

**Analysis of Factors Influencing Consumer Preferences for Green  
Cosmetic and Food Products: A study in and around Kolkata  
(West Bengal, India)**

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**Submitted**

**In Partial Fulfillment of the Requirement of the Degree of Doctor of  
Philosophy  
TO**



**ICFAI UNIVERSITY JHARKHAND**

**RANCHI**

**October, 2015**

## **1. Introduction**

From the last decade onwards people became more concerned about their health as a result of which they are using more of green products. Green products can be stated as having less of an impact on the environment and are less damaging to human health than conventional products, and hence are also called as sustainable or environment friendly products. Green products are formed from recycled components, be manufactured in a more energy-conservative way, or be supplied to the market with more environmental friendly way. So, people are becoming more aware about the concept of environmental consciousness. This reduces the usage of traditional or conventional products. Traditional products are those manufactured in the traditional way. They are not being produced keeping environmental considerations in mind. In today's competitive scenario green products are competing with the conventional or regular products (products produced by traditional methods). But, this usage pattern is not applicable to all parts of the society. Knowledge and awareness about the green products play a very vital role in enabling the customers to use them. But, this awareness and knowledge do not exist holistically throughout all the spheres of the society, thus restricting the usage of the green products. From the last decade onwards, we have started using the green products and it will take time before it penetrates to all parts of the society. In comparison to the conventional products, green products are generally biodegradable, non-toxic in nature and more environment friendly.

The concept of green products is becoming more popular with the aspect of cosmetic and food items. Since people are becoming more health conscious, they are giving more importance to the consumable and daily usable products. People started using more green products to minimize their health risk. But, here also like normal green products knowledge and awareness is not there in all parts of the society. So, these are more being used by the more knowledgeable parts of the society. If all the factors which contribute to the popularity of green cosmetic and food items, such as price of the product, its quality, customer's perception about the products, awareness about them, are being handled carefully by the government and the organizations, then green cosmetic food items will become more popular in the society.

## **2. Research Objectives**

Research Objectives evolved from research problem statements and identified research gaps on the basis of existing literature are as follows.

- 2.1 To identify the factors that influence the consumers' preference for Green cosmetic and food products.
- 2.2 To study and analyze the demographic factors influencing preferences for Green cosmetic and food products.
- 2.3 To study and analyze the psychographic factors influencing preferences for Green cosmetic and food products
- 2.4 To study and analyze the product-specific factors influencing preferences for Green cosmetic and food products.

### **3. Relevance of the Topic**

Green Marketing and Green Products are gaining popularity as we are progressing. People are becoming health conscious which leads to popularity of green items. But, with respect to India, not much of systematic research happened. So, with respect to existing literature from across the world, there are many factors which can affect the green products popularity. So, the research tries to identify the factors for green products' popularity specifically in Indian context. Also, by understanding these facts the organizations' can improve their strategy for making the green products more sellable and acceptable to the prospective consumers.

### **4. Contributions from survey of Existing Literature**

In this study, two categories of green products are considered, such as green cosmetic and food products. Green products will be considered as equivalent to organic products, specifically for the food category. These products will be produced by using organic fertilizers, without using any pesticides, insecticides, any inorganic fertilizers or toxic elements. So, these products will be healthier in nature and safe to use.

In this context, it is important to examine various psychographic and demographic factors which influence the usage of green products, specifically in cosmetic and food category in Kolkata and around Kolkata in West Bengal, India. The various psychographic variables, such as Environmental Consciousness, Health Consciousness, Price Sensitivity, Product Involvement

and Innovation in buying products are selected from a thorough literature review. The demographic variables are also studied from a detailed literature review.

The demographic variables are related to the basic characteristics of a person such as age, gender, income etc. which affect the consumer buying behavior. With respect to green products, the various demographic variables which affect customer's attitude towards them are age, gender, household income, education, social class, etc. The age of the customers affected significantly the purchasing of organic food products Household income also positively influences consumption and purchasing of organic foods and cosmetics as reported in several papers. The higher formal educational level also positively influences the purchasing behavior for organic products.

Environmental knowledge and attitude play a significant role in customers' tendency for green product purchasing as reported in several papers. This is common to conventional consumer's behavior. They also stated that the mood of the consumers, i.e., to keep him relax is positively correlated with organic product consumption. The customers believe that consuming organic products make customers stress-free.

Also, it was said that the customers' previous experience of using some environmental brands i.e., the brands which produce the products in environment- friendly way have an impact on their chances of selecting those brands only for repeated usage.

From the reviewed literature it was found that customer's attitude towards green food products is being affected by information people have about organic products, food products taste, availability, expensive, food value, natural content, animal welfare, convenience, environmental protection, food production method, source of information, purchasing place (hypermarket, supermarket, organic stores, farms), purchasing difficulties (difficult to find, high prices, poor range of choice).

Also more environmentally friendly food production method generates positive customers' perception about the products. Again more food value creates more positive belief about the products.

From the above discussion, we can see that different papers have reported varied roles of information in creating customers attitude towards green products. So, this inconsistent relationship can be tested with respect to green food items.

So based upon the research gaps as obtained from the existing literatures the independent variables which are studied in the research project for green cosmetic products are Environmental Consciousness, Price Sensitivity, Innovativeness in buying products, Product involvement, Health Consciousness, Safety, Quality, Brand, Knowledge about the products, Information about the products, Availability, Age, Gender, Education, Occupation, Income, Number of members in the household.

The same way the independent variables which are studied in the research project for green food products are Environmental Consciousness, Price Sensitivity, Innovativeness in buying products, Product involvement, Health Consciousness, Safety, Nutritional value, Taste, Knowledge about the products, Information about the products, Brand, Looks, Availability of the products , Age, Gender, Education, Occupation, Income, Number of members in the household.

The dependent variable which is studied for both green cosmetic and food products for the research project is Consumers' buying preference for green cosmetic or food products.

## **5. The Problem Statement**

In order to understand the consumers' buying preference for green products, it is necessary to know the factors which influence the users to go for the green products and prioritize the factors so identified so that the same can be ventilated to the masses for extending the consumer base for the green products.

For the purpose, while existing literature reveals the research findings in either a foreign set-up or in Indian set-up with a few dimensions of the problem, Cities like Kolkata is deprived of such

published findings. Moreover, few dimensions such as; product effectivity (for cosmetic) and Looks of the Product (for food) which apparently play a vital role have not been under the purview of any existing literature studied.

## **6. Data Collection and Methodology**

### **6.1 Data Collection**

This research uses mixed methods approach. The basis of selection of mixed methods approach was done upon the overall purpose of the study, and the research questions identified, the research relating to factors influencing the emergence of dynamic organization structure within an organization. The survey questionnaire comprised of nine sections. The first section included general buying pattern of the respondent. From the second section to sixth section, the respondents' feedbacks with respect to the various psychographic variables are studied. The seventh and eighth section studies respondents' feedback with respect to green cosmetic and food products. Finally, the last section studies respondents' demographic characteristics. The data had been collected both in online and offline mode.

### **6.2 Data Analysis**

The data was first presented in tabular form representing the different responses' given by the respondents. Then analysis was done in four stages as follows:

#### **6.2.1 Stage I**

The basic characteristics with respect to the nature of using green cosmetic and food products are being analyzed using descriptive statistics and graphical tools.

#### **6.2.2 Stage II**

The five psychographic variables which were mentioned in the questionnaire consist of internal constructs. So, all together 27 constructs were grouped into factors using the Exploratory Factor Analysis (This is conducted to uncover the underlying structure of a relatively large set of variables and grouping them together)

#### **6.2.3 Stage III**

Also, the constructs with respect to the five psychographic variables (Environmental Consciousness, Price Sensitivity, and Innovativeness in buying products, Product involvement and Health Consciousness) are being prioritized using Multiple Regression, to uncover the underlying structure of a relatively large set of variables.

#### **6.2.4 Stage IV**

All the five psychographic variables (Environmental Consciousness, Price Sensitivity, and Innovativeness in buying products, Product involvement and Health Consciousness) and the other characteristics with respect to the green cosmetic and food products are being tested with respect to the dependent variable, i.e., consumers' preference for the green cosmetic and food products. This is to find out how the various characteristics factors influence consumers' preference for the green cosmetic and food products. The above analysis was done using one-way ANOVA (Analysis of Variance).

#### **6.2.5 Stage V**

Demographic profile of the respondents was tabulated in a self explanatory manner. Percentage analyses were performed to find out exact number of people giving response in similar manner. Demographic categories of age, income level, gender, educational qualification, occupation and number of members in the household were then analyzed using one way ANOVA (Analysis of Variance – the technique where the influence of one factor on another factor is checked). The researcher employed ANOVA for inspecting whether the responses of sample depend on demographic variables or not.) for the dependent variable, i.e., consumers' preference for the green cosmetic and food products to find out how the various demographic factors influence consumers' preference for the green cosmetic and food products.

#### **6.2.6 Stage VI**

The findings of the study is compared with that of Existing Literature

#### **6.2.7 Stage VII**

In order to outline why the non-users don't prefer the green cosmetic and food products, a sample size of 200 non-users have also been considered in this study. This section explains the perceptual impact of different psychographic and independent variables on the preference for green cosmetic and food products with respect to the non-users of the products. Although the respondents considered for this section are non-users of green cosmetic products, they are aware of and have knowledge about green cosmetic and food products. This section reveals the responses captured on the basis "Had the respondents been the users of green cosmetic products, what would have been their responses" and in line with the questionnaire administered on the users of green cosmetic products. By doing so, it helps substantiating the findings from the users.

## **7. Results and Findings**

In order to meet the purpose of the study as envisaged in the earlier sections, factor analysis is used to know important factors which insist buyers to go for both green cosmetic and food products and also find out the impact of psychographic variables on the popularity of them.

On the basis of analysis done using Exploratory Factor Analysis, huge number of variables used in the study, to be specific forty five variables, had been scaled down to twenty variables. Concerning the facet - impact of Environmental consciousness towards popularity of Green products, factors such as; Environmental Sense and Environmental Callousness are the most important. Relating to relevance of price towards popularity of green products, factors such as; Higher Price, Price Sensitivity and Price Barrier plays the most important role. In the pretext of studying the innovation of the respondents' about buying green products, it has been found that New Product Initiative and Experimental Attitude are two important factors. Regarding involvement in buying process while buying green products, factors such as; Satisfaction from Branded Green products and Branded Green products reveal personality are the key contributors. About health consciousness of the respondents in buying green products, factors such as; Health Sensitivity, Health Concern, Avoid preservative food and Food pollution play the most important role.

Regarding general factors contributing for the popularity of green cosmetic products, important factors are; Green Product Knowledge, Branded Green Cosmetic Products, Reliability of Green Cosmetic Product and Green Products expensive.

Pertaining to general factors impacting green food products, factors such as; Green Food Products' Nutritional Taste, Green Food Products are Healthier, Lack of information and availability of Green Food Products, Green Food Products are safe and expensive and Branded Green Food Products' Look and Quality impact the respondents' decision for buying green food products.

After identifying the factors using Exploratory Factor analysis, Multiple Regression is used to know the important factors which insist buyers to go for green cosmetic products and also find out the impact of psychographic variables on the popularity of green cosmetic products.



Concerning the facet – ‘impact of Environmental consciousness towards popularity of Green cosmetic products’, the factor - ‘users of green cosmetic products to do anything about the environment’ has highest level of impact on preferring green cosmetic products. On the other hand, the factor – ‘willing to pay higher prices for water’ has the least level of impact on preferring green cosmetic products. Relating to relevance of price towards popularity of green cosmetic products, factors such as, ‘Users of Green Cosmetic Products don’t mind spending a lot of money to buy a Green Cosmetic product’ has highest level of impact on preferring green cosmetic products. The factor – ‘Users of Green Cosmetic Products know that a new kind of green cosmetic product is likely to be more expensive than older ones, but that does not matter to them’ has least level of impact on preferring green cosmetic products.

In the pretext of studying the innovation of the consumers about buying green cosmetic products, it has been found that ‘Users of Green Cosmetic Products like to take a chance in buying new products’ has highest level of impact on preferring green cosmetic products. But, the factor ‘Users of Green Cosmetic Products like to try new and different products’ has the least level of impact on preferring green cosmetic products. Regarding involvement in buying process while buying green cosmetic products, the factor ‘Users of Green Cosmetic Products select the green cosmetic products very carefully’ has highest level of impact on preferring green cosmetic products. Similarly the variable – ‘One can tell a lot about a person from whether they buy Green Cosmetic Products’ has the least level of impact on preferring green cosmetic products.

About health consciousness of the respondents in buying green products, ‘Users of Green Cosmetic Products are concerned about their drinking water quality’ has highest level of impact on preferring green cosmetic products. Similarly, the factor – ‘Users of Green Cosmetic Products are interested in information about their health’ has the least level of impact on preferring green cosmetic products.

After identifying the factors, like green cosmetic products, Multiple Regression is used to know important factors which insist buyers to go for Green Food products and also find out the impact of psychographic variables on the popularity of green Food products.

Concerning the facet – ‘impact of Environmental consciousness towards popularity of Green Food products’, the factor - ‘Users of Green Food Products would be willing to pay higher prices for water’ has highest level of impact on preferring green Food products. On the other hand, the factor – ‘Users of Green Food Products is aware about the issues and problems related to the environment’ has the least level of impact on preferring green Food products. Relating to relevance of price towards popularity of green Food products, factors such as, ‘Users of Green Food Products don’t mind spending a lot of money to buy a Green Food product’ has highest level of impact on preferring green Food products. The factor – ‘The price of buying Green Food Products is important to users of Green Food Products’ has least level of impact on preferring green Food products.

In the process of studying the innovation of the consumers about buying green Food products, it has been found that ‘Users of Green Food Products like to take a chance in buying new products’ has highest level of impact on preferring green Food products. In case of involvement in buying process while buying green Food products, the factor ‘Users of Green Food Products select the green products very carefully’ has highest level of impact on preferring green Food products. Similarly the variable – ‘One can tell a lot about a person from whether they buy Green Food Products’ has the least level of impact on preferring green Food products.

About health consciousness of the respondents in buying green products, ‘Users of Green Food Products are concerned about their drinking water quality’ has highest level of impact on preferring green Food products. Similarly, the factor – ‘Pollution in Food products does not bother users of Green Food Products’ has the least level of impact on preferring green Food products.

After identifying the factors with respect to green cosmetic and food products and finding the most significant among them, One-Way ANOVA is used to know whether any facet of demographic profile of the consumers has significant impact on the preference of the green cosmetic products. Out of six facets of demographic profile considered, only one, i.e., income level of the consumers has significant impact on preference for green cosmetic products. Participatory observation method followed in uncovering the logic behind our findings reveals

that owing to comparatively highly priced, the preference for green cosmetic products is a direct function of the income level of the consumers. Although all the respondents are the users of green cosmetic products, consumers in relatively lower income basket don't afford to all the green cosmetic products available in the market and prefer to conventional cosmetic products for reasonability of prices. Some goes for occasional buying but not for regular buying. Other five facets of demographic profile such as age, gender, education, occupation and family size don't significantly impact the preference for green cosmetic product. On observation, it is found that those who are users, they know very well the utility of the green cosmetic products vis-à-vis their conventional counterparts. Thus irrespective of gender, education, occupation and family size, the preference gets intact. However, in-depth study on facet-wise demographic profile on preference may bring forth some exceptional result which may be considered for future research. On the basis of the research findings, it is inferred that, in order to popularize the use of green cosmetic products, the producers need to focus on either of the following two points; a) keep the prices of the green cosmetic products in reasonable range to make it affordable to a wider base of consumers and b) to market the same amongst the consumers of higher income-group basket exhaustively.

Like green cosmetic products, for green food products also, One-Way ANOVA is applied to know whether any facet of demographic profile of the consumers has significant impact on the preference of the green food products. Out of six facets of demographic profile considered, only one, i.e., income level of the consumers has significant impact on preference for green food products. Participatory observation method followed in uncovering the logic behind our findings reveals that owing to comparatively highly priced, the preference for green food products is a direct function of the income level of the consumers. Although all the respondents are the users of green food products, consumers in relatively lower income basket don't afford to all the green food products available in the market and prefer to conventional food products for reasonability of prices. Other five facets of demographic profile such as age, gender, education, occupation and family size don't significantly impact the preference for green food product. On observation, it is found that those who are users, they know very well the utility of the green food products vis-à-vis their conventional counterparts. Thus irrespective of gender, education, occupation and family size, the preference gets intact. However, in-depth study on facet-wise demographic

profile on preference may bring forth some exceptional result which may be considered for future research.

On the basis of the research findings, it is inferred that, in order to popularize the use of green food products, the producers need to focus on either of the following two points; a) keep the prices of the green food products in reasonable range to make it affordable to a wider base of consumers and b) to market the same amongst the consumers of higher income-group basket exhaustively.

After analysing the impact of the various demographic variables with respect to consumers' preference for Green cosmetic and food products, it is very important to analyse the role of various psychographic and independent variables and their impact on consumers' preference for Green cosmetic and food products. Regarding the various psychographic variables studied, Environmental Consciousness, Price Sensitivity, Innovativeness in buying products, Product Involvement and Health Consciousness, significantly impact consumers' preference for Green Cosmetic and Food products.

Regarding the other independent variables, Safety perspective of the consumer, Product effectivity, Product knowledge, Information about the products, Brand of the green product, Availability of the green product significantly impact consumers' preference for Green Cosmetic products. Likewise all the above mentioned factors significantly impact consumers' preference for Green Food products too. In addition to these, Taste, Nutritional value and Looks of the Green Food products significantly impact consumers' preference for Green Food products. This is against the common perception that the green food products are good to taste compared to conventional products. Also, looks of the green food products are more original and not so attractive looking as compared with conventional food products. Green haldi will not be so yellowish and attractive looking as compared with conventional haldi. Also, while comparing the findings for the cosmetic products with that of the food products, there was not so much of difference. This may be due to the reason that the respondents for the cosmetic and food products were same.

Also, the same hypotheses were tested with respect to the non-users or occasional users of the green cosmetic and food products to compare the findings of the users and the non-users. The findings of most of the hypothesis were same except a few. This proves that the findings of the research are consistent. Also, enquiring about the barriers which prevents the buyers from buying green products occasionally also, are price and its availability. The price is most significant barrier. Mainly for the semi-urban and rural areas, availability is a problem as the local retailers does not stock much product due to less demand. Also, awareness about the products needs to be improved by effective use of the promotional tools.

In comparing the above mentioned results with that of the existing literatures, the results obtained from this research are in line with that of the existing literatures, barring a few cases. In demographic variables Age, Gender, Occupation, Education and Number of members in the household does not significantly impact consumers' reference for Green cosmetic and food products. Some variables studied are not being tested earlier, such as Taste, Looks of the Green Food products, it can be seen that they significantly impact consumers' preference for Green Food products.

Only 18% respondents buy either green cosmetic or food products regularly compared to the others and they are mostly from the urban areas. This is due to the problem of availability of the products in the semi-urban or rural areas. Also, brands play a more significant role in case of preference for green cosmetic products more than that of green food products. In unorganized retailing sector, selling is mostly happening in case of fruits and vegetables. The unorganized sellers are selling both in the rural markets and also in the urban areas. In case many localities of Kolkata, such as Alipore, Salt Lake, green fruits and vegetables are sold on Saturdays and Sundays by the unorganized retailers.

## **8. Conclusion**

With respect to the Environmental Consciousness, Price Sensitivity, Innovativeness in buying products, Product Involvement, Health Consciousness, Safety perspective of the consumer, Quality of the Green Cosmetic product, Product Effectivity, Product Knowledge, Information about the product, Brand of the Green product, Availability of the product, Income, the findings

of the study proves that these influences consumers' preference for Green Cosmetic and Food products. But, for the Age, Gender, Education and Occupation of the consumers, the finding of the study states that they does not influence consumers' preference for Green Cosmetic and Food products. The findings also state that Product involvement, Product effectivity does not influence consumers' preference for Green Cosmetic and Food products. The same way, the number of members in the household does not influence consumers' preference for Green Cosmetic and Food products.

### **Limitations of the Research**

Limitations of this research are as follows:

- The study is limited to respondents related to only Green Cosmetic and Food products. The other types of green product users are not being studied in this research project.
- The study is limited to only Kolkata and the districts around it such as, North 24 Parganas , South Parganas, Howrah , Hooghly only. The other parts of West Bengal are not being studied.
- Domain specific psychographic constructs used in this study consisted of truncated number of dimensions, compared to that in existing literature, created by researchers in the past. These limited numbers of dimensions of each construct were chosen specifically, ensuring that these were non-overlapping between dimensions of other constructs, to reflect the impact of marketing strategies of marketers, pertinent to this study.
- The study is limited to data collection over a period from December 2013 to January 2015.
- The awareness about green products both with respect to the consumers' and the organizations have changed dramatically during the research period. So, the population size of 400 may be is not sufficient with respect to the current scenario.
- The responses from the respondents can be biased and as a result some findings can be incorrect.

### **Scope of Future Research**

The quest for knowledge, solutions to problems and research questions leading to improved quality of research is synonymous with progress of human civilization. Whereas the current research provided answers to the research questions, it also highlighted its limitations in the

previous section. This section provides brief directions for future researchers to pursue, in the domain of impact of marketing strategies of marketers on popularizing and successfully selling green cosmetic and food products.

- a. Future research can improve generalization of the findings of this research by extending this study to include the following:
  - other geographies like different states
  - localities with wide variations in their socio-economic profile,
  - other categories of green products except than cosmetic and food products
- b. Future research can take place to enrich the research work by incorporating the following additional factors which are expected to change over time:
  - expected increase in awareness of consumers regarding green products
  - change in involvement due to increase in product complexity, durability, performance and price
  - change in consumer exposure to social and online media due to wider access through improved internet connectivity
  - increase in disposable income
- c. Researchers in future are encouraged to create and develop new constructs to better reflect evolution of marketing in future and changes in lifestyle of communities, as follows:
  - propensity of consumers towards opportunities of co-creation of innovative solutions by marketers,
  - emotional and enthusiastic affiliation to a brand