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Mapping of Psychographic variables vis-a-vis Preference for Green Food Products: A Study in and around Kolkata (India)

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ABSTRACT

Since green products ensure safety and sustainability from health and environmental point of view, research on green products from consumers' perspective has been the need of the hour. Considering this, our earlier researches have focused on identification and prioritization of factors influencing preferences for green products – both food and cosmetic products. It has been evidenced in many researches that the psychographic variables influence the consumers' preference for Green products. Thus, this study tries to establish whether there is any significant impact of the above mentioned psychographic variables on the consumers' preference towards green food products. Psychographic profiles considered in this study are; Environmental Consciousness, Price Sensitivity, Innovativeness in buying products, Involvement in buying products and Health Consciousness. In fact, the objective of this paper is to map psychographic variables (on the above mentioned facets) with their preference by way of applying one-way ANOVA for the data obtained from 400 respondents (green food product users) selected from Kolkata, India and in and around of it. The findings so obtained will certainly lend a hand to contrive for stretching the incidence and depth of usage of green food products focusing on influential facets of the psychographic variables.

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 traditional products. Hence they are also called as sustainable or environment friendly product. Green products are formed from recycled components, be manufactured in a more energy-conservative way, or be supplied to the market in more environmental friendly way. Since people are becoming more aware about the concept of environmental consciousness, the usage of traditional or conventional products are getting reduced. 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, 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.

The concept of green products is becoming more popular with the aspect of food items. Since people are becoming more

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health conscious, they are giving more importance to the consumable products. People started using more green food 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 educated parts of the society. Also, organizations and government are incapable of promoting the concept of "Green". But the best part is, the concept has started and it is penetrating to the society at a very fast pace. If all the factors which contribute to the popularity of green products, 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 they will become more popular in the society.

As we have been discussing, there are various factors which positively as well as negatively influence the popularity of green food products. In this context, it is important to examine various psychographic factors which influence the usage of green products, specifically in food sector in Kolkata and around Kolkata in West Bengal, India. The various psychographic variables, Environmental Consciousness, Price Sensitivity, Innovativeness in buying products, Involvement in buying products and Health Consciousness are selected through a thorough literature review. The consumers' perception about each psychographic variable is being understood. This paper aims to provide a snapshot of consumers' behaviour about Green Food Products with respect to various Psychographic variables in Kolkata and districts surrounding it in West Bengal (India).

2. Review of Literature

In this paper, we intend to examine the impact of individual attributes of customers towards marketing of green products. In the Indian context, green products are still consumed by a very small subset of customers and the consumption is largely dependent on individual attributes, i.e. demographic and psychographic characteristics (Harper and Makatouni, 2002; Ahmed and Juhdi, 2010). Impact of these characteristics is more evident for green food product segment (Davies *et al*, 1985; Lea and Worsley, 2005). In the following section, we summarize the findings by published literature on these issues.

From the existing literature, psychographics is being defined as the study of personality, values, attitudes, interests, and lifestyles (Senise, 2007). This mainly focuses on interests, activities and opinions (IAO) of the customers. Hence psychographic variables can be interpreted as combinations of demographic and psychological variables which impact customer's attitude in an overall manner.

It was observed that there is a general perception about organic products catering mainly for higher social classes (Harper and Makatouni, 2002). It is further stated in the same paper that people from those classes have an affordability as well as consciousness regarding organic products, thus resulting in green cosmetic and food product consumption. Few authors have also discussed about people's tendency towards safe and healthy organic products intake influencing positively the customers' intention to purchase them (Ahmed and Juhdi, 2010). Also, (Davies et al, 1995; Lea and Worsley 2005) in their paper referred that green consumers prefer buying organic products for their health concern. So, health is an important factor driving the customers for green food product consumption. Contradictory results are also published in a paper by Pickett-Baker and Ozaki (Pickett-Baker and Ozaki, 2008), where authors fail to conclude any positive correlation between positive environmental beliefs and propensity of the customers to go for buying more green products.

Environmental knowledge and attitude play a significant role in customers' tendency for green product purchasing as reported in several papers. Many authors stated that environmental consciousness generates more interest of the customers towards organic products (Schlegelmilch et al, 1996). Kaiser et al (1999) in their paper reported that environmental values and environmental knowledge are important factors which affect ecological behavior intention ultimately helping in building customer's attitude towards organic products. Also Ahmed and Juhdi (2010) referred that customers are positively inclined towards environment friendly farming because of their environmental consciousness and it leads to positive customer intention to buy organic products. Lockie et al, (2002), said that the consumers' familiarity with the green products, generate more interest to consume them. This is common to conventional consumer's behavior. They also stated that the mood of the consumers, i.e., to keep him relaxed is positively correlated with organic product consumption. The customers believe that consuming organic products make customers stress-free.

Apart from health consciousness and environmental belief, several other psychographic variables are also tested in literature like customers belief towards information authenticity, political motivation, skepticism etc. Kozup et al (2003) said that more proper information from credible sources increase the consumption of organic products because of customers' environmental belief and authenticity of the information provided. Similar observation was reported by Schlegelmilch et al (1996), by inferring that more knowledge, i.e., detail factual information about the organic products improve the chance of customers buying them. 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 (Pickett-Baker and Ozaki, 2008). In another paper, it is being stated that recycling activities positively influence pro-environmental purchasing behavior for those customers who can dedicate more time and effort (Schlegelmilch et al, 1996). Some papers also stated that politically motivated activities act positively only for those customers who are environmentally conscious. In the paper by Chang (Chang , 2011), it is being discussed that perceived higher price, lower quality and skepticism negatively and perceived emotional benefits acting

positively will create more ambivalence attitudes of the customers towards buying green products.

From the above discussion we conclude that the relationship between environmental consciousness, beliefs and knowledge and green product usage had been studied, but not for green food products. So, we intend to investigate more the role of the above mentioned factors in creating customers attitude towards green food products. Also the effect of information level about the cosmetic and food items in forming green cosmetic and food product consumer behavior is also an interesting research area. No study had taken place to find out the impact of lifestyle, religiosity, social responsibility, risk taking characteristics (Razzaque, 1995) of the customers towards organic product consumption, although these variables are applied in other fields. So, this study can be further extended to find out the effect of the above mentioned variables on building customers behavior towards organic product consumption.

3. Methodology

The study was based on quantitative data on consumers' perception about green food products and their psychographic profile. Data were collected both in online and offline formats. All the respondents were briefed about the project before they responded.

In case of the online format, the data were collected with the help of mail-based questionnaire. The questionnaire was sent to many respondents selected randomly. A covering letter was also sent along with the questionnaire. A total of 100 respondents were selected randomly and the questionnaires were sent to them. To improve the success rate, the questionnaires were sent repeatedly to the prospective respondents. Approximately, 65 respondents sent back the filled-in questionnaires.

The survey was also carried on in the offline format. For that, the questionnaires were distributed to the respondents, i.e., green product users selected randomly from the different parts of Kolkata, India. A total of 400 respondents were surveyed for their responses.

So, considering both the online and offline format, 400 respondents were surveyed for their responses.

The questionnaire was formulated from reviewing existing literature (e.g. Sanchez, 2010; Hofmester-Toth, 2010; Grewal, 2000). Although the questionnaire was a comprehensive one to identify the factors that drive preference for green products and advanced analysis there upon, the use of the filled-in questionnaire for this part of the study figure out the impact of the various demographic variables, such as age, gender, education, occupation, income and number of members in the household on the respondents intention to purchase green products. The paper will be studying the responses on only green food products. The questionnaire is divided into eight parts. The first part is trying to measure the environmental consciousness of the respondents with respect to the scales used in the paper by Sanchez, 2010. The second part is measuring the price sensitivity of the respondent with respect to the scale used in a paper by Goldsmith, 1991. In the third, fourth and the fifth part, the respondent's opinion leadership, innovativeness and involvement in buying green products will be studied based on a paper by Grewal, 2000. In the sixth part, the respondent's health consciousness will be studied based on the concept from the literature by Hong1990. In the seventh part, the respondent's reaction to the different characteristics of the green foods products are studied. The scales are based on the literatures by Ahmad (2010), Chang (2011), Davies (1995), Bamberg (2006) and Lea (2005). The eighth part is same as the seventh part. The only difference is that the products considered here are green food products. The scales are based on the literatures by Ahmad (2010), Kozup (2003), Davies (1995), Bamberg (2006), Lin (2012), Chang (2011) and Lea (2005). All the factors were measured on a seven point rating scale stating the following things (1=Very Strongly Disagree, 2=Strongly Disagree, 3=Disagree, 4=Neither Agree Nor Disagree, 5=Agree, 6=Strongly Agree, 7=Very Strongly Agree). The socio-demographic information of the respondents is collected in the ninth part.

The collected data for all the parts of the questionnaire are analyzed using One-Way ANOVA, to uncover the underlying structure of a relatively large set of variables. The IBM SPSS (version 19) has been used for the purpose.

Impact of Psychographic variables on Preference for Green Food Products (ANOVA)

4.1 Environmental Consciousness

The first psychographic variable which is studied is the Environmental Consciousness. One-Way ANOVA is done in order to know whether Environmental Consciousness has significant impact on the use of Green Food products.

The five predictor variables related to Environmental Consciousness identified and on which the data has been collected are:

V1: Users of Green Food Products supports different measures to improve water management leading to water conservation

V2: Users of Green Food Products is aware about the issues and problems related to the environment

V3: Users of Green Food Products would be willing to pay higher prices for water

V4: It is very difficult for the Users of Green Food Products to do anything about the environment

V5: Users of Green Food Products believes that using recyclable materials for daily use will improve the environment

Preference for green food products is the dependent variable and in analysis, it is denoted as V6. For the purpose, the responses were collected using seven categories; 1 = Very Strongly Disagree (VSD), 2 = Strongly Disagree (SD), 3 =

Disagree (D), 4 = Neither Agree Nor Disagree (NAD), 5 = Agree (A), 6 = Strongly Agree (SA), 7 = Very Strongly Agree (VSA).

The relevant portion of SPSS output sheet is presented below to infer whether there is any significant effect of Environmental Consciousness on the preference of Green Food products.

Table 4.1 ANOVA Output for Environmental Consciousness

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	7.442	5	1.488	.565	.027[a]
	Residual	1037.996	394	2.635		
	Total	1045.437	399			

a. Predictors: (Constant), v5, v1, v4, v2, v3
b. Dependent Variable: v6
Source: SPSS Output

4.1.1 Hypothesis on Environmental Consciousness

H: Environmental consciousness will not influence consumers' preference for green food products.

The exact significant level (p value) of ANOVA is exhibited in 6th Col. (Sig.) of the above mentioned table. The level of significance set by us is 5%, i.e., $\alpha = 0.05$ (on the basis of existing researches of similar type). The table reveals that 'p' value is less than the 'α' value. In fact, since $p = 0.027$ is less than $\alpha = 0.05$, the null hypothesis is not accepted and the alternative hypothesis is accepted. That means, Environmental consciousness significantly impact the consumers' preference towards green food products.

4.2 Price Sensitivity

In this section of the present study, the Criterion Variable is the Preference for Green Food Products for which six predictor variables identified and on which the data have been collected are:

V1: The price of buying Green Food Products is important to users of Green Food Products

V2: Users of Green Food Products know that a new kind of green food product is likely to be more expensive than older ones, but that does not matter to them

V3: Users of Green Food Products are less willing to buy a green product if they think that it will be high in price

V4: Users of Green Food Products don't mind paying more to try out a new green food product

V5: Users of Green Food Products think that really good Green Food product is worth paying a lot of money

V6: Users of Green Food Products don't mind spending a lot of money to buy a Green Food product

Preference for green food products is the dependent variable and in analysis, it is denoted as V6. For the purpose, the responses were collected using seven categories; 1 = Very Strongly Disagree (VSD), 2 = Strongly Disagree (SD), 3 = Disagree (D), 4 = Neither Agree Nor Disagree (NAD), 5 = Agree (A), 6 = Strongly Agree (SA), 7 = Very Strongly Agree (VSA).

The relevant portion of SPSS output sheet is presented below to infer whether there is any significant effect of Price Sensitivity on the preference of Green Food products.

Table-4.2: ANOVA Output for Price Sensitivity

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	26.955	6	4.492	1.733	.019a
	Residual	1018.483	393	2.592		
	Total	1045.437	399			

a. Predictors: (Constant), v6, v5, v3, v1, v4, v2
b. Dependent Variable: v7
Source: SPSS Output

4.2.1 Hypothesis on Price Sensitivity

H: Price Sensitivity will not influence consumers' preference for green food products.

The exact significant level (p value) of ANOVA is exhibited in 6th Col. (Sig.) of the above mentioned table. The level of significance set by us is 5%, i.e., $\alpha = 0.05$ (on the basis of existing researches of similar type). The table reveals that 'p' value is less than the 'α' value. In fact, since $p = 0.019$ is less than $\alpha = 0.05$, the null hypothesis is not accepted and the alternative hypothesis is accepted. That means, Price Sensitivity significantly impact the consumers' preference towards green food products.

4.3 Innovativeness in buying products

The third psychographic variable which is studied is Innovativeness in buying products. One-Way ANOVA is done in order to know whether Innovativeness in buying products has significant impact on the use of green food products.

The four predictor variables related to Innovativeness in buying Green Food Products identified and on which the data has been collected are;

V1: Users of Green Food Products like to take a chance in buying new products

V2: Users of Green Food Products like to try new and different products

V3: Users of Green Food Products is the first in his circle of friends to buy a new product when it appears in the market

V4: Users of Green Food Products is the first in his circle of friends to experiment with the brands of latest products

Preference for green food products is the dependent variable and in analysis, it is denoted as V7. For the purpose, the responses were collected using seven categories; 1 = Very Strongly Disagree (VSD), 2 = Strongly Disagree (SD), 3 = Disagree (D), 4 = Neither Agree Nor Disagree (NAD), 5 = Agree (A), 6 = Strongly Agree (SA), 7 = Very Strongly Agree

(VSA). The relevant portion of SPSS output sheet is presented below to infer whether there is any significant effect of Innovativeness in buying products on the preference of Green Food products.

Table-4.3: ANOVA Output for Innovativeness in Buying Products

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	31.503	4	7.876	3.068	.017[a]
	Residual	1013.934	395	2.567		
	Total	1045.437	399			

a. Predictors: (Constant), v4, v3, v1, v2
b. Dependent Variable: v5
Source: SPSS Output

4.3.1 Hypothesis on Innovativeness in Buying Products

H: Innovativeness in buying products will not influence consumers' preference for green food products.

The exact significant level (p value) of ANOVA is exhibited in 6th Col. (Sig.) of table 4.10. The level of significance set by us is 5%, i.e., $\alpha = 0.05$ (on the basis of existing researches of similar type). The table reveals that 'p' value is less than the 'α' value. In fact, since $p = 0.017$ is less than $\alpha = 0.05$, the null hypothesis is not accepted and the alternative hypothesis is accepted. That means, Innovativeness in buying products significantly impact the consumers' preference towards green food products.

4.4 Involvement

The fourth psychographic variable which is studied is Product Involvement. One-Way ANOVA is done in order to know whether Product Involvement has significant impact on the use of green food products.

The five predictor variables related to Product Involvement in Buying Green Food Products are identified and on which the data have been collected are:

V1: Users of Green Food Products select the green products very carefully.

V2: Using branded green products help Users of Green Food Products express their personality.

V3: One can tell a lot about a person from whether they buy Green Food Products.

V4: Users of Green Food Products believe different brands of green products would give different amounts of satisfaction.

Preference for green food products is the dependent variable and in analysis, it is denoted as V7. For the purpose, the respondents studied have been segregated into seven categories; 1 = Very Strongly Disagree (VSD), 2 = Strongly Disagree (SD), 3 = Disagree (D), 4 = Neither Agree Nor Disagree (NAD), 5 = Agree (A), 6 = Strongly Agree (SA), 7 = Very Strongly Agree (VSA). The relevant portion of SPSS output sheet is presented below to infer whether there is any significant effect of Product Involvement on the preference of green food products.

Table-4.4: ANOVA Output for Product Involvement in Buying Products

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	11.209	4	2.802	1.070	.371[a]
	Residual	1034.229	395	2.618		
	Total	1045.437	399			

a. Predictors: (Constant), v4, v3, v1, v2
b. Dependent Variable: v5
Source: SPSS Output

4.4.1 Hypothesis on Product Involvement

H: Product involvement will not influence consumers' preference for green food products.

The exact significant level (p value) of ANOVA is exhibited in 6th Col. (Sig.) of the above mentioned table. The level of significance set by us is 5%, i.e., $\alpha = 0.05$ (on the basis of existing researches of similar type). The table reveals that 'p' value is less than the 'α' value. In fact, since $p = 0.371$ is greater than $\alpha = 0.05$, the null hypothesis is accepted and established. That means, Innovativeness in buying products will not significantly impact the consumers' preference towards green food products.

4.5 Health Consciousness

The fifth psychographic variable which is studied is Health Consciousness. One-Way ANOVA is done in order to know whether Health Consciousness has significant impact on the use of green food products.

The eight predictor variables related to Health Consciousness in buying Green Food Products are identified and on which the data have been collected are:

V1: Users of Green Food Products worry that there are chemicals in their food products

V2: Users of Green Food Products worry that there are chemicals in their food products

V3: Users of Green Food Products are concerned about their drinking water quality

V4: Users of Green Food Products avoid food containing preservatives

V5: Users of Green Food Products read more health-related articles than I did 3 years ago

V6: Users of Green Food Products are interested in information about their health

V7: Users of Green Food Products are concerned about their health all the time

V8: Pollution in Food products does not bother users of Green Food Products

Preference for green food products is the dependent variable and in analysis, it is denoted as V9. For the purpose, the respondents studied have been segregated into seven categories; 1 = Very Strongly Disagree (VSD), 2 = Strongly Disagree (SD), 3 = Disagree (D), 4 = Neither Agree Nor Disagree (NAD), 5 = Agree (A), 6 = Strongly Agree (SA), 7 = Very Strongly Agree (VSA). The relevant portion of SPSS output sheet is presented below to infer whether there is any significant effect of Health Consciousness on the preference of green food products.

Table-4.5: ANOVA Output for Health Consciousness

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	20.813	8	2.602	.993	.041[a]
	Residual	1024.625	391	2.621		
	Total	1045.437	399			

4.5.1 Hypothesis on Health Consciousness

H: Health Consciousness will not influence consumers' preference for green food products.

The exact significant level (p value) of ANOVA is exhibited in 6th Col. (Sig.) of the above mentioned table. The level of significance set by us is 5%, i.e., $\alpha = 0.05$ (on the basis of existing researches of similar type). The table reveals that 'p' value is less than the 'α' value. In fact, since $p = 0.041$ is less than $\alpha = 0.05$, the null hypothesis is not accepted and the alternative hypothesis is accepted. That means, Health Consciousness will significantly impact the consumers' preference towards green food products.

4. Conclusion

In order to meet the purpose of the study as envisaged in the introduction part of the paper, One-Way ANOVA is used to know whether any facet of psychographic profile of the consumers has significant impact on the preference of the green food products. All the five psychographic variables as considered in the study significantly impact consumers' preference for green food products. Participatory observation method followed in uncovering the logic behind our findings reveals that the consumers who are environmentally and health conscious prefer green food products more. Also the consumers who are sensitive towards price and innovative in buying green food products prefer the green food products more. The consumers who are very much involved in buying products and spend time in taking decision about buying products prefer green food products more. 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. However, in-depth study on facet-wise psychographic 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 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) study the level of environmental and health consciousness of the target group of the consumers before deciding their marketing strategy.

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