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Purchase Behaviour of Consumers towards Green Products

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Abstract:
Consumer consumption pattern has changed due to rapid economic growth resulting in environmental degradation through over consumption and utilization of natural resources. Hence, shift towards more sustainable consumption patterns is required. Consumers can reduce impact on environment by their purchasing decisions. This concern has induced the marketers to develop green marketing strategies with green products that would cause less damage to the environment. It is ultimately the consumers who have to co-operate for the sustainability of green marketing practices. Thus, in the present study, an attempt has been made to study purchase behaviour of consumers towards green products in Kanniyakumari district in Tamil Nadu. The study is based on both primary data and secondary data. Primary data have been collected from 120 consumers using questionnaire. Judgement sampling was used. Secondary data sources include information from journals and websites. Percentages and factor analysis have been applied for analyses.
It is inferred that employed respondents with reasonably good income afford for green products. Majority of the respondents buy Paper made products, followed by CFL light bulbs and organic fruits and vegetables. Four factors such as personal factor, marketing factor, environment factor and social factor were extracted. Thus, the manufacturers, consumers, society, Government and media are collectively responsible for the sustainability of green environment and promotion of green products.

Keywords: Consumer, Purchase Behaviour, Green Products, Eco-Friendly Products, Environment

1. Introduction

Consumer behaviour is highly dynamic in nature. Consumer consumption pattern has changed due to rapid economic growth which has resulted in environmental degradation through over consumption and utilization of natural resources. Hence, shift towards more sustainable consumption patterns is required and it is also important to increase the environment awareness and consciousness among the people. Consumers can reduce impact on environment by their purchasing decisions.

The growing concern about preserving the natural environment has induced the marketers to develop a new marketing concept called green marketing. Green marketing incorporates not only marketing of eco-friendly products but also various activities such as production, packaging, promotion, and place of distribution are designed to preserve natural environment. Government has implemented environmental laws for environment protection and also providing subsidies on green /environment friendly products. Consequently new types of products were created called 'green' products that would cause less damage to the environment. Green products do not harm the environment whether in the production use or disposal.

2. Review of Literature

Ginsberg and Bloom (2004), found out that the first step is to gain rich understanding on consumer preferences towards green marketing. There is need for appropriate individual consumer tendencies towards green marketing. D' Souza et al (2006) found out that marketing mix elements like green product, product labels, packaging, and product ingredients does not influence the consumer behaviour but past experience with green products positively influences the green purchase intention. Abdul Rahim (2009) also indicated that the consumers are more likely to have a positive attitude towards green food when they are more concern about the environmental issues and health consciousness. Jansson et al. (2010) found that willingness to curtail and eco-innovation adoption are determined by values, norms of consumers. The personal norms of consumers have more positive influence on green consumer behaviour. Jacob Cheriyan and Jolly Jacob (2012) concluded that, majority of the consumers still lack "green" knowledge due to low awareness towards green products. Green Marketing is a continuous process that requires constant inputs from the suppliers, government legislations and policies and the people. It is important that strategies and policies in relation to green products be developed and implemented so as to guide and help the retailers and customers towards a green change. Parameswara Gupta E.A and Girish (2012) revealed that the concepts of environmental awareness, attitudes and behaviour of consumers towards green culture, green movement and green purchasing of semi urban, village people need to be popularised in the interest of protecting this "Mother Earth". Raji Parameswaran Pillai (2013) suggested that the government should actively frame policies that encourage companies to

work towards conserving the ecology should introduce incentives for the corporate doing so and should monitor them regularly. The role played by an individual becomes very important as one needs to be a conscious buyer, consumer and disposer.

2.1. Statement of the Problem
The negative effects of environmental degradation have been realized in the form of global warming, natural disasters, deterioration in soil fertility and so on. Though, business firms have also started responding to environmental challenges by adopting and practicing green marketing strategies. It is ultimately the consumer who has to co-operate for the sustainability of green marketing practices. Thus, in the present study, an attempt has been made to study purchase behaviour of consumers towards green products in Kanniyakumari district.

2.2. Objectives of the Study
The present study has been carried on with the following objectives
- i.   To study the profile of the green consumers in Kanniyakumari district.
- ii. To analyze the factors influencing purchase of green products by the respondents in the area of study.

2.3. Scope of the Study
The scope of the present study is limited to Kanniyakumari district in Tamil Nadu, India. Kanniyakumari district is at the southern-most tip of peninsular India. It is predominantly an agricultural region with vast natural resources and variety of geological features. Mr. Rajendra Ratnoo (Former Collector of Kanniyakumari District), by his endeavour, passed a resolution not to use plastic items. The official ban and endorsement on usage of plastic bags and cups came in to effect on 1st April 2010 after popular "quit plastic campaign". Very few studies have been made in the district towards green products. The study will help the green marketers for whom study of consumer behaviour is vital for survival and success in the field of marketing. The present study is both descriptive and analytical in nature.

2.4. Significance of the Study
In India, Government has enacted a number of legislations to combat pollution and preserve natural resources. Yet, the industrial and individual consumers' combined effect is needed in order to spread and practice eco-friendly behaviour. Hence, buyer behaviour plays a dominant role in green marketing. This study deals with the in-depth analysis of the consumer buying behaviour towards green products.

2.5. Sources of Data
The study is based on both primary data and secondary data. Primary data have been collected from 120 consumers with the help of a well designed questionnaire by following Judgement sampling method. The primary data required for the study have been collected from June 2014 to December 2014. Secondary data sources include information from journals and websites.

2.6. Tools for Analysis
Descriptive statistics like percentage analysis was used to describe the socio-economic and demographic variables of the sample respondents and were suitably used for various other responses also. In the present study, factor analysis has been applied to identify the factors influencing the purchase of green products.

2.7. Limitations of the Study
The present study is subjected to the following limitations:
- i.   Due to lack of time and money, purchase behaviour of only 120 consumers could be studied.
- ii. The primary data are subject to memory bias as no records were maintained by the consumers.

2.8. Socio-Economic and Demographic Profile of the Respondents
The parameters such as gender, age, education, marital status, type of family, occupation and monthly family income are considered in the present study to understand the socio-economic and demographic profile of the respondents and is exhibited in Table 1.

Profile Variables	Particulars	No. of Respondents	Percentage
Gender	Male	44	36.7
	Female	76	63.3
	Total	**120**	**100.0**
Age (in years)	Up to 25	05	04.2
	26 to 45	69	57.5
	Above 45	46	38.3
	Total	**120**	**100.0**
Educational Status	School level	08	06.7
	College Level	71	59.1
	Professional	41	34.2
	Total	**120**	**100.0**
Marital Status	Married	109	90.8
	Un-married	11	09.2
	Total	**120**	**100.0**
Type of the Family	Joint	23	19.2
	Nuclear	97	80.8
	Total	**120**	**100.0**
Occupation	Employed	81	67.5
	Business/Profession	33	27.5
	Others	06	05.0
	Total	**120**	**100.0**
Monthly Family Income	Below Rs. 20000	44	16.7
	Rs. 20001 to 40000	34	58.3
	Above Rs. 40000	42	35.0
	Total	**120**	**100.0**

Table 1: Profile of the Respondents
Source: Primary Data.

It is found out from Table 1 that 63.3 per cent of the respondents were females, 57.5 per cent of the respondents belonged to the age group of 26 to 45 years, 59.1 per cent of the respondents have undergone college education. 90.8 per cent of the respondents were married. The type of the family of the respondents revealed that 80.8 per cent of the respondents lived in a nuclear family. 67.5 per cent of the respondents were employed. 58.3 per cent of the respondents had a monthly income between Rs.20001 to Rs.40000. Thus, it is inferred that employed respondents with reasonably good income afford for green products.

2.9. Consumer Purchase Behaviour towards Green Products
Understanding purchase behaviour of consumers has become imperative for the survival and success of the marketers, as buyers dominate the market. Buyers decide the success or failure of a product. Thus, in the present study, aspects such as type of green consumer, type of green products purchased by the respondents, factors influencing the purchase of green product, satisfaction towards green products and efforts taken by the respondents to protect environment have been studied.

2.9.1. Type of Green Consumer
Consumers can be classified based on their purchase behaviour. There are four types of green consumer, such as   'Behavioural Green Consumer' (uses only green products), 'Think Green Consumers' (do not always use green products), 'Potential green consumers' (rarely use green products) and 'True Brown consumers' (ignore environmental issues). Table 2 shows the category of green consumers to which the respondents belong.

Sl. NO	Type of Green Consumer	No. of Respondents	Percentage
1.	Behavioural Green Consumers	03	2.5
2.	Think Green Consumers	61	50.8
3.	Potential Green Consumers	56	46.7
4.	True Brown Consumers	-	-
	Total	120	100.0

Table 2: Type of Green Consumer
Source: Primary Data

It is clear from Table 2 that 50.8 per cent of the respondents were think green consumers. 46.7 per cent of the respondents were the potential green consumers and 2.5 per cent were the behavioural green consumers. None of them were true brown consumers. Thus, majority of the respondents are Think green consumers, who have a favourable thought for the environment but do not always buy green products.

2.9.2. Types of Green Products Purchased by the Respondents
There are several eco-friendly products available in the market. The purchase of the products depends upon the willingness and attitude of the consumers. Multiple responses were received in the purchase of different types of green products by the respondents and the same is shown in Table 3.

SI. No	Green Products	Frequency of Response
1.	Organic fruits & Vegetables	62
2.	Clothing / Fabrics	49
3.	Solar Lamps / Heaters	37
4.	Accessories	31
5.	CFL Light Bulbs	65
6.	Grocery	34
7.	Paper bags / Cups / Plates	71
8.	Cosmetics / Body care	41
9.	Mobile phones	21
10.	Furniture	55
11.	Foot wear	38
12.	Home appliances	27

Table 3: Types of Green Products Purchased
Source: Primary Data

Table 3 shows that 71 respondents purchased the Paper bags/cups/plates, 65 respondents used CFL light bulbs, 62 respondents have bought organic fruits and vegetables, 55 respondents bought furniture, 49 respondents used clothing or fabrics, 41 respondents used cosmetics or body care items, 38 respondents purchased footwear, 37 respondents purchased solar lamps or heaters, 34 respondents bought grocery, 31 respondents purchased accessories, 27 respondents purchased home appliances and 21 respondents have purchased mobile phones.   It is inferred that majority of the respondents buy Paper bags / Cups / Plates, followed by CFL light bulbs and organic fruits and vegetables. The eco-friendly attitude was found the least towards purchase of mobile phones in the study area.

2.9.3. Factor Influencing the Purchase of Green Products - Factor Analysis
Eco-friendly products are influenced by various attributes and these attributes influence the purchase decision. Choosing a eco friendly products by the consumers require the consideration of attributes such as global warming, social benefit, environment and physical safety standard, quality, brand / labels, marketing activities, environmental awareness, environmental impact and other attributes. 15 variables were taken into consideration for the study.
Bartlett's Test of sphericity value 985.514 and the significance level ($p<.01$) indicates that the correlation matrix is not an identity matrix and there exists correlation between the variables. Higher value of Kaiser-Meyer-Olkin(KMO) test of sampling adequacy at 0.559 indicates that factor analysis, for the selected variables was found to be appropriate to the data.
Factor analysis was applied to find out the dominant factors influencing the purchase of a eco-friendly products by the respondents. The inter-correlations between the 15 variables were analyzed using Principal Component Analysis (PCA) and the Varimax Rotation of factor analysis. The PCA has extracted four factors out of the total 15 components. The results of Rotated Component Matrix of 15 attributes of products along with the communalities are exhibited in Table 4. The factors with which the attributes are identified are given in bold.

Variables	Component				Communality
	1	2	3	4	
Awareness	**.748**	.280	-.022	.041	.640
Availability	**.703**	-.256	.337	.164	.700
Health aspects	**.677**	-.074	.399	.159	.648
Quality	**.649**	.208	-.433	-.023	.653
Price	**.551**	.503	.026	.179	.589
Product promotion	.015	**.717**	.047	.177	.547
Brand image	.157	**.661**	.371	.125	.615
Media	-.012	**.577**	-.098	-.163	.369
Packaging and Labeling	.491	**.502**	-.011	-.339	.608
Conserve Natural Resources	.043	-.049	**.767**	-.046	.595
Protect environment	.104	.280	**.654**	.187	.552
Recycling and reduction of waste	-.370	.295	**.611**	.315	.696
Self Esteem	.181	.140	.038	**.745**	.609
Reference Group	-.097	-.028	.017	**.727**	.538
Concern for Future generation	.468	-.071	.148	**.639**	.655
Extraction method: Principal Component Analysis Rotation Method : Varimax with Kaiser Normalization					

Table 4: Rotated Component Matrix
Source: Primary Data

Table 4 exhibits the rotated factor loading for 15 variables and their respective communality. It is observed that all the 15 variables have been extracted and were considered to be influential in the purchase decision of eco- friendly products. The 15 variables were reduced to four factors. The consumer in the study area evinced the factor such as personal factor, marketing factor, environment factor and social factor as influential factor for making purchase decision of eco-friendly products.

- Influential Factors in the Purchase of Eco-friendly Products

Factor analysis of 15 attributes relating to a eco-friendly products identified four influential factors. The four influential factors in the purchase of eco- friendly products by the respondents along with the Eigen value, Percentage of variance and Cumulative percentage of variance are presented in Table 5.

Sl. No.	Influential Factors	Eigen Value	Percentage of Variance	Cumulative Percentage of Variance
1.	Personal Factor	2.914	19.428	19.428
2.	Marketing Factor	2.174	14.491	33.919
3.	Environment Factor	2.025	13.498	47.417
4.	Social Factor	1.902	12.682	60.100

Table 5: Influential Factors in the Choice of A Eco-Friendly Products
Source: Compiled Data

It has been observed from Table 5 that the four factors such as personal factor, marketing factor, environment factor and social factor were extracted. These factors accounted for about 60.100 per cent of variance in the data.

Eigen value for the first factor, 'Personal factor,' was 2.914 and percentage of variance was 19.428. This factor provides the maximum influence to the respondents for the purchase of green products in the study area. Significant items under this factor were awareness, availability, health aspects, quality and price. Eigen value for the second factor, 'Marketing Factor' was 2.174 and percentage of variance was 14.491. The green consumers have shown great concern towards factors such as product promotion, brand image, media packaging and labeling. Eigen value for the third factor, 'Environment Factor' was 2.025 and percentage of variance was 13.498. The buyers have shown the influence of environment factor towards the purchase of green products. The concern towards conservation of natural resources, protect environment and recycling and reduction of waste. Eigen value for the fourth factor, 'Social Factor' was 1.902 and percentage of variance was 12.682.The impact of society in the purchase decision of green product was found to be in the form of self esteem, reference group and concern for future generation. Thus, it is inferred from factor analysis that the personal factor, pre dominantly influences the purchase of green products.

2.9.4. Satisfaction towards Green Products
Quality and usage of the products is considered to be one of the important factors in deciding the satisfaction level of the respondents. Table 6 shows the satisfaction of the respondents towards green products.

Sl. No.	Satisfaction Level	No. of Respondents	Percentage
1.	Highly Satisfied	73	60.8
2.	Satisfied	16	13.4
3.	Moderate	31	25.8
4.	Dissatisfied	-	-
5.	Highly Dissatisfied	-	-
	Total	120	100.0

Table 6: Satisfaction towards Green Products
Source: Primary Data

Table 6 reveals that 60.8 per cent of the respondents were highly satisfied. 13.4 per cent of the respondents were satisfied and 25.8 per cent were moderately satisfied. None of the respondents had shown dissatisfaction.

2.9.5. Efforts taken by the Respondents to Safeguard the Environment
Safeguarding the environment is an important duty of every citizen. Multiple responses were received towards the efforts safeguarding environment by the respondents and the same is depicted in Table 7.

Sl. No.	Efforts Taken	Frequency of Response
1.	Purchasing products, such as detergents, that have a reduced environmental impact.	54
2.	Avoiding plastic products and aerosols	79
3.	Purchasing recycled paper products	51
4.	Buying organic produce	32
5.	Buying locally produced foods	28
6.	Looking for products using less packaging	14
7.	Using one's own bag, rather than plastic carrier provided by the shop.	64

Table 7: Efforts Taken By the Respondents to Safeguard the Environment
Source: Primary Data

Table 7 shows that 79 respondents have avoided plastic products and aerosols, 64 respondents said that they used jute or cloth bag, rather than plastic carrier provided by the shop. 54 respondents purchased products, such as detergents that have a reduced environmental impact. 51 respondents purchased recycled paper products. 32 respondents bought organic produce, 28 respondents bought locally produced food and 14 respondents looked for products using less packaging. Thus, varied efforts have been taken by the respondents to protect the environment.

3. Conclusion
Consumer behaviour plays a vital role in the survival and success of products. The consumers decide the success or failure of products in the modern marketers of green products or services need to be more innovative and creative to compete with the dynamic nature of consumers. The study brought out the fact that through consumers are considerably well aware of green products but they are less concerned and committed to buy eco-friendly products. Business organization should start adopting green marketing strategies as it offers incentives and growth opportunities in the long term. To educate consumers towards green products, the marketers must create promotional measures which are both realistic and have moral values and focus the product availability in terms of volume and variety. When majority of the manufacturers realize the social responsibility of protecting the environment and produce accordingly, the consumers will automatically shift towards usage of green products. Thus, the manufacturers, consumers, society, Government and media are collectively responsible for the sustainability of green environment and promotion of green products.

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