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## Analysing the consumer perceptions towards ecofriendly products with reference to Coimbatore district

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### Abstract

Sustainability is the joint responsibility of government, producers and consumers. Consumers may adopt sustainability practices in their day-to-day life by showing their preference towards eco-friendly products. The research revealed that the green consumers are environmentally conscious but exhibited restrained behaviour when it came to actual purchase of eco-friendly commodities. This situation poses high challenges to the marketers and policy makers in bridging the gap. The determinants and barriers to their eco-friendly purchase will help them overcome this issue and understand their consumers to serve them better.

**Keywords:** Eco friendly products, green consumers and perception

### Introduction

Over the centuries, the emergence of environmental concern has been at the top of the agenda at both national and international level. However, the era of modern environmentalism came into the picture in 1950s and focus on the environmental issues got sharper in 1960s with the exuberant pressure posed by public. This wave of environmentalism led to the establishment of National Environmental Policy Act, 1969 in the United States. The issue of environmental protection was highlighted more and became a permanent feature of national and international policy with the first celebration of Earth Day in 1970 and first United Conference on the Human Environment held in Stockholm in 1972. For the last few decades, concerns over the different environmental issues are gaining attention of various groups of the society. Consumers are becoming more aware about the environmental problems and have started realizing that majority of issues are because of increasing population, our consumption habits and are the consequences of technological advancements. These awakened consumers are now ready to change their preferences from mainstream products to greener products which have least impact on the environment. Changing consumption habits and rising preferences of consumers for green products are proving to have greater influence on the corporate world also. In response to this, big corporate houses have now started addressing environmental issues in various manners.

### Statement of the problem

In today's business scenario, terms such as 'recyclable', 'biodegradable', 'environmentally friendly', 'sustainable' and 'bio-based' are the latest buzzwords. As society becomes more concerned with the natural environment, businesses have begun to modify their behavior in an attempt to address society's ecological concerns. It is amply clear that regulatory actions by pollution control agencies alone cannot restore the environment to its pristine state. Pro-active and promotional roles should also be geared up in harmony with the overall environmental protection strategy. Consumers are also responsible for environmental destruction due to unethical practices in their day-to-day activities that harm the environment. Consumers pollute the environment by increasing their usage of non-biodegradable goods and dumping them as waste in large volumes, their irresponsible behavior in the usage of non-renewable energy thereby causing strain on natural resources, improper waste disposal methods, absence of recycling activities etc. Hence consumers also have a very big role to play in environmental conservation.

The time has come for consumers to take the lead in prompting manufacturers to adopt clean and eco-friendly technologies and environmentally-safe disposal of used products, along with preventive approaches.

With the above settings the present study is intended to find the answers for the following research questions;

1. What is the level of environmental knowledge and concern of the respondents?

### Objectives of the study

The objectives of the study are

1. To assess the level of environmental knowledge and concern of the respondents.
2. To assess the level of awareness and attitude of consumers towards the eco-friendly products.

### Importance of the study

There is a global awareness and realization on the part of government about the importance of environmental conservation and several laws have been passed, international treaties have been signed, common regulations have been imposed and policies agreed upon which are all meant to protect the physical natural environment that is affected or endangered by the activities of humans in a global perspective. The present research is such an attempt to analyse the environmental knowledge of the respondents along with the awareness, attitude and purchase behavior in conserving the environment by purchasing the eco-friendly products. Further the study identifies the factors and problems in determining the eco-friendly purchase of the respondents in the Coimbatore district. The study may be informative to the academicians, policy makers and diplomats who seek the related information.

### Scope of the study

The study has been confined to the district of Coimbatore located in the state of Tamil Nadu in India. The sample was selected from this place and was restricted to a number of 150 respondents. The eco-friendly goods alone in terms of environment protection have been selected and the data has been collected through the structured questionnaires from the respondents. The study covers the examinations on the areas of awareness, attitude and purchase behavior among the consumers who are used to eco-friendly products in their day-to-day life. The study further investigates the influencers of the purchase of eco-friendly products along with the obstacles faced by the consumers while purchasing the eco-friendly products.

### Methodology

#### Type of research

Descriptive research has been used with the study.

#### Collection of data

The research work is mainly based on primary data collected from the sample respondents through a structured

questionnaire. Other information relevant for the study's analysis and others was collected from secondary sources such as journals, magazines, published and unpublished research works and websites.

### Sample design

The population targeted for this study consisted of samples from the district of Coimbatore who have purchased at least two product categories out of the five selected for the study. A family was selected as a sampling unit. Any adult member of the family who makes the most purchase decisions for the family was the respondent for this study. The sampling technique adopted for the study was convenience sampling where the sample respondents were selected on the basis of the accessibility. A sample size of 150 respondents was chosen to whom the questionnaires were distributed.

### Statistical tools for analysis

Descriptive Analysis, Simple Percentage and Mean Score.

### Limitations of the study

1. This research was location specific and was confined to the district of Coimbatore in the state of Tamil Nadu in India. Hence the results of this research may not be applicable to other parts of globe.
2. The study adopted convenient sampling which was one of the methods of non-probability sampling and hence the limitations of this technique are applicable.
3. The study has all the limitations of a qualitative research namely subjectivity and personal bias.

### Analysis and Interpretation

#### Factors determining the purchase of eco-friendly products

#### Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy has been used to gauge the appropriateness of factor analysis approach.

**Table 1:** KMO and Bartlett's test

Kaiser-Meyer-Olkin measure of sampling		.869
Adequacy.	Approx. chi-square	4496.23
Bartlett's test of	df	500
sphericity	Sig.	.000**

KMO Measure of Sampling Adequacy value is 0.869 which means that all the variables are positively correlated. Bartlett's test of Sphericity significance value is less than 0.05 and hence it is concluded that Factor Analysis can be performed for these variable.

Communalities of all variables are extracted by following the method of Principal Component Analysis. The Communalities of all variables are as follows.

**Table 2:** Communalities

Factors	Initial	Extraction
V1	1.000	0.861
V2	1.000	0.835
V3	1.000	0.603
V4	1.000	0.632
V5	1.000	0.677

V6	1.000	0.667
V7	1.000	0.606
V8	1.000	0.608
V9	1.000	0.644
V10	1.000	0.813
V11	1.000	0.818
V12	1.000	0.685
V13	1.000	0.644
V14	1.000	0.692
V15	1.000	0.681
V16	1.000	0.761
V17	1.000	0.695
V18	1.000	0.665
V19	1.000	0.629
V20	1.000	0.645
V21	1.000	0.556

It is visible from the above table that all the communalities are over and above the minimum threshold value of 0.5. Hence all the variables are retained. Four Factors are

extracted on the basis of Eigenvalues of more than one. The following table gives a complete picture of factor extraction.

**Table 3:** Factor analysis for determinants of eco-friendly purchase – rotated component matrix

Variables	Factor scores for component					Cronbach alpha value
	1	2	3	4	5	
V1	-.008	.838	-.027	-.064	-.049	0.867
V2	-.020	.829	-.053	-.067	.027	
V3	-.049	.756	-.002	.003	-.040	
V4	-.094	.744	.141	.010	.025	
V5	-.081	.799	.053	-.080	.120	
V6	-.046	.701	.140	-.024	.022	
V7	-.060	.059	.024	.145	.661	0.748
V8	.107	.042	.104	-.114	.790	
V9	.060	-.190	-.010	.111	.647	
V10	-.137	-.079	.092	.499	.632	
V11	-.124	.152	.215	-.036	.578	
V12	.064	.045	.788	.204	-.006	
V13	.118	.044	.729	.049	-.079	0.733
V14	.237	.101	.629	.139	.015	
V15	.352	-.031	.522	.562	-.061	
V16	.659	-.101	.130	.289	-.149	
V17	.626	.001	-.001	.400	-.010	0.700
V18	.677	-.119	.013	.094	-.131	
V19	.422	-.056	.056	.195	.143	
V20	.282	-.062	-.102	.688	-.065	
V21	.376	.097	.046	.491	.063	0.765

The factor loadings for the five factors extracted were rearranged in the order of the loadings for each of the factors. The table has indicated that the first six variables belonged to the factor selflessness, the next five factors converged as selfishness, the next four variables converged as appreciation, the next four variables converged as obligation and the last two variables fell under the category other reasons.

Cronbach Alpha test was performed in order to test the internal consistency of the variables under each factor. If the value of alpha is closer to 1, higher the consistency and reliability. The alpha value of selflessness was 0.867, selfishness being 0.748, appreciation being 0.733, obligation being 0.700 and other reasons being 0.765 which was quite high in explaining the internal consistency and reliability of the variables in each of the two factors.

The average of the scores of the individual variables of the five factors extracted was considered for further analysis. The analysis of determinants of eco-friendly purchase was undertaken in the study with the help of the statistical tools

namely mean scores and analysis of variance.

#### **Determinants of eco-friendly purchase: Mean score analysis**

In order to assess the degree to which the determinants influence eco-friendly purchase of the respondents, their mean scores were calculated and presented in Table

**Table 4:** Determinants of eco-friendly purchase - overall mean scores

Determinants of eco-friendly purchase	Mean	Std. deviation	Coefficient of variation
Selflessness	3.48	.866	24.57
Selfishness	4.15	.518	13.06
Appreciation	3.02	.688	21.61
Obligation	2.59	.839	27.52
Other reasons	2.80	.751	26.84

From the above table it was clear that, in general, among the five factors which are likely to influence eco-friendly

purchase, selfishness has the highest mean score of 4.15 and it was the most influencing factor. This was followed by Selflessness which has a mean score of 3.48. The next factor was the appreciation (mean score 3.02) the respondents get, that influence them to buy the green commodities. The least influencing factors are obligation with a mean score of 2.59 and finally other reasons with a mean score of 2.80. The coefficient of variation indicated that there was a high degree of convergence of responses in the factor selfishness, followed by appreciation, selflessness and other reasons.

The lowest degree of agreeability of responses was with the factor obligation.

#### **Determinants of eco-friendly purchase: mean scores based on demographic classification**

To assess the relative strength of the determinants of eco-friendly purchase among the groups of respondents classified on the basis of their demographic characteristics, the mean scores were calculated separately for each group and shown in Table 5.24.

**Table 5:** Determinants of eco-friendly purchase - mean scores based on demographic classification

Demographic variables	Classification	Mean scores				
		Selflessness	Selfishness	Appreciation	Obligation	Other reasons
Gender	Male	3.56	4.16	3.43	2.78	2.67
	Female	3.35	4.18	3.29	3.23	2.68
	Transgender	1.46	1.31	1.24	0.64	1.24
Marital Status	Married	3.45	4.26	3.26	2.87	2.87
	Unmarried	3.32	3.67	3.46	3.45	3.22
	Others	3.41	4.14	3.32	2.72	2.56
Age	16-25	3.65	3.84	3.42	3.55	3.39
	26-35	3.37	3.79	3.36	3.41	2.81
	36-45	3.59	4.8	3.41	2.86	2.79
	Above 45	3.49	4.32	3.32	2.76	2.68
Number of members in your family	2	3.45	4.27	3.28	2.65	2.58
	3	3.42	4.24	2.64	2.84	2.78
	4	3.56	4.12	2.86	2.64	2.43
	5 and above	3.49	3.42	3.47	3.24	2.84
Education	No formal education	3.29	4.26	3.35	3.36	3.23
	Higher secondary level	3.34	3.84	3.45	3.23	2.56
	Undergraduate	3.49	4.09	3.68	2.77	2.78
	Post graduate	3.64	4.24	3.48	3.25	2.68
Occupation	Private employee	3.65	4.15	3.35	2.68	2.92
	Public employee	3.42	4.28	3.38	2.78	2.71
	Self employed	3.46	3.77	3.31	2.74	2.54
	Others	3.53	3.65	3.44	3.22	2.83
Annual Income (INR Lakhs)	1 to 2	3.64	4.24	3.52	3.19	2.75
	Above 2 to 3	3.65	3.86	3.26	2.79	2.89
	Above 3 to 5	3.35	4.28	3.35	2.82	2.69
	Above 5	3.42	4.42	3.44	2.79	2.55

The gender-wise classification of the mean scores has given an inference that for both male and female respondents, the order of the determinants is the same though the scores slightly differ. The highest influencing factor was selfishness, followed by selflessness, appreciation, obligation and finally other reasons. In terms of marital status, the highest influencing factor was selfishness, followed by selflessness, appreciation, obligation and the lowest determinant was the other reasons. The order of the factors influencing their eco-friendly purchase remained the same irrespective of the age of the respondents. The highest influencing factor was selfishness, followed by selflessness, appreciation, obligation and the lowest determinant was the other reasons for all the six categories of respondents belonging to different age groups. In education, the highest influencing factor was selfishness, followed by selflessness, appreciation, obligation and the lowest determinant was the other reasons for all the categories of respondents. The occupation-wise classification showed that the highest influencing factor was selfishness, followed by selflessness, appreciation, obligation and the least determinant was the other reasons. The income-wise mean scores indicated that the highest

influencing factor was selfishness, followed by selflessness, appreciation, obligation and the least determinant was the other reasons.

#### **Findings**

The demographic classification of the respondents who are the consumers of eco-friendly products in the district of Coimbatore confers that majority of the respondents are male that stood for 332 in number at the rate of 66 per cent. Most of the respondents are married having stood at the quantity of 270 at the share of 54 per cent. A total of 140 respondents are in the age group of between 36 and 45 years at the share of 28 per cent. Most of the respondents are having 3 members in their family at the total of 248 constituting 50 per cent. A total of 230 respondents are qualified under graduation, which is the most of the groups in the category of education at the rate of 46 per cent. A total of 170 employees out of the total samples are self-employed at the share of 34 per cent. Finally, majority of the respondents at a total of 160 are having the annual income of above 3 to 5 lakhs of rupees at the rate of 32 percent.

### Suggestions

1. As observed from the research, a high level of environmental consciousness in terms of knowledge and concern, could transform an ordinary consumer into a green consumer. Hence marketers and other government authorities who aim for sustainability need to concentrate on creating an awareness and concern in the minds of the public.
2. Communication strategies for the purpose of spreading environment knowledge and creating environmental concern need to focus on the educational background of the target group than considering the other demographic variables.
3. Product information dissemination for eco-friendly goods may consider that word of mouth was found to be the most important source of awareness about ecofriendly goods. This observation revealed that green consumers are the silent promoters of eco-friendly goods. The success of word-of-mouth marketing depends on the extent of customer satisfaction. Hence, the marketers may incorporate suitable plans to transform customers into not just satisfied, but delighted green consumers with respect to the product's perceived benefits and the value paid for it. Government and business houses may consider the point that print media and websites seemed to be the least important source of spreading awareness about eco-friendly products and hence these media should be used sparingly in their mass communication efforts.
4. It is imperative to increase the percentage of green leaders by motivating and transforming the green loyalists and green followers into leaders. As word-of mouth is found to be the main source of awareness, these leaders could only spread the message of eco-friendly behaviour and influence the non-green segment to come under the green banner.
5. Customized strategies for each of the segment of green consumers may be planned and implemented by the marketers of eco-friendly goods based on their group characteristics instead of imposing a blanket policy for all them. As demographics did not play a significant role in the clustered green consumers, marketers have to work out other psychographic segmentation criteria which could be more useful in profiling and segmenting the green consumers.

### Conclusion

The research revealed that the green consumers are environmentally conscious but exhibited restrained behaviour when it came to actual purchase of eco-friendly commodities. This situation poses high challenges to the marketers and policy makers in bridging the gap. The determinants and barriers to their eco-friendly purchase will help them overcome this issue and understand their consumers to serve them better.

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