with consumer durables can also be conducted in similar way. Experimental design to find out the gap between attitude towards eco friendly product and actual buying behavior can be developed in more precise manner. Research can also be conducted for suggesting and developing new eco friendly products. Research on finding ways and means of reducing cost of production of eco
Introduction and Research Methodology

Friendly products can also be done. As one of the findings states that, manufacturer of eco friendly products fails to communicate about eco friendly products, research can also be done to find out the methods to enhance the communication between manufacturers of eco friendly products and customers.

A study can also be done on studying the impact of environmental awareness on buying of eco friendly products. As mentioned in one of the findings, some people are aware about environmental issues. These people also exhibit environment friendly behavior in society but when it comes to personal and home level activity, they do not exhibit environment friendly behavior. Research can be done to find out the reasons behind such behavior.

A research design which can attend the lower socio economic classes preferably in vernacular language with altogether different experimentation should be designed. Actually sample belonging to lower socio economic class is more eco friendly. There behaviour is greener as compared to sample in higher socio economic class but owing to less education and exposure these samples could not feedback to structured research. This paves ways to design distinct research design to illiterate, less educated, and samples from rural and lower socio economic class.

1.14 Limitations of the Study

Present research carries following limitations.

1. Samples from lower socio economic class have found to lack in the awareness of technical terms of environmental issues; hence it was difficult for researcher to get correct opinions from these samples.

2. Samples from higher socioeconomic classes were found suspicious about the exactness of term, ‘eco friendly products’. Hence, researcher had to explain the term to samples in simplified form, to get right responses.

3. Insufficient sample size from lower socio economic classes is another limitation of this research. Researcher found it difficult to get sufficient numbers of samples from these classes.
1.5 Conclusion

This research is an attempt to explore the green buying behavior of residents from Satara district. The scope of research and research methodology adopted for this study has been determined. Actual sample size has been clearly stated. Instrument which was used for data collection has been elaborated minutely. Reliability test of scales has been clearly mentioned. To ensure accurate and error free research, pilot testing has been conducted. However, review of literature provides the right direction in hassle free research; the next chapter discusses literature of research conducted in the area of green buying behavior.

3. Financial Times reports, 24.5.2007, 10.5.2014, 1.15 Hrs