

Chapter IV

CHAPTER IV

GREEN CONSUMERS IN COIMBATORE - A PROFILE ANALYSIS

‘Environmental problems’ have been an important issue addressed by all the countries in various official gatherings of the representatives of respective countries. India is not an exception to this major hazard. Owing to the increased level of awareness created to protect the environment by countries across the world, consumers have switched over to purchase products that are designed/produced to protect the environment. In this context, people whose intention is to protect themselves and the environment with their purchasing power are identified as “green consumers”. According to Henion and Wilson (1976)¹ “An ecologically concerned consumer is one, whose values, attitudes, intentions, or behaviours exhibit and reflect a relatively consistent and conscious concern for the environmental consequences related to the purchase, ownership, use or disposal of particular products or services”.

In the process of accomplishing the first objective of the study:

- ❖ To understand the socio-economic background, awareness and purchase pattern of consumers of eco-friendly products.

the following aspects have been covered in this chapter:

- The personal profile of consumers
- Consumers’ awareness about green products
- Consumers purchase pattern towards green products

Primary data have been collected from 400 green consumers who are using selected green products namely, solar products (renewable), durables (energy saving), non-durables (reusable/non toxic), organic (naturally grown) and stationery products (recyclable). Percentage analysis, ANOVA, Factor analysis and Chi-square test have been applied to analyse the data.

Percentage Analysis

Percentage analysis has been applied to assess demographic factors of green consumers on their purchase behaviour and for enabling comparison with the help of descriptive statistics.

¹ Henion, K. E., & Wilson, W. H. (1976). “The ecologically concerned consumer and locus of control”, *Ecological Marketing*. Chicago: American Marketing Association. pp. 282.

Analysis of Variance (ANOVA)

The Analysis of Variance referred as ANOVA is a statistical technique specially designed to test whether the means of more than two quantitative populations are equal. It consists of classifying and cross-classifying results and testing whether the means of a specified classification differ significantly with the help of a mechanism, F-Test. But the test is so designed that the variances being compared are different only if the means under consideration are not homogenous. Thus, significant value of F indicates that the means are significantly different from one another.

Chi – Square Test

The chi – square test has been used to test the independence of the two attributes of factors, along with their influence on one another. Chi-square test has been performed with suitable null hypotheses and the results of the same have been presented.

Selection of Variables

Data collected from green consumers have been analysed using descriptive and inferential statistical techniques. Inferential statistics is the process of selecting and using a sample statistics to draw inference about a population parameter based on the sample drawn from the population (Gupta S. P. 2001) and data description is possible with descriptive statistics.

Independent variables that have been the presumed cause have been chosen in the study to support the objectives framed and to identify their impact on dependent variables that have been referred to as the presumed effect.

4.1 DEMOGRAPHIC PROFILE OF GREEN CONSUMERS

Demographic profile of the green consumers facilitates the understanding of their socio-economic background. The variables namely, age, gender, marital status, educational qualification, occupation, family monthly income, size of the family and nature of family of the respondents have been shown in the table 4.1.

Table 4.1 Demographic profile of Green Consumers

		No. of respondents	Per cent
Age	Below 20 yrs	62	15.5
	21-30 yrs	70	17.5
	31-40 yrs	132	33.0
	Above 40 yrs	136	34.0
Gender	Male	187	46.7
	Female	213	53.3
Marital Status	Married	288	72.0
	Unmarried	112	28.0
Educational qualification	Up to school level	72	18.0
	Diploma	35	8.8
	Graduation	195	48.8
	Post graduation	55	13.7
	Professionally qualified	43	10.7
Occupation	Employee	113	28.2
	Business	110	27.5
	Professional	34	8.5
	Agriculturist	16	4.0
	Student	79	19.8
	Housewife	48	12.0
Nature of the family	Joint	97	24.3
	Nuclear	303	75.7
Size of the family	1-2 members	9	2.3
	3- 4 members	285	71.3
	More than 4 members	106	26.4
Family Monthly income	Below Rs.20000	42	10.5
	Rs.20001- 40000	138	34.5
	Rs.40001- 60000	130	32.5
	Above Rs.60000	90	22.5
	Total	400	100.0

(Source: Computed)

It has been noted from the table 4.1 that 34 per cent of the consumers are above 40 years, 33 per cent of them are in the age group of 31-40 years, 17.5 per cent of the consumers are in the age group of 21–30 years and 15.5 per cent of the respondents are below 20 years. Hence, most of the respondents are above 40 years.

53.3 per cent of the consumers are female and 46.7 per cent of them are male. It is noted that most of the consumers are female.

72 per cent respondents are married and 28 per cent of them are unmarried. It is inferred that most of the respondents are married.

48.8 per cent of the consumers are graduates, 18 per cent of them have school level education, 13.7 per cent of the consumers are post graduates, 10.7 per cent of them are professionally qualified and 8.8 per cent of them are diploma holders. Therefore, most of the consumers are graduates.

28.2 per cent of the respondents are employees, 27.5 per cent of them are business persons, 19.8 per cent of the respondents are students, 12 per cent of them are housewives, 8.5 per cent of them are professionals and 4 per cent of the respondents are agriculturists. Hence, most of the respondents are employees.

75.7 per cent of the consumers live in nuclear family structure and 24.3 per cent of them are in joint family. Majority of consumers are in nuclear family.

71.3 per cent of the consumers have 3–4 members in their family, 26.4 per cent of the respondents' family consists of more than 4 members and there are only 2 members in the family of 2.3 per cent of the respondents. Hence, most of the respondents have 3–4 members in their family.

34.5 per cent of the consumers' family monthly income ranges from Rs.20,000 – Rs.40,000, 32.5 per cent of the respondents' family monthly income ranges from Rs.40,001 – Rs.60,000, 22.5 per cent of their family income is above Rs.60,000 and family monthly income of 10.5 per cent of the consumers is below Rs.20,000. Thus, it is found that most of the respondents' family monthly income ranges from Rs.20,001 to Rs.40,000.

4.2 CONSUMER OPINION ABOUT THE FEATURES OF PRODUCTS SIGNIFYING 'GREEN'

Consumer perception pertains to their understanding of the features which are predominantly used to signify 'green' and the same has been analysed and presented in the following table.

Table 4.2 Consumer opinion about the features of products signifying ‘green’
(Multiple Response)

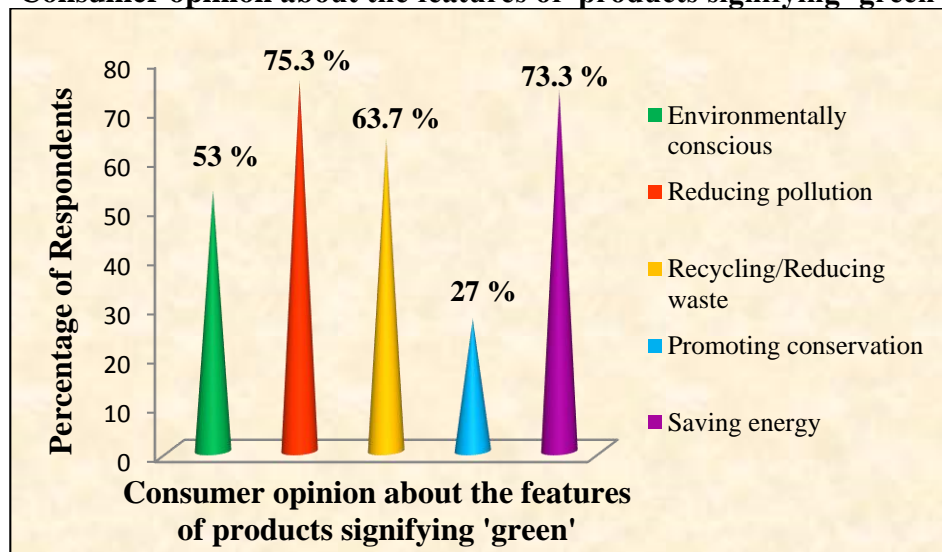
Factors	No. of Respondents	Per cent
Environmentally conscious	212	53.0
Reducing pollution	301	75.3
Recycling/Reducing waste	255	63.7
Promoting conservation	108	27.0
Energy saving	293	73.3

(Source: Computed)

From the above table it is clear that out of 400 respondents, 75.3 per cent of them have opined the features which are predominantly used to signify ‘green’ in the products are ‘reducing pollution’, 73.3 per cent of the respondents have said the next signifying feature is ‘saving energy’, 63.7 of them stated ‘recycling/reducing waste’, 53 per cent of the respondents said ‘environmentally conscious’ and 27 of them opined that green products refer to ‘promoting conservation’ of natural resources for future generation. Therefore, majority of the respondents opined the features which are predominantly used to signify ‘green’ in the products are ‘reducing pollution’.

Chart 4.1 depicts the respondents opinion about the features predominantly used to signify ‘green’ in the products .

Chart 4.1
Consumer opinion about the features of products signifying ‘green’



4.2 CONSUMER AWARENESS ABOUT GREEN PRODUCTS

Today most of the companies are entering into the newly emerging green market with their green products. In order to meet consumers' demands, companies are either launching new green products or making their existing products less harmful to the environment. Green products are familiar because of their consummate benefits for health and environment. Consumers' level of awareness about selected green products have been analysed using the descriptive statistical tools, mean and standard deviation and presented in the table 4.3.

Table 4.3 Level of awareness about selected green products

Selected green products	N	Minimum	Maximum	Mean	S.D
Solar Products	400	3	5	4.56	.53
Durables	400	2	5	4.53	.62
Non-durables	400	1	5	4.30	.76
Organic	400	2	5	4.61	.58
Stationery	400	1	5	4.35	.77

(Source: Computed)

A five point rating scale ranging from 1 to 5 where, 1 for not aware at all, 2 for not aware, 3 for neutral, 4 for aware and 5 for very much aware, has been constructed to assess the opinion of the respondents on their level of awareness on selected green products.

From the mean ratings computed based upon the response of the consumers it is evident that most of the respondents are *highly aware* about 'Organic products' (mean 4.61), 'solar products' (mean 4.56) and 'durables' (mean 4.53). The respondents are *aware* of 'stationery' (mean 4.35) and 'non-durables' (mean 4.30). Therefore, based on the high mean rating, it has been concluded that most of the consumers are very much aware about 'organic products'.

ANOVA has been applied to test whether there is significant difference in the level of awareness about green products among the respondents classified based on their personal profile with the following null hypothesis:

H₀: "There has been no significant difference in the awareness scores on the selected green products among the consumers classified based on the demographic variables such as age, educational qualification, occupation and family monthly income".

The null hypothesis has been tested for each of the demographic variables separately and is presented in the following table:

Table 4.4 Awareness score on selected green products Vs. Demographic variables

		Awareness score on selected green products			Table Value	F	Sig.
		Mean	S.D	No.			
Age	Below 20 yrs	22.95	1.78	62	2.627	3.321	*
	21-30 yrs	22.10	2.15	70			
	31- 40 yrs	22.55	1.78	132			
	Above 40 yrs	22.10	2.26	136			
Education Qualification	Up to school level	21.57	2.26	72	3.367	4.338	**
	Diploma	22.54	1.58	35			
	Graduation	22.54	1.92	195			
	Post Graduation	22.91	1.81	55			
	Professionally qualified	22.21	2.42	43			
Occupation	Employee	22.40	2.21	113	2.237	.616	Ns
	Business	22.32	1.89	110			
	Professional	22.41	2.12	34			
	Agriculturist	21.88	2.68	16			
	Student	22.66	1.82	79			
	Housewife	22.17	2.05	48			
Family Monthly Income	Below Rs.20000	21.62	1.74	42	2.627	2.415	Ns
	Rs.20001-40000	22.43	1.92	138			
	Rs.40001-60000	22.58	2.23	130			
	Above Rs.60000	22.37	2.00	90			
Total		22.38	2.04	400			

(Source: Computed NS – Not significant ** - significant at 1% level * - 5% level)

The respondents who are in the age group of below 20 years have a high level of awareness on selected green products with a high mean score of 22.95. A low awareness score has been found for the respondents in the age group 21-30 years and above 40 years with a mean score of 22.10. Among the various studies conducted all over the world age group seemed to show a significant relation with antecedents of green purchasing behaviour. Various studies (Roberts, 1996; Ottman et al., 2006; D’Souza et al., 2007) revealed that younger generations accept new or innovative ideas. These scores suggest that the respondents’ level of awareness on the selected green products has varied. Age has caused such variations. The respondents’ age has influenced the awareness about selected green products. Thus, with the higher F-ratio value it is clear that there is significant difference in the respondents’ level of awareness on selected green products when they are classified based on their age, thereby, the null hypothesis has been rejected at 5 per cent level of significance with respect to the factor ‘age’.

Education gives awareness on purchase of green products by the respondents. Post graduate respondents have a high level of awareness on the selected green products with a mean score of 22.91. A low awareness score has been found for the respondents with school level education (mean score 21.57). It is concluded from the mean scores that the respondents' level of awareness on the selected green products has varied based upon their educational qualification. Thus, with the significant higher F-ratio value the null hypothesis has been rejected at 1 per cent level of significance with respect to the factor 'educational qualification'.

The respondents who are students have high level of awareness about selected green products, which is seen from a high mean score of 22.66 and with a low mean score of 21.88 it is evident that the agriculturists have relatively less awareness on selected green products. The F-ratio value shows that there is no significant variation in the respondents' level of awareness on selected green products based on the occupation, thereby, accepting the null hypothesis. Despite the deviations in the awareness scores for the respondents from different occupations, the null hypothesis has been accepted due to F-ratio value (0.616) which is marginally lesser than the critical F-ratio value (2.237).

The respondents whose family monthly income has been Rs.40,001 – Rs.60,000 have a high level of awareness on green products with a high mean score of 22.58 and a mean score of 21.62 has been found for the respondents' whose family monthly income is below Rs.20,000. However, with the F-ratio value it is understood that there is no difference in the respondents' level of awareness on the selected green products at a significant level based on monthly income of their family, thereby, the null hypothesis has been accepted.

The ANOVA result has shown that there has been significant difference in the level of awareness on selected green products when the respondents have been classified based on age and educational qualification, hence, the null hypothesis has been rejected. There is no significant difference in the level of awareness among the respondents classified based on occupation and family monthly income, thus, the null hypothesis has been accepted.

t-Test

t-Test helps to compare two groups and identify whether the two groups have different mean.

t-Test has been used to test whether the awareness scores obtained for selected green products has varied significantly among the respondents classified based on demographic variables such as gender and nature of family with the following null hypothesis:

H₀: “There has been no significant difference in the awareness scores on the selected green products for the respondents classified based on their gender and nature of the family”.

Table 4.5 Awareness score on selected green products Vs. Demographic variables

		Awareness score			Table Value	T	Sig.
		Mean	S.D	No.			
Gender	Male	22.30	2.09	187	1.966	0.691	Ns
	Female	22.45	2.00	213			
Nature of the family	Joint	22.78	1.99	97	1.966	2.251	*
	Nuclear	22.25	2.04	303			
Total		22.38	2.04	400			

(Source: Computed NS – Not Significant *-Significant at 5% level)

The t value indicates that there is no significant difference in the level of awareness of selected green products for the respondents classified based upon their gender. Thus, the null hypothesis has been accepted.

It is evident that the respondents who live in nuclear family have relatively less awareness about green products than who live in joint family. Results of the t-test show that there has been significant difference in the awareness about green products among respondents classified based upon their nature of the family. Hence, the null hypothesis has been rejected at 5 per cent level of significance.

The overall result of t-test has revealed that most of the respondents awareness scores have not varied at a significant level despite their classification based on ‘gender’, whereas, the respondents awareness scores have varied significantly classified based on ‘nature of the family’, hence, the null hypothesis has been rejected.

4.2 PURCHASE OF ECO-FRIENDLY PRODUCTS

Eco-friendly products protect the environment and less harmful to human health and also have the features of non-toxic, conserve water/energy, recyclable/reusable. Table 4.6 presents the classification of respondents based on the select eco friendly products purchased by them.

Table 4.6 Purchase of eco-friendly products (*Multiple Response*)

Eco – friendly products	No. of Respondents	Per cent
Solar products	26	6.8
Durables	118	30.6
Non – durables	317	82.3
Organic food products	58	15.1
Stationery	185	48.1

(Source: Computed)

From the above table it is understood that 82.3 per cent of the consumers have purchased ‘non-durables’ viz., health care/personal care/home care products, 48.1 per cent of the respondents have purchased ‘stationery products’ viz., kitchen/toilet rolls, tissues, garbage bags, paper or areca plate/cups/bowls and note books, 30.6 per cent of them purchased ‘durables’ viz., home appliances, ‘organic food products’ have been purchased by 15.1 per cent of the respondents and 6.8 per cent of them purchased ‘solar products’. Hence, it is found that most of the respondents have purchased ‘non-durables’.

4.3 SOURCE OF INFORMATION

Table 4.7 lists the source from which the respondents have gathered information about selected green products.

Table 4.7 Source of information about selected green products – (*Multiple Response*)

Source of information	Solar (26)		Durables (118)		Non-Durables (317)		Organic (58)		Stationery (185)	
	No.	%	No.	%	No.	%	No.	%	No.	%
Friends / relatives	14	53.8	66	55.9	194	61.2	33	56.9	119	64.3
Colleagues	1	3.8	22	18.6	61	19.2	8	13.8	22	11.9
Neighbours	12	46.2	59	50.0	138	43.5	34	58.6	119	64.3
Dealers	3	11.5	18	15.3	66	20.8	39	67.2	29	15.7
Newspapers/Magazines	8	30.8	69	58.5	117	36.9	11	19.0	93	50.3
Internet	14	53.8	44	37.3	166	52.4	32	55.2	84	45.4
Radio/Television	7	26.9	76	64.4	208	65.6	23	39.7	60	32.4
Schools/Universities/ Institutions	8	30.8	9	7.6	34	10.7	10	17.2	41	22.2
Government	3	11.5	14	11.9	30	9.5	7	12.1	14	7.6

(Source: Computed)

Solar products

53.8 per cent of the consumers have got information about solar products from 'friends/relatives' and 'internet', 46.2 per cent of them said that 'newspapers/magazines' has been the main source of information, 30.8 per cent of them have opined that 'neighbours' and 'schools/universities/institutions' have been the source of information, 'radio/television' have been the source for 26.9 per cent of the consumers, for 11.5 per cent of the respondents 'dealers' and 'government' have been the source of information and 3.8 per cent of them said 'colleagues'. Hence, it is found that most of the consumers have gathered information about solar products from 'friends/relatives' and 'internet'.

Durables

64.4 per cent of the consumers said they obtained information about durables viz., energy saving home appliances from 'radio/television', 58.5 per cent of them have opined that 'newspapers/magazines', 'friends/relatives' has been the source of information for 55.9 per cent of the consumers, for 50 per cent of the respondents 'neighbours' has been the source of information, 'internet' has been the source for 37.3 per cent of the respondents, 18.6 per cent of them got information from 'colleagues', 15.3 per cent of the consumers have said 'dealers', 'government' has been the source for 11.9 per cent of the consumers and 7.6 per cent of them said 'schools/universities/institutions'. Therefore, it is concluded that most of the consumers have got information about durables from 'radio/television'. Similar result has been found in the study by Kamyar Kianpuur et al., (2014)

Non –durables

65.6 per cent of the consumers have got information about non-durable eco friendly products viz., health/personal/home care products from 'radio/television', 'friends/relatives' has been the source of information for 61.2 per cent of the consumers, 52.4 per cent of the respondents have stated that 'internet' has been the main source of information, 43.5 per cent of the consumers have stated that 'neighbours' has been the source of information, for 36.9 per cent of the respondents 'newspapers/magazines', 'dealers' has been the source of information for 20.8 per cent of consumers, 19.2 per cent of them got information from 'colleagues', 10.7 per cent of the respondents have opined 'schools/universities/institutions' have been the source of information and 9.5 per cent of them said 'government'. Hence, it is found that most of the respondents have got information about non-durables from 'radio/television'.

Organic food products

67.2 per cent of the respondents have gathered information about organic food products from ‘dealers’, 58.6 per cent of them said ‘neighbours’ has been the source of information, 56.9 per cent of them opined that ‘friends/relatives’ has been the source of information, for 39.7 per cent of the consumers got information from ‘radio/television’, 19 per cent of the respondents got information from ‘newspapers/magazines’, ‘schools/universities/institutions’ have been the source of information for 17.2 per cent of the consumers, 13.8 per cent of them gathered information from ‘colleagues’ and ‘government’ has been the source of information for 12.1 per cent of the respondents. Thus, it is inferred that most of the respondents have got information about organic food products from ‘dealers’.

Stationery products

64.3 per cent of the respondents have got information from ‘friends/relatives’ and ‘neighbours’, ‘newspapers/magazines’ has the source of information for 50.3 per cent of the respondents, 50.3 per cent of them said obtained information from ‘friend /relatives’, 45.4 per cent of the respondents have opined ‘internet’ has the source of information, for 32.4 per cent of the respondents have said ‘radio/television’ has the source of information, 22.2 per cent of them said ‘schools/universities/institutions’, ‘dealers’ has the source of information for 15.7 per cent of the respondents, 11.9 per cent of the respondents have said ‘colleagues’ and 7.6 per cent of them opined from ‘government’. Hence, it is concluded that most of the respondents have gathered information from ‘friends/relatives’ and ‘neighbours’.

It has been concluded that most of the consumers have gathered information about solar products from friends/relatives and internet, for durables and non durables radio/television has been source for them, for organic products dealers has been the source and for stationery products they obtained information from friends/relatives and neighbours.

4.8 BASIS OF SELECTION OF GREEN PRODUCTS FOR THE FIRST TIME

The respondents have been asked to rate the extent of their level of agreeability for the given statements about the basis of their selection of green products for the first time. A five point rating scale has been used as: strongly disagree – 1, disagree – 2, neutral – 3, agree – 4 and strongly agree – 5. It has been analysed by using the descriptive statistical tools, mean and standard deviation and are presented in table 4.8.

Table 4.8 Basis of selection of green products for the first time

	N	Minimum	Maximum	Mean	S.D
Based on informations mentioned in package	400	1	5	4.21	.726
Based on explanation given by shopkeeper in stores	400	1	5	3.80	.780
Based on word-of-mouth by friends and relatives	400	2	5	3.94	.844
Based on informations in journals/magazines	400	1	5	4.11	.956
Based on advertisements in media	400	1	5	3.70	.914
Based on influence of environmental groups	400	1	5	3.88	.878
Based on display in shop	400	1	5	3.52	.959

(Source: Computed)

It has been noted from the table 4.8 that most of the respondents have *agreed* that they have bought green products for the first time based on ‘informations mentioned in the package’ (mean 4.21), followed by ‘based on information in journals / magazines’ (mean 4.11), ‘word of mouth information given by friends and relatives’ (mean 3.94), ‘influence of environmental groups’ (mean 3.88), ‘explanation given by shopkeepers in stores’ (mean 3.80), ‘advertisements in media’ (mean 3.70) and ‘display in shop’ (mean 3.52).

Therefore, based on mean rating it has been concluded that most of the respondents have agreed that they buy green products based on the informations mentioned in package.

4.9 PERIOD OF USAGE OF SELECTED GREEN PRODUCTS

The following table illustrates the period of usage of selected green products by the respondents.

Table 4.9 Period of usage of selected green products

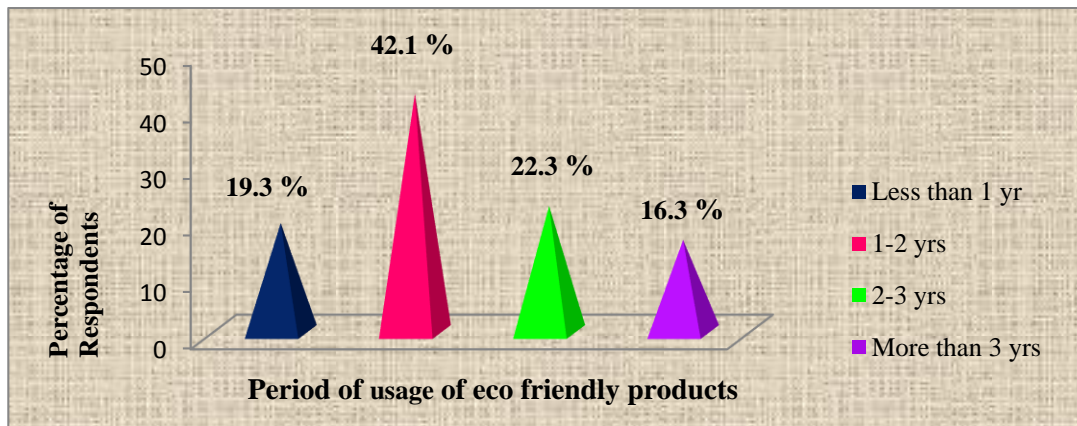
Years	No. of Respondents	Per cent
Less than 1 yr	77	19.3
1-2 yrs	169	42.1
2-3 yrs	89	22.3
More than 3 yrs	65	16.3
Total	400	100.0

(Source: Computed)

From the table 4.9, it is clear that out of 400 respondents, 42.1 per cent of the respondents have been using the selected green products for a period of 1-2 years, 22.3 per cent of them have been using the selected green products for 2-3 years, 19.3 per cent of them have been using the green products for less than 1 year and 16.3 per cent of the consumers have been using the selected green products for more than 3 years. Hence, it is evident that most of the consumers have been using the selected green products for a period of 1-2 years. Similar results has shown in the study by Sudhalakshmi and Chinnadorai (2014).

Chart 4.4 represents the period of usage of eco friendly products by the respondents

Chart 4.2 - Period of usage of eco friendly products



4.10 PLACE OF PURCHASE

The table 4.27 shows where the respondents buy the green products.

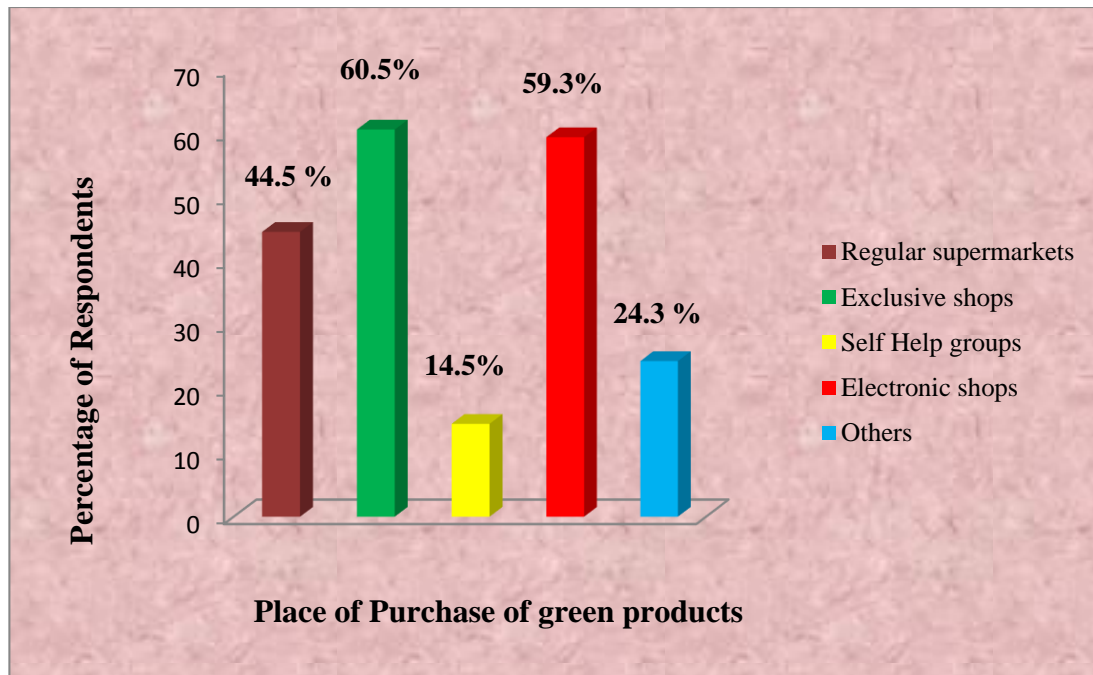
Table 4.10 Place of purchase (Multiple Response)

Place of Purchase	No. of Respondents	Per cent
Regular supermarkets	178	44.5
Exclusive shops	242	60.5
Self Help groups	58	14.5
Electronic shops	237	59.3
Others	97	24.3

(Source: Computed)

It has been inferred from the table 4.27, that 60.5 per cent of the respondents buy eco friendly products from ‘exclusive shops’, 59.3 per cent of them purchase the green durables from ‘electronic shops’, 44.5 per cent of the consumers purchase the non-durable green products from ‘regular super markets’, 24.3 per cent of the respondents buy the green products from other sources such as ‘online’ and 14.5 per cent of the respondents purchase the green products from ‘self-help groups’ viz., areca plates, jute bags, home made food items nad health / personal / home care herbal products. Hence, it is found that most of the respondents buy eco friendly products from ‘exclusive shops’.The following chart is the pictographic representation of the place of purchase of green products.

Chart 4.3 - Place of purchase



4.3 REASONS FOR BUYING ECO-FRIENDLY PRODUCTS

The respondents' level of agreeability towards the reasons for buying selected green products has been analysed using the descriptive statistical tools, mean and standard deviation and presented in table 4.11.

Table 4.11 Reasons for buying selected green products

Reasons	N	Minimum	Maximum	Mean	S.D
Health and Safety	400	3	5	4.76	.465
Good in quality and Reliability	400	2	5	4.36	.598
Prestige	400	1	5	3.41	.962
Satisfaction	400	1	5	4.20	.756
Energy saving	400	2	5	4.00	.789
Brand loyalty	400	1	5	3.77	.871
Sustainability	400	1	5	3.92	.778
Soil and Water management	400	1	5	4.16	.762
Current trend and Fashionable	400	1	5	3.62	1.05
Recommendations by friends / family	400	1	5	3.92	.911
Try anything new in market	400	1	5	3.60	1.04

(Source: Computed)

A five point rating scale ranging from 1 to 5, where 1 for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree and 5 for strongly agree has been constructed to obtain the opinion of the respondents on their level of agreeability towards reasons for buying selected green products. From the mean ratings computed based on the response of the consumers it is evident that most of the respondents have *strongly agreed* that ‘health and safety’ (mean 4.76) is the main reasons to purchase eco friendly products. Respondents have *agreed* that viz., ‘good in quality and reliability’ (mean 4.36), ‘satisfaction’ (mean 4.20), ‘soil and water management’ (mean 4.16) and ‘energy saving’ (mean 4.00), ‘recommendations by friends / family’ (mean 3.92) and ‘sustainability’ (mean 3.92), ‘brand loyalty’ (mean 3.77), ‘current trend and fashionable’ (mean 3.62) and ‘try anything new in the market’ (mean 3.60) as reasons for purchasing green products. Green consumers have *neutral* opinion for the reasons namely ‘prestige’ (mean 3.41). Similar results has shown in the study by Geetha and Annie Jenifer (2014).

Therefore, based on the high mean rating score it has been concluded that most of the respondents have strongly agreed that ‘health and safety’ is the main reason for purchase of selected eco friendly products.

FACTOR ANALYSIS

The general purpose of factor analysis has been to summarize the information contained in a number of original variables into a smaller set of new composite dimensions (Factors) with minimum loss of information. That is, the Factor Analysis identifies and defines the underlying dimensions in the original variables.

The Factor Analysis technique has been applied to find out the underlying dimensions in the set of statements relating to the opinion of the consumer, that is, level of agreeability on reasons for buying green products.

Factor analysis has been performed in four steps:

1. First, the correlation matrix for all variables is computed. Variables that do not appear to be related to other variables can be identified from the matrix and the correctness of the factor model can also be calculated.

2. Factor extraction has been the second step. Number of factors necessary to represent the data and the method of calculating them has been determined. Also, how well the chosen model fits the data has been ascertained.
3. The factors chosen have been transformed to make them more interpretable through a process of rotation.
4. Scores for each factor has been computed for each case. These scores have been used for further analysis.

The set of 11 statements (items), depicted in table 4.12 which measure the respondents' level of agreeability on reasons for buying green products have been used to find the underlying factors in them.

Table 4.12 Reasons for buying green products among consumers

S. No	Reasons
1.	Health & Safety
2.	Good in Quality & Reliability
3.	Prestige
4.	Satisfaction
5.	Energy saving
6.	Brand loyalty
7.	Sustainability
8.	Soil & Water management
9.	Current trend & Fashionable
10.	Recommendations by friends/family
11.	Try anything new in the market

(Source: Computed)

To ascertain the reasons for buying green products, a factor analysis has been done with a correlation matrix on the identified variables rated by the consumers, in four steps.

Step 1:

Correlation matrix for the variables measuring the reasons for buying green products has been analyzed to know the possibility of inclusion of the variables in factor analysis, as shown in table 4.13.

Table 4.13

Correlation Matrix - Reasons for Buying Green Products Among Consumers

	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11
X1	1.000	0.233	0.037	0.137	0.090	0.069	0.124	0.204	0.021	0.097	0.065
X2	0.233	1.000	0.229	0.151	0.189	0.235	0.178	0.200	0.125	0.054	0.049
X3	0.037	0.229	1.000	0.217	0.220	0.483	0.316	0.157	0.461	0.327	0.326
X4	0.137	0.151	0.217	1.000	0.301	0.314	0.315	0.210	0.149	0.242	0.127
X5	0.090	0.189	0.220	0.301	1.000	0.230	0.314	0.324	0.127	0.136	0.074
X6	0.069	0.235	0.483	0.314	0.230	1.000	0.329	0.175	0.414	0.277	0.314
X7	0.124	0.178	0.316	0.315	0.314	0.329	1.000	0.300	0.221	0.256	0.174
X8	0.204	0.200	0.157	0.210	0.324	0.175	0.300	1.000	0.147	0.117	0.058
X9	0.021	0.125	0.461	0.149	0.127	0.414	0.221	0.147	1.000	0.382	0.486
X10	0.097	0.054	0.327	0.242	0.136	0.277	0.256	0.117	0.382	1.000	0.337
X11	0.065	0.049	0.326	0.127	0.074	0.314	0.174	0.058	0.486	0.337	1.000

X1	Health & safety	X6	Brand loyalty
X2	Good in quality & reliability	X7	Sustainability
X3	Prestige	X8	Soil& Water management
X4	Satisfaction	X9	Current trend & Fashionable
X5	Energy saving	X10	Recommendations by friends
		X11	Try anything new in market

Since one of the goals of the factor analysis has been to obtain '**factors**' that help explain the correlations, the variables must be related to each other for the factor model to be appropriate. A closer examination of the correlation matrix has revealed that there have been some variables which do not have any relationship. Usually a correlation value of 0.3 (absolute value) has been considered sufficient to explain the relation between variables.

It has been evident from the correlation matrix that most of the variables have correlated with other variables. Hence, all the variables from 1 to 11 have been retained for further analysis. Further, two tests – KMO and Bartlett’s Test (Table 4.14) have been applied to the resultant correlation matrix to test whether the relationship among the variables have been significant or not.

Table 4.14 KMO and Bartlett's Test Reasons for buying green products

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.818
Bartlett's Test of Sphericity	Approx. Chi-Square	792.224
	Df	55
	**Sig.	.000

(Source: Computed ** - Significant at 1% level (P<0.01))

The Kaiser-Meyer-Olkin (KMO) test has been used to measure the sampling adequacy, based on the correlations and partial correlations of the variables. If the test value, or KMO measure has been closer to 1, then it has been considered appropriate to employ factor analysis where, it has been acknowledged to be inappropriate to use factor analysis for the variables and data if KMO has been closer to 0. It has been noted from the table 4.14 that the value of test statistic has been 0.818 which means the factor analysis for the selected variables has been found to be more appropriate.

Bartlett's test of sphericity depicted in table 4.14 has been used to test whether the correlation matrix has been an identity matrix. i.e., all the diagonal terms in the matrix has been 1 and the off-diagonal terms in the matrix has been 0. In short, it has been used to test whether the correlations between all the variables has been 0. The test value (792.224) and the associated significance level (P<.01) given in the table 4.14 has enunciated that the correlation matrix has not been an identity matrix, i.e., there has been correlations between the variables. Hence, the factor analysis has been authentic and reliable.

Step 2

The next step has been to determine the method of factor extraction, number of initial factors and the estimates of factors. Here, Principal Components Analysis (PCA) has been used to extract factors. PCA has been a method used to transform a set of correlated variables into a set of uncorrelated variables (here factors) so that the factors have been unrelated and the variables selected for each factor have been related. Next, PCA has been used to extract the number of factors required to represent the data. In order to determine the number of factors to be extracted, it has been noted that with more number of consecutive factors extracted, there exists less variability. Extraction of factors has been stopped while there has been very little “random” variability identified.

The results from the principal components analysis have been presented below:

In the correlation matrix, the analysis has to start from where the variances of all variables have been equal to 1.0. Therefore, the total variance in that matrix has been equal to the number of variables. There have been 11 variables (items), each with a variance of 1, then the total variability that can potentially be extracted has been equal to 11 times 1. The variances accounted for by successive factors have been summarized in table 4.15.

Table 4.15 Total Variance Explained – Reasons for buying green products

Component	Initial Eigen values			Extraction Sums of Squared Loadings (Rotated)		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.275	29.772	29.772	2.515	22.860	22.860
2	1.497	13.612	43.385	1.983	18.031	40.891
3	1.016	9.235	52.619	1.290	11.728	52.619
4	.910	8.274	60.893			
5	.808	7.345	68.238			
6	.677	6.159	74.397			
7	.652	5.926	80.323			
8	.624	5.675	85.998			
9	.591	5.376	91.374			
10	.492	4.471	95.845			
11	.457	4.155	100.000			

(Source: Computed Extraction Method: Principal Component Analysis)

In the column titled ‘% of variance’ under Initial *Eigen values* in the table 4.15, the variance on the new factors that have been successively extracted has been shown and these values have been expressed as a percent of the total variance. It has been noticed that factor 1 accounts for about 30 percent of the total variance, factor 2 about 14 percent, factor 3 about 9 percent and so on. As expected, the sum of the Eigen values has been equal to the number of variables. The third column has the cumulative variance extracted. The variances extracted by the factors have been called the *Eigen values*.

The factors with Eigen values greater than 1 have been retained for analysis. Unless a factor has extracted at least as much as the equivalent of one original variable, it has been dropped. Three factors (principal components) have been retained for the study. The total variance explained (52.619) by the three factor model in the original set of variables has been given in the last column of the table 4.15.

The Component Matrix or Factor Matrix where PCA extracted three factors has been depicted in the table 4.16. These coefficients have been used to express a standardized variable in the terms of the factors called factor loadings, since they have indicated the quantum of weight assigned to each factor. Factors with large coefficients (in absolute value) for a variable have been closely related to that variable. For example, Factor 1 has the factor with largest loading (0.698) for the item “**Brand loyalty**”. There have been the correlations between the factors and the variables. Hence, the correlation between the first item in the component matrix and factor 1 has been 0.698. Thus, the factor matrix in table 4.16 has been obtained with the initially obtained estimates of factors.

Table 4.16 Component Matrix – Reasons for buying green products

	Component		
	1	2	3
Brand loyalty	.698	-.124	-.031
Prestige	.692	-.226	.007
Current trend & Fashionable	.650	-.457	.111
Sustainability	.606	.241	-.250
Recommendations by friends	.568	-.286	.000
Try anything new in market	.536	-.496	.184
Satisfaction	.524	.278	-.287
Energy saving	.483	.437	-.374
Soil& Water management	.439	.497	-.043
Health & safety	.241	.423	.675
Good in quality & reliability	.388	.377	.476

(Source: Computed Extraction Method: Principal Component Analysis.3 components extracted)

Step 3

Although the factor matrix (Component Matrix) that has been obtained in the extraction phase has indicated the relationship between the factors and the individual variables, it has been usually, difficult to identify meaningful factors based on this matrix. Often variables and factors do not appear to be correlated in any interpretable pattern as most factors have been correlated with many variables. Since the idea of factor analysis has been to identify that meaningfully summarise the sets of closely related variables, the Rotation phase of the factor analysis has been attempted to transfer initial matrix into one that has been easier to interpret. It has been called the rotation of the factor matrix. There have been several methods available for rotating factor matrix. The one used in this analysis has been Varimax Rotation, the most commonly used method, which has attempted to minimize the number of variables that have high loadings on a factor and has enhanced the interpretability of the factors.

Table 4.17 Rotated Component Matrix – Reasons for buying green products

	Component		
	1	2	3
Current trend & Fashionable	.799	.055	.036
Try anything new in market	.748	-.075	.047
Prestige	.671	.274	.075
Recommendations by friends	.613	.168	.007
Brand loyalty	.605	.358	.096
Energy saving	.037	.749	.034
Sustainability	.273	.639	.071
Satisfaction	.182	.632	.038
Soil& Water management	.012	.579	.326
Health & safety	.009	.027	.831
Good in quality & reliability	.122	.195	.683

(Source: Computed, Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 4 iterations)

The Rotated Factor Matrix using Varimax rotation has been presented in table 4.17 where each factor has identified itself with a few set of variables. The variables which have been identified with each of the factors have been sorted in the decreasing order and have been highlighted against each column and row.

Step 4

Normally, from the factor results arrived, factor score coefficients can be calculated for all variables (since each factor is a linear combination of all variables) which have been used to calculate the factor scores for each individual variable. Since PCA (Principal Component Analysis) has been used in extraction of initial factors, all methods have resulted in estimating the same factor score coefficients. However, for the study, original values of the variables have been retained for further analysis.

The following table has detailed the factors derived encompassing the variables. The three factors identified have been named as ‘**Modernistic**’, ‘**Concern for the environment**’ and ‘**Health concern**’ and with these factors Structural Equation Modelling (SEM) has been proceeded.

Table 4.18 The Factors identified the statements relating to the reasons for buying green products

Statements	Factors Identified
Current trend & Fashionable	Modernistic
Try anything new in market	
Prestige	
Recommendations by friends	
Brand loyalty	
Energy saving	Concern for environment
Sustainability	
Satisfaction	
Soil and Water management	
Health and safety	Health concern
Good in quality and reliability	

(Source: Computed)

The analysis of reasons for buying green products has revealed that the respondents have been aware of only few green products and it has been noted that despite their awareness they have not used all green products. It has been found that majority of the respondents have purchased green products for health and environmental concern. The respondents have relied on and satisfied with the green products. They agreed in sustained buying of green products.

From the results of the rotated component matrix in the above factor analysis the three factors have been identified in the statements relating to the reasons for buying green products namely, ‘**Modernistic**’, ‘**Concern for the environment**’ and ‘**Health concern**’. These factors separately have been further analyzed with ANOVA.

4.3.1 MODERNISTIC

Modernistic factor consists of five attributes to the reasons for buying green products, namely, ‘**current trend and fashionable**’, ‘**try anything new in the market**’, ‘**prestige**’, ‘**recommendations by friends**’ and ‘**brand loyalty**’.

ANOVA has been used to test whether the scores obtained for modernistic attitude of the consumers in buying green products have differed significantly among the respondents classified based on ‘demographic variables’ with the following null hypothesis:

H₀: “There has been no significant difference in the modernistic scores on the reasons for buying selected green products among the consumers classified based on the demographic variables such as age, educational qualification, occupation and family monthly income”.

The null hypothesis has been tested for each of the demographic variables and modernistic scores separately and is presented in the following table.

Table 4.19 Modernistic score Vs. Demographic variables

		Modernistic Score			Table Value	F	Sig.
		Mean	S.D	No.			
Age	Below 20 yrs	19.40	3.21	62	2.627	3.038	*
	21-30 yrs	18.29	3.63	70			
	31- 40 yrs	18.39	3.49	132			
	Above 40 yrs	17.82	3.34	136			
Education Qualification	Up to school level	18.26	2.94	72	2.395	1.159	Ns
	Diploma	19.23	2.79	35			
	Graduation	18.26	3.37	195			
	Post Graduation	18.65	3.49	55			
	Professionally qualified	17.65	4.75	43			
Occupation	Employee	18.28	3.48	113	2.237	1.656	Ns
	Business	18.29	3.39	110			
	Professional	18.62	4.08	34			
	Agriculturist	18.00	2.42	16			
	Student	19.05	3.06	79			
	Housewife	17.29	3.79	48			
Family Monthly Income	Below Rs.20000	18.02	2.75	42	2.627	.483	Ns
	Rs.20001-40000	18.15	3.58	138			
	Rs.40001-60000	18.43	3.33	130			
	Above Rs.60000	18.62	3.72	90			
Total		18.34	3.45	400			

(Source: Computed

NS – Not significant

* - 5% level)

The modernistic score is found to be high for the respondents whose age is below 20 years with a mean score of 19.40 and low modernistic score is found for the respondents whose age is above 40 years (mean 17.82). These scores suggest that the respondents' modernistic attitude on buying green products have been influenced by the variations in the age of the respondents. Hence, with the higher F-ratio value it is clear that there is significant difference in the modernistic attitude in buying green products by the respondents classified based upon their age, thereby, the null hypothesis has been rejected at 5 per cent level of significance with respect to the factor 'age'.

The null hypothesis has been accepted for 'educational qualification' with the F-ratio value which proves that modernistic attitude in buying green products has not varied significantly among the respondents classified based upon their educational qualification. The diploma holders have a high level of modernistic attitude in buying green products with a mean score of 19.23 and 17.65 has been found for the professionally qualified respondents who have lesser modernistic attitude.

It has been evident with the mean scores that young generation have high modernistic attitude. The F-ratio value shows that there is no significant variation in the respondents' modernistic thoughts based on the occupation, thereby, accepting the null hypothesis. Despite the deviations in the modernistic scores by the respondents from different occupations, the null hypothesis has been accepted due to F-ratio value (1.656) which is marginally lesser than the critical F-ratio value (2.237).

The respondents whose family monthly income is above Rs. 60,000 have a high modernistic mean score of 18.62 and relatively, a low mean score of 18.02 has been found for the respondents whose family monthly income is below Rs. 20,000. However, with the F-ratio value it is understood that there is no significant difference in the respondents' modernistic score in buying green products when respondents are classified based on monthly income of their family, thereby, the null hypothesis has been accepted.

The ANOVA results have shown that modernistic score of the respondents in buying green products has varied significantly at 5 per cent level when they have been classified based on age. Whereas, the modernistic scores of the respondents have not varied significantly when they are classified based on educational qualification, family monthly income and occupation.

t-Test

t-Test has been used to test whether the modernistic scores obtained for the reasons for buying green products has varied significantly among the respondents classified based on the demographic variables such as gender and nature of family with the following null hypothesis:

H₀: "There has been no significant difference in the modernistic scores on the reasons for buying green products by the respondents classified based on their gender and nature of the family".

The null hypothesis has been tested for the gender and nature of family separately and is presented in the following table.

Table 4.20 Modernistic score Vs. Demographic variables

		Modernistic Score			Table Value	T	Sig.
		Mean	S.D	No.			
Gender	Male	18.37	3.66	187	1.966	.184	Ns
	Female	18.31	3.26	213			
Nature of family	Joint	19.14	3.47	97	2.588	2.675	**
	Nuclear	18.08	3.41	303			
Total		18.34	3.45	400			

(Source: Computed NS – Not Significant **- Significant at 1% level)

The t value indicates that there is no significant difference in the modernistic attitude in buying green products of the respondents classified based on gender. Thus, the null hypothesis has been accepted.

The respondents who live in joint family have a high modernistic attitude in buying green products with a mean score of 19.14 and relatively, a lower mean score of 18.08 has been identified for the respondents who are living in nuclear family. It is concluded with the t value that there is significant difference in the modernistic attitude of the respondents classified based on nature of the family. Therefore, the null hypothesis has been rejected at 1 per cent level of significance.

The overall result of t-Test has revealed that modernistic score of the respondents have not varied significantly when they are classified based on gender and hence, the null hypothesis has been accepted. Whereas, modernistic score of the respondents have varied significantly when they are classified based on nature of the family, thereby, the null hypothesis has been rejected.

4.7.2 CONCERN FOR ENVIRONMENT

Concern for environment factor consists of four items for the reasons for buying green products namely, **‘energy saving’, ‘sustainability’, ‘satisfaction’ and ‘soil and water management’**.

ANOVA has been used to test whether the scores obtained for concern for environment attitude of the respondents in buying green products have differed significantly among the respondents classified based on ‘demographic variables’ with the following null hypothesis:

H₀: “There has been no significant difference in concern for environment scores for the selected green products among the respondents classified based on the demographic variables such as age, educational qualification, occupation and family monthly income”.

The null hypothesis has been tested for each of the demographic variables and concern for environment factor separately and is presented in the following table.

Table 4.21 Concern for environment score Vs. Demographic variables

		Concern for environment			Table Value	F	Sig.
		Mean	S.D	No.			
Age	Below 20 yrs	16.29	1.98	62	2.627	.700	Ns
	21-30 yrs	16.34	2.59	70			
	31- 40 yrs	16.10	1.92	132			
	Above 40 yrs	16.47	2.11	136			
Education Qualification	Up to school level	16.10	2.34	72	2.395	1.594	Ns
	Diploma	16.74	1.65	35			
	Graduation	16.14	2.07	195			
	Post Graduation	16.38	2.12	55			
	Professionally qualified	16.86	2.21	43			
Occupation	Employee	16.35	2.12	113	2.237	1.035	Ns
	Business	16.45	2.07	110			
	Professional	16.65	2.52	34			
	Agriculturist	16.56	2.37	16			
	Student	16.14	1.99	79			
	Housewife	15.77	2.04	48			
Family Monthly Income	Below Rs.20000	16.60	2.07	42	2.627	3.059	*
	Rs.20001-40000	15.90	2.04	138			
	Rs.40001-60000	16.35	2.38	130			
	Above Rs.60000	16.70	1.76	90			
Total		16.30	2.12	400			

(Source: Computed

NS – Not significant

* - Significant at 5% level)

A mean score of 16.47 has been found for the respondents whose age is above 40 years and a low concern for environment score has been identified for the respondents whose age ranges between 31– 40 years (mean 16.10). It has been concluded that the respondents’ concern for environment attitude has been influenced by their age. Hence, with the high F-ratio value it is clear that there is no significant difference in the respondents’ concern for environment attitude when they are classified based on their age, thereby, the null hypothesis has been accepted.

The concern for environment score for ‘educational qualification’ of the respondents has revealed that the respondents who are professionally qualified have a mean score of 16.86 and it is comparatively less for the respondents with school level education (mean score 16.10). It has

been found from the F-ratio value that there is no significant difference in the respondents' concern for environment, thus, the null hypothesis has been accepted with respect to the factor 'educational qualification'.

The respondents who are professionals have a high mean score of 16.65 and housewives with a lower mean score of 15.77. The F-ratio value shows that there is no significant variation in the respondents' concern for environment opinion, classified based on the occupation, thereby, accepting null hypothesis due to F-ratio value (1.305) which is marginally lesser than the critical F-ratio value (2.237).

The respondents whose monthly income of the family has been above Rs.60,000 have a mean score of 16.70 indicating high level of concern for environment. Comparitively a lower mean scor of 15.90 has been found for the respondents whose family monthly income ranges between Rs.20,001 – Rs.40,000. With the F-ratio value it is understood that there is significant difference in the respondents' concern for environment score when they have been classified based upon their family monthly income and thereby, the null hypothesis has been rejected at 5 per cent level of significance with respect to the factor 'family monthly income'.

The overall results of ANOVA has shown that the concern for environment score of the respondents classified based upon family monthly income has varied significantly at 5 per cent level whereas, in all other cases the concern for environment of the respondents have not varied.

t-Test

To study the variations in the concern for environment attitude of the respondents classified based on gender and nature of the family, t-Test has been used. The mean scores have been used as dependent variable for t-Test and the independent variables considered has been the gender and nature of familywith the following null hypothesis:

H₀: "There has been no significant difference in the concern for environment score among the respondents classified based on their gender and nature of the family".

Table 4.22 Concern for environment Vs. Demographic variables

		Concern for environment			Table Value	T	Sig.
		Mean	S.D	No.			
Gender	Male	16.63	2.26	187	2.588	2.930	**
	Female	16.01	1.94	213			
Nature of family	Joint	16.88	2.45	97	2.588	3.125	**
	Nuclear	16.11	1.97	303			
Total		16.30	2.12	400			

(Source: Computed

** - Significant at 1% level)

It is observed that the female respondents have relatively less concern for environment than the male respondents. The calculated t value indicates that there is significant difference in the concern for attitude of the respondents classified based on gender. Thus, the null hypothesis has been rejected at 1 per cent level of significance with respect to ‘gender’.

It is concluded with the t value that there is significant difference in the concern for environment attitude of the respondents classified based on nature of the family. Therefore, the null hypothesis has been rejected at 1 per cent level of significance.

The overall result of t-Test has evidenced that the respondents’ concern for environment attitude has varied significantly, when they are classified based on gender and nature of family and thus, the null hypothesis has been rejected.

4.7.3 HEALTH CONCERN

Health Concern factor consists of two statements in the reasons for buying green products explicitly, ‘**health & safety**’ and ‘**good in quality and reliability**’.

ANOVA has been used to test whether the scores obtained for health concern attitude of the respondents in buying green products have differed significantly among the respondents classified based on ‘demographic variables’ with the following null hypothesis:

H₀: “There has been no significant difference in ‘Health concern scores’ in buying green products among the respondents classified based on demographic variables such as age, educational qualification, occupation and family monthly income”.

The null hypothesis has been tested for each of the demographic variables and health concern factor separately and is presented in the following table.

Table 4.23 Health Concern Vs. Demographic variables

		Health Concern			Table Value	F	Sig.
		Mean	S.D	No.			
Age	Below 20 yrs	9.08	.75	62	2.627	.335	Ns
	21-30 yrs	9.14	1.04	70			
	31- 40 yrs	9.11	.79	132			
	Above 40 yrs	9.18	.82	136			
Education Qualification	Up to school level	9.14	.81	72	2.395	2.198	Ns
	Diploma	9.09	.85	35			
	Graduation	9.18	.73	195			
	Post Graduation	9.24	.74	55			
	Professionally qualified	8.79	1.28	43			
Occupation	Employee	9.17	.82	113	2.237	.426	Ns
	Business	9.19	.78	110			
	Professional	9.06	1.20	34			
	Agriculturist	9.00	1.03	16			
	Student	9.05	.81	79			
	Housewife	9.13	.67	48			
Family Monthly Income	Below Rs.20000	9.26	.59	42	2.627	2.521	Ns
	Rs.20001-40000	9.17	.75	138			
	Rs.40001-60000	9.18	.80	130			
	Above Rs.60000	8.92	1.06	90			
Total		9.13	.84	400			

Source: Computed

NS – Not significant

It has been evident that the respondents who are in the age of above 40 years have relatively high health concern attitude than the respondents below 20 years of age. The scores imply that the respondents' health concern has not varied much. Thus, it is confirmed with the F- ratio value that there is no significant difference in the respondents' health concern in buying green products when they are classified based on 'age' and thus, the null hypothesis has been accepted.

The health concern score for 'educational qualification' of the respondents has revealed that the post graduates have a mean score of 9.24 and a mean score of 8.79 has been found for the respondents who are professionally qualified. However, with the F-ratio value it is understood that there is no significant difference in the respondents' health concern attitude in buying green products when they are classified based on educational qualification, thereby, the null hypothesis has been accepted.

It is observed that the respondents who are doing business have comparatively high health concern attitude than the respondents who are agriculturalists. It is concluded with the F-ratio that there is no significant difference in the respondents' attitude in buying green products

when they are classified based on occupation. Thus, the null hypothesis has been accepted with respect to the factor ‘occupation’.

Health concern score of 9.26 has been found for the respondents who have the family monthly income is below Rs.20,000 and a mean score of 8.92 has been found for the respondents whose family monthly income is above Rs.60,000. However, with the F-ratio value it has been found that there has no significant difference in the respondents’ health concern attitude for purchase of green products, when they are classified based on family monthly income, thereby, the null hypothesis has been accepted.

The overall results of ANOVA has shown that the health concern score of the respondents has not varied significantly when they are classified based on age, educational qualification, occupation and family monthly income.

t-Test

t-Test has been used to study whether the health concern scores obtained for the reasons for buying green products has varied significantly among the respondents classified based upon their ‘gender’ and ‘nature of the family’, with the following null hypothesis:

H₀: “There has been no significant difference in the scores for health concern attitude among the respondents classified based on gender and nature of the family”.

Table 4.24 Health Concern Vs. Demographic variables

		Health concern			Table Value	T	Sig.
		Mean	S.D	No.			
Gender	Male	9.10	.90	187	1.966	0.633	Ns
	Female	9.15	.78	213			
Nature of family	Joint	9.22	.88	97	1.966	1.166	Ns
	Nuclear	9.10	.83	303			
Total		9.13	.84	400			

(Source: Computed NS – Not Significant)

It is observed that the male respondents have relatively less health concern attitude than the female respondents. However, the t value indicates that there is no significant difference in the health concern of the respondents classified based on their gender. Thus, the null hypothesis has been accepted.

It is concluded with the t value that health concern attitude of the respondents have not varied significantly, when they have been classified based on nature of the family, thus, the null hypothesis has been accepted with respect to the factor ‘nature of the family’.

The overall result of t-Test has revealed that the respondents' health concern attitude has not varied significantly, when they have been classified based on gender and nature of the family, thus, the null hypothesis has been accepted.

4.5. FACTORS CONSIDERED BEFORE BUYING GREEN PRODUCTS

The significant factors which helped the respondents in selecting green products have been classified and exhibited in table 4.25.

Table 4.25 Factors considered before buying green products (Multiple Response)

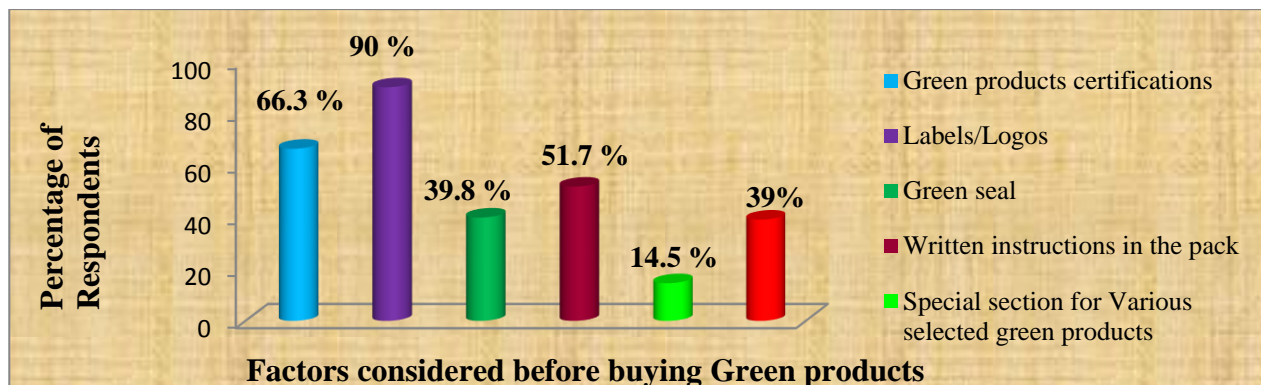
Factors	No. of Respondents	Per cent
Green products certifications	265	66.3
Labels/Logos	360	90.0
Green seal	159	39.8
Written instructions in the pack	207	51.7
Special section for selected green products	58	14.5
Reputation/brand	156	39.0

(Source: Computed)

It is noted from the above table that 90 per cent of the respondents have said that green 'labels/logos' is their major concern before buying selected green products, 66.3 per cent of the respondents stated that they will check whether 'green products certification' is present, 51.7 per cent of them have opined that 'written instructions in the pack' is an important aspect, 'green seal' has been considered by 39.8 per cent of the consumers, 'reputation/brand' has been the factor considered by 39 per cent of the respondents and 14.5 per cent of them see whether there is a 'special section for green products'. Hence, it is seen that majority of the respondents consider or rely on 'green labels/logos' in selecting green products.

Factors helped in identifying the selected green products are pictographically depicted in the chart 4.4.

Chart 4.4 - Factors considered before buying green products



4.6 INFLUENCE OF ENVIRONMENTAL ISSUES

Environmental issues are harmful aspect of human activity on the biophysical environment. An environmental influence is an assessment of possible positive or negative influence on the environment, consisting of the environmental, social and economic aspects. Table 4.7 has depicted the extent to which of the environmental issues have made the consumers to move towards green products.

Table 4.26 Extent of influence of Environmental issues in purchasing green products

Environmental Issues	N	Minimum	Maximum	Mean	S.D
Global warming	400	2	4	3.58	.57
Loss of biodiversity	400	.00	4	3.03	.71
Pollution	400	2	4	3.72	.52
Green house gas emissions	400	1	5	3.10	.73
Deforestation	400	1	4	3.54	.68
Genetic pollution	400	1	5	2.88	.89

(Source: Computed)

The respondents have given their opinion on the list of statements relating to environmental issues coded as: 1 - least extent, 2 - low extent, 3 - moderate extent and 4 - high extent. Overall mean values have been computed for every individual statement to know the respondents' opinion on the environmental issues leading to purchase of green products.

From the table 4.7 it has been inferred that consumers have been influenced by the factors 'pollution' (mean 3.72), 'global warming' (mean 3.58) and 'deforestation' (mean 3.54) to a very **high** extent. The respondents have been **moderately** influenced by 'green house gas emissions' (mean 3.10), 'loss of biodiversity' (mean 3.03) and 'genetic pollution' (mean 2.88). Therefore, based on the high mean rating it has been concluded that most of the consumers have opined that 'pollution' has been the major environment issue which made them to purchase of green products.

ANOVA has been used to test whether the scores obtained for the impact of environmental issues towards consumers' intention to purchase selected green products have differed significantly among the respondents classified based on 'demographic variables' with the following null hypothesis:

H₀: "There has been no significant difference in the impact of environmental issue scores given by the respondents classified based on the demographic variables such as age, educational qualification, occupation and family monthly income".

The null hypothesis has been tested for each of the demographic variables separately and is presented in the following table:

Table 4.27 Influence of environmental issues score Vs. Demographic variables

		Environmental issues score			Table Value	F	Sig.
		Mean	S.D	No.			
Age	Below 20 yrs	20.50	1.92	62	2.627	3.596	*
	21-30 yrs	20.31	2.40	70			
	31- 40 yrs	19.67	2.49	132			
	Above 40 yrs	19.52	2.37	136			
Education Qualification	Up to school level	19.71	2.09	72	2.395	.809	Ns
	Diploma	19.63	1.83	35			
	Graduation	19.78	2.50	195			
	Post Graduation	20.29	2.44	55			
	Professionally qualified	20.14	2.59	43			
OccupationI	Employee	19.95	2.58	113	2.237	1.488	Ns
	Business	19.51	2.13	110			
	Professional	19.94	2.84	34			
	Agriculturist	20.19	2.10	16			
	Student	20.35	1.92	79			
	Housewife	19.50	2.76	48			
Family Monthly Income	Below Rs.20000	20.00	2.15	42	2.627	.498	Ns
	Rs.20001-40000	19.67	2.39	138			
	Rs.40001-60000	19.99	2.44	130			
	Above Rs.60000	19.91	2.39	90			
Total		19.86	2.38	400			

(Source: Computed

NS – Not significant

* - 5% level)

The influence of environmental issues score for each factor is computed by adding the ratings given for each statement representing the factor. Thus, higher score will indicate high extent of influence by environmental issues on the consumers' intention to purchase selected green products.

Environmental issues score is found to be high for the respondents whose age is below 20 years with a high mean score of 20.50 and with a mean score of mean 19.67 found for the respondents in the age group of 31-40 years have comparatively less influence in purchase of green products. These mean scores suggest that the respondents' opinion on impact of environmental issues have been influenced by variations in their age. Thus, with the higher F-ratio value it is clear that there is significant difference in the respondents' impact on environmental issues score when they are classified based on their age, thereby, the null hypothesis has been rejected at 5 per cent level of significance.

Post graduate respondents have a mean score of 20.29 for environmental issues influencing purchase of green products and with a mean score of 19.63 it has been evident that the respondents are diploma holders have relatively less influence in purchase of green products. It is concluded from the mean scores that the environmental issue scores have not varied at a significant level when respondents are classified based on their educational qualification. Thus, with the significant F-ratio value the null hypothesis has been accepted with respect to the factor 'educational qualification'.

Student respondents have a high mean score of 20.35 for environmental issues influencing purchase of green products and with a mean score of 19.50 has been found for housewives have comparatively less influence in purchase of green products. The F-ratio value shows that there is no significant variation in the respondents' opinion on impact of environmental issues based on their occupation, thereby, accepting the null hypothesis. Despite the deviations in the impact of environmental issues by the respondents from different occupations, the null hypothesis has been accepted due to F-ratio value (1.488) which is marginally lesser than the critical F-ratio value (2.237).

The respondents' whose family monthly income is below Rs.20,000 have been highly influenced by environmental issues (mean score 20.00) and relatively less influence in purchase of green products with a mean score of 19.67 has been found for the respondents' whose family monthly income has been Rs.20,001- Rs.40,000. However, with the F-ratio value it is understood that there is no significant difference in the impact of environmental issues score when respondents are classified based on their family monthly income, thereby, the null hypothesis has been accepted.

The impact of environmental issues scores is high for the respondents living in semi urban areas with a mean score of 20.10 and the respondents whose residential area is rural have comparatively less score (19.57). It is concluded with the F-ratio value that there is no significant difference in the scores which proves that the respondents' environmental issues score do not vary based on their residential area. Hence, the null hypothesis has been accepted with respect to 'residential area'.

The ANOVA result has shown that there has been significant difference in the extent of the influence of environmental issues in purchase of green products when the respondents have been classified based on their age.

t-Test

t-Test has been used to test whether the influence of environmental issues scores have varied significantly among the respondents classified based on the demographic variables such as gender and nature of family with the following null hypothesis:

H₀: “There has been no significant difference in the impact of environmental issues scores by the respondents classified based on their gender and nature of the family”.

Table 4.28

Influence of environmental issues scores vs. Demographic variables

		Impact of environmental scores			Table Value	T	Sig.
		Mean	S.D	No.			
Gender	Male	19.70	2.48	187	1.966	1.319	Ns
	Female	20.01	2.28	213			
Nature of family	Joint	19.90	2.59	97	1.966	0.163	Ns
	Nuclear	19.85	2.31	303			
Total		19.86	2.38	400			

(Source: Computed

NS – Not Significant)

The t value indicates that there is no significant difference in the impact of environmental issues in purchase of green products by the respondents classified based upon their gender and nature of family. Thus, the null hypothesis has been accepted with respect to ‘gender’ and ‘nature of family’.

4.12 ROLE OF INSTITUTIONS IN BRINGING POSITIVE CHANGE TO PROTECT ENVIRONMENT

In order to study the role played by the institutions in bringing positive changes in protecting environment, the respondents have been asked to rank the various institutions in the order of their responsibility towards bringing positive changes to protect the environment. The mean value of the ranks have been found and depicted in the following table.

Table 4.29 Role of institutions in bringing positive changes to protect environment

S. No	Role	Mean Rank	Final Rank
1	Educational institutions	3.20	II
2	Media	2.83	I
3	Government	3.68	III
4	Social organizations	4.44	IV
5	Business and industry	5.84	VII
6	Individuals/public	4.54	V
7	Politicians	6.51	VIII
8	Nature clubs	4.96	VI

(Source: Computed)

From the mean rank table 4.29 it has been inferred that ‘media’ (2.83) has played a major role in bringing a positive change in protecting environment as it has been given rank one, second rank is given to ‘educational institutions’ as they create awareness among the students to preserve environment (mean rank 3.20), followed by ‘government’ (mean rank 3.68), ‘social organizations’ (mean rank 4.44), ‘individuals’ (mean rank 4.54), ‘nature clubs’ (mean rank 4.96), ‘business/industry’ (mean rank 5.84) and ‘politicians’ (mean rank 6.51).

Kendall’s Coefficient Of Concordance

Kendall’s co-efficient of concordance (W) has been used to find the extent of similarity among the respondents in the order of assigning ranks to the institutions that bring positive changes in protecting the environment listed in the table 5.6. Kendall’s co-efficient (W) ranges between 0 and 1, higher the value of W, more will be the similarity among the respondents.

Table 4.29 a – Test Statistics – Kendall’s Coefficient of Concordance

Kendall’s W	.267
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(Source: Computed)

From the above table it has been noted that with the ‘W’ 0.267 there exists low level of similarity among the respondents in assigning ranks to the role of institutions in bringing positive changes to protect environment as, it may vary based upon their individual perception.

4.12 CONSUMER WILLINGNESS TO PAY MORE FOR GREEN PRODUCTS

Table 4.30, clearly depicts the respondents' willingness to pay more for green products.

Table 4.30 Willingness to pay more for green products

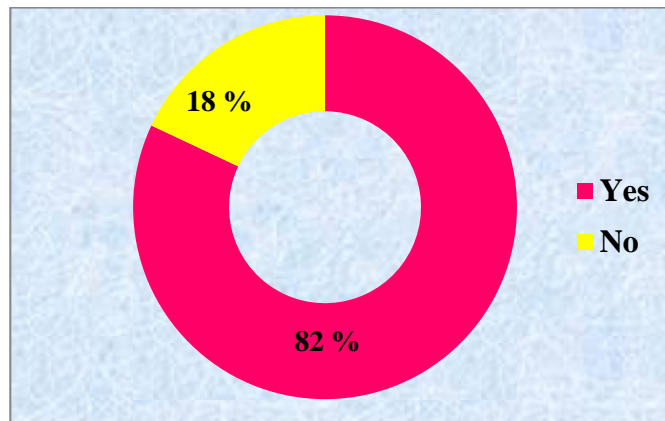
	No. of Respondents	Per cent
Yes	328	82.0
No	72	18.0
Total	400	100.0

(Source: Computed)

It has been inferred from the above table, that 82 per cent of the respondents are willing to pay more for selected green products and 18 per cent of them are not willing to pay more. Various studies (Ishaswini and Saroj Kumar Datta, India, 2011; So-Yun Kim, Jungsung Yeo et. al., 2012) revealed that consumers are willing to buy green products. Hence, it is concluded that majority of the respondents are willing to pay more for selected green products.

Chart 4.5 represents the respondents' willingness to pay more for the green products.

Chart 4.5 - Willingness to pay more for Green products



The following table indicates the reasons for the respondents' willingness to pay more for the selected green products.

Table 4.31 Reasons for willingness to pay more (Multiple Response)

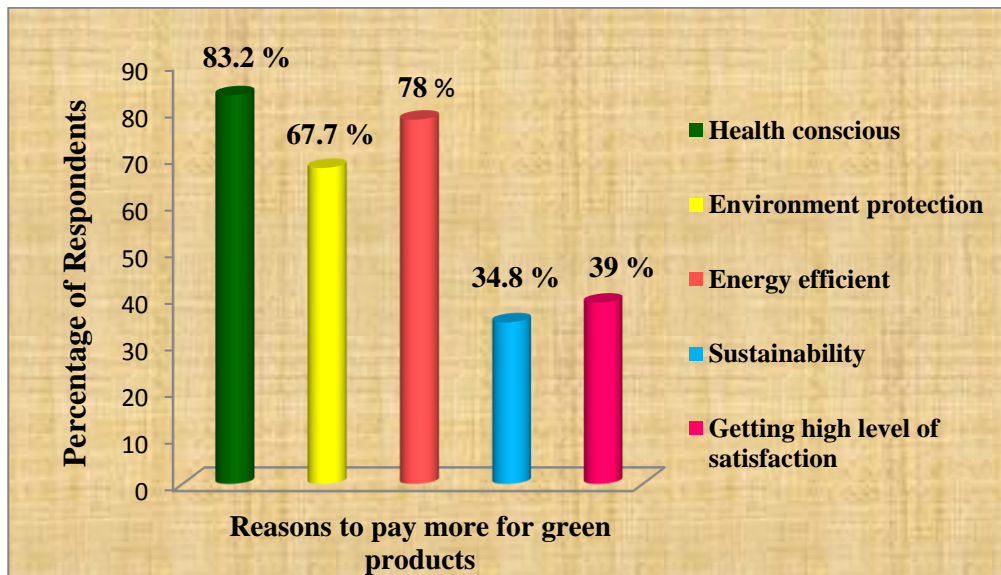
Reasons	No. of Respondents	Per cent
Health and safety conscious	273	83.2
Environment protection	222	67.7
Energy efficient	256	78.0
Sustainability	114	34.8
Quality and reliability	128	39.0

(Source: Computed)

Out of the 328 respondents who are willing to pay more for green products, 83.2 per cent of the respondents have stated that 'health and safety conscious' is the significant reason to pay more for selected green products, 78 per cent of them are ready to spend more for green products as green products are 'energy efficient', 67.7 per cent of the respondents have opined that they are ready to pay extra for 'environment protection' reason, 39 per cent of them have stated that 'quality and reliability' has been the reason to pay more and 34.8 per cent of them are willing to pay more for 'sustainability' feature of green products. Hence, it is concluded that majority of the respondents prefer spending more for green products due to 'health consciousness' reason.

The chart 4.6 shows the reasons to pay more for green products by the respondents.

Chart 4.6 - Reasons to pay more for Green products



The following table shows the reasons owing to which, respondents are not willing to pay more for green products:

Table 4.32 Reasons for unwillingness to pay more for green products (*Multiple Response*)

Reasons	No. of Respondents	Per cent
Cannot see the benefit of those features	9	12.5
Product cost is too high, cannot afford them	40	55.6
Environmental issues is a trick to attract the consumers	27	37.5
Similar products are available at low cost	43	59.7

(Source: Computed)

Out of the 72 respondents who are not willing to pay more for green products, 59.7 per cent of the respondents are not interested to pay more for green products, since ‘similar products are available at low cost’ and 55.6 per cent of them are not willing to pay extra price for green products because they feel ‘cost is high’, 37.5 per cent of them are not ready to pay more because of their feeling that environmental issues is a ‘trick’ and 12.5 are not interested to pay more because they ‘cannot see the benefits’ of the green products. Various studies (Many of the consumers do not buy or discontinue buying green products because they feel green products are too expensive (Defra, 2006; Christopher Gan, Han Yen Wee et. al., 2008; Chen and Tung, 2010). Hence, it is found that most of the respondents are not willing to pay more for selected green products because similar products are available at low cost.

Chi-square analysis has been used to find whether there is a significant association between the respondents’ willingness to pay more for green products when the respondents are classified based on various demographic variables with the help of the following null hypothesis:

H₀: “The factors such as age, gender, educational qualification, occupation and family monthly income have no significant association with the respondents’ willingness to pay more for green products”.

The null hypothesis has been tested for each of the demographic variables separately and is presented in table 4.33.

Table 4.33 Demographic variables Vs. Willingness to pay more for green products

		Willingness to pay more for green products				Total		Table Value	Chi-square	Sig.
		Yes		No						
		No.	%	No	%	No	%			
Age	Below 20 yrs	55	88.7	7	11.3	62	100.0	7.815	6.014	Ns
	21-30 yrs	58	82.9	12	17.1	70	100.0			
	31- 40 yrs	100	75.8	32	24.2	132	100.0			
	Above 40 yrs	115	84.6	21	15.4	136	100.0			
Gender	Male	156	83.4	31	16.6	187	100.0	3.841	.481	Ns
	Female	172	80.8	41	19.2	213	100.0			
Education Qualification	Up to school level	55	76.4	17	23.6	72	100.0	9.488	10.296	*
	Diploma	26	74.3	9	25.7	35	100.0			
	Graduation	161	82.6	34	17.4	195	100.0			
	Post Graduation	44	80.0	11	20.0	55	100.0			
	Professionally qualified	42	97.7	1	2.3	43	100.0			
Occupation	Employee	85	75.2	28	24.8	113	100.0	11.070	14.659	*
	Business	99	90.0	11	10.0	110	100.0			
	Professional	30	88.2	4	11.8	34	100.0			
	Agriculturist	12	75.0	4	25.0	16	100.0			
	Student	68	86.1	11	13.9	79	100.0			
	Housewife	34	70.8	14	29.2	48	100.0			
Monthly Income	Below Rs.20000	33	78.6	9	21.4	42	100.0	7.815	3.015	Ns
	Rs.20001-40000	108	78.3	30	21.7	138	100.0			
	Rs.40001-60000	110	84.6	20	15.4	130	100.0			
	Above Rs.60000	77	85.6	13	14.4	90	100.0			
Total		328	82.0	72	18.0	400	100.0			

(Source: Computed *NS – Not Significant * - Significant at 5% level*)

88.7 per cent of the respondents below 20 years of age, 84.6 per cent of the respondents whose age is above 40 years, 82.9 per cent of the respondents who are in the age group of 21 – 30 years and 75.8 per cent of the respondents in the age group of 31 – 40 years have opined that they are willing to pay more for green products. The chi-square value has revealed that the age of the respondents has no significant association with their willingness to pay more for green products. Hence, the null hypothesis has been accepted with respect to ‘age’.

83.4 per cent of the male respondents and 80.8 per cent of the female respondents have stated that they are willing to pay more for green products. With the chi-square value it is seen that gender of the respondents has no significant association with their willingness to pay more for green products. Therefore, the null hypothesis has been accepted with respect to ‘gender’.

97.7 per cent of the respondents who are professionally qualified, 82.6 per cent of them who are graduates, 80 per cent of the post graduate respondents, 76.4 per cent of the respondents

have school level education and 74.3 per cent of the respondents who are diploma holders are willing to pay more for green products. It is evident with the chi-square value that educational qualification of the respondents has significant association with their willingness to pay more for green products. Hence, the null hypothesis has been rejected at 5 per cent level of significance.

90 per cent of the respondents doing business, 88.2 per cent of the respondents who are professionals, 86.1 per cent of the student respondents, 75.2 per cent of the respondents who are employees, 75 per cent of the respondents who are agriculturists and 70.8 per cent of the respondents who are housewives are willing to pay more for green products. The chi-square value shows that the occupation of the respondents has significant association with their willingness to pay more for green products. Hence, the null hypothesis has been rejected at 5 per cent level of significance.

85.6 per cent of the respondents who have a family monthly income of above Rs.60,000, 84.6 per cent of the respondents whose family monthly income ranges from Rs.40,001 – 60,000, 78.6 per cent of the respondents whose family monthly income is below Rs.20,000 and 78.3 per cent of the respondents whose family monthly income is Rs.20,001 – 40,000 have stated that they are willing to pay more for green products. The chi-square value reveals that family monthly income of the respondents has no significant association with their willingness to pay more for green products. Hence, the null hypothesis has been accepted with respect to ‘family monthly income’.

The chi-square result has shown that educational qualification and occupation have a significant association with respondents’ willingness to pay more for green products, whereas, age, gender, family monthly income and residential area have no significant association with respondents’ willingness to pay more for green products.

4.14 CONTINUAL BUYING OF GREEN PRODUCTS

The respondents’ intention towards repeated purchase of selected green products has been analysed by using descriptive statistical tools namely, mean and standard deviation and it has been depicted in the following table.

Table 4.34 – Continual buying of green products

	N	Minimum	Maximum	Mean	S.D
Solar Products	400	1	5	3.56	1.03
Durables	400	1	5	3.99	.837
Non-durables	400	1	5	4.06	.907
Organic food products	400	1	5	4.27	.792
Stationery	400	1	5	3.48	1.02

(Source: Computed)

On a five point scale, ranging from 1 to 5 where 1 stands for do not care, 2 for very rarely buy green, 3 for sometimes buy green, 4 for mostly buy green and 5 for always buy green, has been constructed to assess the sustained buying of green products by the respondents.

From the mean ratings computed based upon the response of the consumers, it is evident that on the whole the respondents *mostly buy* ‘organic food products’ (mean 4.27), ‘non-durables’ (mean 4.06) viz., health/personal/home care products, ‘durables’ (mean 3.99), and ‘solar products’ (mean 3.56). The respondents *sometimes buy green* products as ‘stationery products’ (mean 3.48). Similar results have been identified in the study by Colling Marfo and Agyeman (2014) and Emre Yildirim (2014).

ANOVA has been used to examine whether there has been significant variation in sustained buying score of the respondents classified based on demographic profile. The sustained buying score for each factor is computed by adding the ratings given by the respondents. The mean scores have been compared with the independent variables – demographic variables and sustained buying related factors, to know the level of variance in the opinion of the respondents about continuous buying of green products.

H₀ – “There has been no significant difference in the continual buying attitude of the respondents classified based on their demographic variables such as age, educational qualification, occupation and family monthly income”.

The null hypothesis has been tested for each of the demographic variables and sustained buying related variable separately and is presented in the table 4.35

Table 4.35 - Continual buying score Vs. Demographic variables

		Sustained buying score			Table Value	F	Sig.
		Mean	S.D	No.			
Age	Below 20 yrs	28.24	4.73	62	2.627	.781	Ns
	21-30 yrs	27.36	5.98	70			
	31- 40 yrs	28.44	5.23	132			
	Above 40 yrs	27.83	4.74	136			
Education Qualification	Up to school level	28.06	4.50	72	2.395	.399	Ns
	Diploma	27.86	5.43	35			
	Graduation	28.24	5.03	195			
	Post Graduation	27.25	5.77	55			
	Professionally qualified	28.02	5.65	43			
Occupation	Employee	27.94	5.59	113	2.237	.553	Ns
	Business	27.98	4.93	110			
	Professional	28.21	5.67	34			
	Agriculturist	27.19	5.43	16			
	Student	28.68	4.76	79			
	Housewife	27.29	4.67	48			
Monthly Income	Below Rs.20000	27.95	5.96	42	2.627	2.508	Ns
	Rs.20001-40000	28.83	4.65	138			
	Rs.40001-60000	27.12	5.01	130			
	Above Rs.60000	28.07	5.48	90			
Total		28.01	5.14	400			

(Source: Computed NS – Not significant)

The continual mean buying score is for the respondents who are in the age group of 31-40 years is 28.44 and comparatively a lower score has been identified for the respondents who are in the age group of 21-30 years (mean 27.36). With the F- ratio value it is clear that there is no significant difference in the respondents sustained buying of green products when they are classified based on age, thereby, the null hypothesis has been accepted.

The null hypothesis has been accepted for ‘educational qualification’ with the F-ratio value which proves that sustained buying scores of green products have not varied significantly among the respondents classified based on their educational qualification. The sustained buying score of the respondents educational qualification has revealed average narrow difference when the respondents are graduates have a high mean score of (28.24) and relatively, a low mean score of 27.25 found for post graduates.

A mean score of 28.68 has been identified for the student respondents, whereas, the respondents who are agriculturists have relatively, lower sustained buying scores of green products (27.19). It is concluded with the F-ratio that there is no significant difference in the scores of sustained buying attitude of the respondents. Thus, the null hypothesis has been accepted with respect to the factor 'occupation'.

The respondents whose family monthly income ranges between Rs.20,001 – Rs.40,000 have a sustained buying score of 28.83 and the respondents who have a family monthly income of Rs.40,001 – Rs.60,000 have comparatively a sustained score of 27.12. However, with the F-ratio value it is understood that there is no significant difference in the respondents' score for sustained buying of green products when they are classified based on monthly income of their family, thereby, the null hypothesis has been accepted.

Overall, the results of ANOVA has shown that the continual buying scores have not varied significantly among the respondents have been classified based on their age, educational qualification, occupation and family monthly income and hence, the null hypothesis has been accepted.

t-Test

t-Test has been used to study whether there has been significant variations in the sustained buying attitude on selected green products of the respondents classified based on gender and nature of the family.

H₀ – “There has been no significant difference in the scores for continual buying of green products among the respondents classified based on gender and nature of the family”.

The null hypothesis has been tested for each of the demographic variables and continual buying variable separately and is presented in the following table.

Table 4.36 Continual buying score Vs. Demographic variables

		Sustained buying score			Table Value	t	Sig.
		Mean	S.D	No.			
Gender	Male	27.63	5.16	187	1.966	1.413	Ns
	Female	28.35	5.10	213			
Nature of family	Joint	26.75	5.46	97	2.588	2.800	**
	Nuclear	28.42	4.97	303			
Total		28.01	5.14	400			

*(Source: Computed NS – Not Significant **- Significant at 1% level)*

A continual buying score of 28.35 has been found for female respondents and comparatively, a lower score of 27.63 has been found for male respondents. However, t-Test has shown that there has been no significant variation in the respondents' sustained buying attitude of green products. Hence, the null hypothesis has been accepted with respect to the factor 'gender'.

The respondents who are in nuclear family have a high mean score of 28.42, and a lower score of 26.75 has been found for the respondents who are in joint family. It is concluded with the t value that sustained buying scores of the respondents have varied significantly when they are classified based on nature of the family, thus, the null hypothesis has been rejected at 1 per cent level of significance.

The overall t-Test results have shown that sustained buying scores have not varied significantly for respondents classified based on their gender, hence, the null hypothesis has been accepted. Whereas, the sustained buying scores of the respondents have varied significantly when they are classified based on their nature of the family, therefore, the null hypothesis has been rejected.