

GREEN PURCHASING AND DEMOGRAPHIC PROFILE OF INDIAN CONSUMERS

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Abstract

These days green products are gaining popularity as Indian people are more attracted towards green products. Due to the advancement of technologies there seems shift in demand of consumers from conventional products towards green products. The purpose of this paper is to show the results of the differences between several demographic profile groups on green product purchase intention using descriptive analysis, ANOVA and independent sample *t*-test. A questionnaire was utilized to gather the data ($n=500$) for this study. The convenient sampling technique was used whereby Indore, Bangalore, Delhi, Gujarat and Kerela were the main cities of India from where information were obtained. The results of *t*-test showed that there is a statistically significant difference between genders on consumers' green product purchase decision. The results generated by ANOVA indicated that there is no significant difference among consumers' in green product purchasing intention with respect to occupation. This paper concludes with a thorough discussion of the practical implications as well as limitations of these results.

Keywords: *consumers, green products, purchase*

Introduction

The people living in India are highly social, progressive and easily adaptive in nature. The people from all over the world mingle and have mix choices with different taste and preferences. The demographic variables like age, education, occupation, gender, earning capacity also make the mindset of consumers to be different from each other. These factors affect purchasing decisions and buying behaviour of consumers. Earlier, the consumer consumption pattern was based on conventional marketing concept where focus was given on consumers lifestyles. Marketers were selling oriented and adopted short-term profit maximizing techniques. However, with increased globalization, privatization and liberalization, there seems rapid economic growth through free flow of goods and services and increased consumer consumption all over the world. In order to satisfy consumer needs and wants, producers are required to manufactures new goods or making changes in existing products. The industrial revolution leads to rapid urbanisation which increases the expectations of consumers towards the products. At one hand, the advancement of new technologies gives rise to consumer expectation towards the fulfilment of needs while on the other side the process of manufacturing the products has resulted in environmental deterioration leads to pollution in river and water, global warming and end of non-renewable source of energy. As the environment is getting aggravate, it becomes the matter of major concern. Understanding the needs of consumers without going against environmental laws and their revenues had become the big questions for marketers. Keeping in mind customers' buying attitude and environmental strategies, company produces green marketing products. The idea behind this is to let the customers informed about availability of green products in market, its consequences, its effect on environment so that they can use this information before purchasing any products. This would help consumers to get aware about green marketing products. Harrison (1993) "proposed green marketing strategy by firms through positioning the environmental benefits of green products to consumers' mindset to influence their purchasing decisions". This made the task of marketers easier to produce green products. Therefore, a shift in needs of both consumers and marketers towards green products were observed with an expectation of change in consumers' buying attitude and marketers' business following environmental laws. Soonthonsmai (2007) defined "green marketing as the action performed by companies in producing the environmental sound product as well as services by maintaining customer satisfaction".

Many companies in India are introducing green marketing but it's implementation is not an easy task. There are various factors such as cost factor, attitude of customers, non-cooperation influence the adoption of green activities. Thus, various questions arises in the mind of researcher like – How do green marketing concepts

satisfy the needs of consumers? How do businesses match the needs of consumers in terms of quality, performance of products, price level? What criteria do consumers decide on purchasing green products?

The present study examines the availability of green products in different regions of economy and satisfaction level of green consumers in India.

Literature Review

The increased consumer's consciousness towards eco-friendly products were pointed out by Kumar and Namita (2016). Go green concept has adopted equally by manufacturer and consumers'. The products such as "Energy Efficient Electrical Appliances' like CFL Bulbs, organic food items, recyclable paper, phosphate free detergents etc are more focussed." The study brought out the fact that although people are well informed and well aware about these products but are not a true green consumers because there are various factors considering the expensiveness of product that may affect their purchasing decisions.

Achchuthan, Sivapalan and Thirunavukkarasu, Velnampy, (2016) "carried out study in Sri Lankan whereby the purchase intention under the concept of green consumerism among young consumers were examined. The background of the study was based on environmental attitude, perceived consumer effectiveness, health consciousness and social influence. Proposed model in this study was designed as the extension of Theory of Planned Behavior (TPB). In order to test the hypotheses, Structural Equation Modelling was used after EFA. This result declared that environment attitude, perceived consumer effectiveness, and health consciousness significantly influences the green purchase intention."

The descriptive study of Shah, R. (2017) covered consumer from Central Nagpur tried to understand the intention of green buying habits of consumers. This would help marketers to have an idea about consumers mind set of purchasing green products. For the same, questionnaire and interview technique as a mean of collecting primary data was used. Books, journals, research articles, reports etc were also used from where secondary source of information was collected. Data of 60 respondents was gathered through convenience sampling technique. Data was analyzed by percentage method. It was suggested in the end that in this competitive era, promotional efforts are required. Therefore, government should subsidies green efforts so that marketers should avail green products at reasonable prices.

Reddy and Reddy (2017) in his paper put efforts to identify consumer consciousness with respect to green selling and its consequences on sustainable growth. The structured questionnaire based on 5 points likert scale was developed with the aim of measuring attitude of consumers. Random sampling was adopted whereby 100 respondents were surveyed. The data were then given codes and analyzed by mean and percentage analysis. The findings revealed that consumers had a sturdy concern for sustainability and green marketing has affirmative impact on sustainable development.

In the study of G. J. Kuchinka (2018) "the relationship between brand loyalty and consumers' environmental viewpoint was investigated. The sample size of 92 college students from the USA and Romania were asked to voluntarily participate in a survey. The Brand Loyalty Scale (BLS) was used to assess brand loyalty before and after a fictitious expansion announcement was made. The New Ecological Paradigm (NEP) scale was utilized to assess attitudes toward sustainability. The result of the analysis by applying paired samples t-test showed that there was significant positive correlation between NEP scores (attitudes toward sustainability) and brand loyalty. No significant differences were found in attitudes toward sustainability regarding region (Romania and USA) or gender. Males were also as much concern toward the environment as females."

Some experts pointed out on consumer's additional paying capacity towards green products and their positive attitude towards green products in price context. While some consumers took back their steps and did not show their willingness towards green purchasing. The past studies also discovered that age, gender, attitude, social network, high status, intrinsic as well as extrinsic motivational features were some of the factors that encouraged consumers in green purchasing. The present study has its own significance. It shows the impact of green purchasing on demographic profile of consumers.

Objective

To find the impact of consumption of green marketing products on the demographic profile of people.

Hypotheses

- H1 : There is no significant difference in green products purchasing decision among consumers with respect to gender.
- H2: There is no significant difference among consumers in purchasing green products with respect to age group.
- H3: There is no significant difference among consumers in purchasing green products with respect to education.

- *H4: There is no significant difference among consumers in purchasing green products with respect to occupation.*
- *H5: There is no significant difference among consumers in purchasing green products with respect to Income.*

Methodology

Descriptive study attempts to find out green products purchasing decision with respect to demographic profile of respondents including gender, age, qualification, region and their occupation. Consumers adopting green marketing products and from all over India including East, west, north, south and central region were taken into consideration for the study. Indore, Bangalore, Delhi, Gujarat and Kerela were the main cities of India.

A non-probability technique i.e. convenient sampling has been used for the study. The designed structured questionnaires were circulated to 700 respondents through e-mail and with physical personal interaction. Out of the 700 respondents, valid and full filled information received were gathered from 500 respondents while remaining questionnaires were found incomplete and were not taken into study for further analysis.

The collection of primary data required designed the self-structured Questionnaire, which was prepared from the literature given by experts in the related field. Secondary data were collected from published and unpublished sources including working papers, conference proceedings, and books, articles, reports and publications. The collected data provides the raw information that would be edited first and then coded in numbers using descriptive statistics in SPSS.

Descriptive Statistics

Table 1 : Descriptive Analysis

Region		
Area	Frequency	Percent
West	150	30
South	110	22
North	98	19.6
Central	92	18.4
East	50	10
Total	500	100
Sex		
Female	276	55.2
Male	224	44.8
Total	500	100
Age		
18-30	118	23.6
30-45	124	24.8
45-60	169	33.8
More than 60	89	17.8
Total	500	100.0
Level of Education		
Higher Secondary	57	11.4

Region		
Area	Frequency	Percent
West	150	30
South	110	22
North	98	19.6
Central	92	18.4
East	50	10
Total	500	100
Sex		
Female	276	55.2
Male	224	44.8
Graduate	113	22.6
Post Graduate	184	36.8
Others	146	29.2
Total	500	100.0
Occupation		
Professionals	156	31.2
Business	102	20.4
Service	133	26.6
Housewives	89	17.8
Unemployed Student	20	4.0
Total	500	100.0
Monthly Income		
Less than 20000	72	14.4
20000 - 40000	189	37.8
40000 - 60000	142	28.4
More than 60000	97	19.4
Total	500	100.0
Expenditure (p.m.)		
Up to 500	24	4.8
500 – 1000	73	14.6
1000 – 3000	100	20.0
3000-5000	161	32.2
More than 5000	142	28.4
Total	500	100.0

The above table shows that the maximum numbers of respondents were from West region including Mumbai that is 30%. The number of respondents were educated and more aware of green products followed by south region i.e 22% from kerela and 19% were from North side including Delhi and Punjab and 18% from Madhya Pradesh - Central region. While, least number of data collected from respondents residing in East region i.e. only 10% from Bangal. This shows that consumption of green products is less in east region. The above table shows that 55.2% females responded over 44.8% males. It can be explained in ratio 5:4. This indicates that both male and female are having knowledge about green purchasing. However, more number of females is consuming green products as compared to male because women are involved in household related activities and having responsibilities towards their family. The green consumers' 18- 60 age category was the sample unit. The highest responses were gathered from the 45-60 years counted to 33%. If we see the youth category (18-35 years) around 23% are consuming followed by age group of young and matured group people (30-45years). This shows that the people of the age group between 45-60 years are more aware and have experience. Least number of the respondents (only 17%) is in the age group of more than 60 years. Considering the education level of respondents, the above table shows that 11.4% has passed higher secondary, 22.6% are graduates, 36.8% are post graduate and 29.2% respondents belongs to professional group. Doctors, Engineers, Lawyers are included in professional category. The above table gives an idea that maximum numbers of respondents who are more educated are more concern about environment and their health that they implement in their day to day lives. 31.2% respondents were professionals where as 26.6% engaged themselves in service class. 20% of respondents were running their own business and minimum number of respondents were belong to unemployed group including students. This indicates that professionals are more aware about green marketing. The income level gives an idea about earning capacity of respondents and expenditure made on purchasing green products. 37.8% respondents have monthly income 20,000-40,000. 28.4% respondents have monthly income between 40,000 - 60,000. Only 19.4% who belong to upper class have their income more than 60,000. This shows that rich family can spend more on green products as compared to middle class or upper middle class. 5 percent stated that their monthly expenditure is 500 Rs. 14% had their viewpoint that their family monthly expenditure lie within the range of Rs. 500 – Rs. 1,000. Majority of respondents 32 percent proclaimed that their family monthly expenditures falls between Rs. 3,000 - Rs. 5,000 and 23.6 percent of respondents spend more than 5,000. This indicates that respondents are purchasing green products and are aware about the utility of the products

Inferential Statistics

H1: There is no significant difference in green products purchasing decision among consumers with respect to gender.

Table 2 : Green products purchasing decision with respect to gender

Descriptive								
Reasons for purchasing green products								
					95% Confidence Interval for Mean			
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
Female	276	3.1775	.98774	.09210	.06355	.42545	1.00	5.00
Male	224	2.9330	1.06724	.09284	.06205	.42695	1.00	5.00
t-test for Equality of Mean								
Reasons for purchasing green products								
			Levene's test for Equality of Variance	t- test for Equality of Means				

	F	sig	t	df	Sig (2-tailed)
Equal Variance assumed	.589	.443	2.655	498	.008
Equal Variance not assumed			2.633	460.398	.009

The highest mean score was exhibited by female i.e 3.1775 with 0.98774 Standard deviation, while, the mean score of male was 2.9330 with 1.06724 standard deviation. The levene’s Statistics showed 0.443 which is insignificant. Therefore, we can assume that population variance for each group are approximately equal. Since p=.008 which is less than .05 which means that null hypothesis is not accepted. From the table it can be concluded that significant difference arises among gender while purchasing green products. In many studies the significant differences between men and women is showed in environmental attitudes (Brown and Harris, 1992; Tikka et al., 2000). Men put negative attitudes towards the environment comparing with women (Eagly, 1987; Tikka et al., 2000). Women were more likely to buy green product because they believe the product was better for the environment (Mainieri et al., 1997).

H2: There is no significant difference in purchasing green products among consumers with respect to age group.

The highest means score of respondents with age (18-30) was 3.3415, followed by the respondents having age between (45-60) was 3.0769 where as respondents having more than 60years of age has mean 2.9888 and 2.8319 for age between 30-45 respectively. The standard deviation was found to be .99036, .94491, 1.12305 and 1.06022 respectively. The results reflected that respondents belongs to 18-30 had highest mean score and the lowest mean score was exhibited by respondents having age between 30-45. The levene’s stats showed that variance of groups are not significantly different. The significance value of Welch and Brown-Forsythe is lesser than percent showing rejection of null hypotheses. The ANOVA results exhibited significant results as the p value was observed to be .001. This implies that there seems significant difference in purchasing green products among consumers with respect to age group.

Table 3 : Green products with respect to age group.

Descriptive								
Reasons for purchasing green products								
			Std.		95% Confidence Interval for Mean			
	N	Mean	Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
18-30	118	3.3644	.98419	.09060	3.1850	3.5438	1.00	5.00
30-45	124	2.8306	1.05708	.09493	2.6427	3.0186	1.00	5.00
45-60	169	3.0769	.94491	.07269	2.9334	3.2204	1.00	5.00
More than 60	89	2.9888	1.12305	.11904	2.7522	3.2253	1.00	5.00
Total	500	3.0680	1.03029	.04608	2.9775	3.1585	1.00	5.00
ANOVA								
Reasons for purchasing green products								
		SS	df	MS	F	Sig.		
Between Groups		17.925	3	5.975	5.791	.001		

Within Groups	511.763	496	1.032		
Total	529.688	499			
			df1	df2	Sig.
	Levene Statistic	2.291	3	496	.077
	Welch	5.750	3	246.053	.001
	Brown-Forsythe	5.587	3	416.436	.001

H3: There is no significant difference among consumers in purchasing green products with respect to education.

The highest mean score was observed in context of level of education was with the respondents pursuing higher education with mean 3.2632 and 1.15768 standard deviation; followed by senior professionals with mean score 3.2534 and .95997 standard deviation ; followed by Graduate with 2.9735 mean score and .94925 standard deviation and lastly post graduate having 2.9185 mean and .07855 standard deviation.

In the above table the homogeneity of variance is significant as $p > 0.05$. The Welch and Brown-Forsythe performed on education level of respondents shows that significance value is smaller than required 0.05, therefore alternative hypotheses is accepted. As the value of $F = 3.935$ and p value is .009 which suggest that calculated value is greater than table value, it can be notified that there seems significant difference in purchasing green products among consumers with respect to education.

Table 4 : Purchasing green products with respect to education

Descriptive								
Reasons for purchasing green products								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Higher Secondary	57	3.2632	1.15768	.15334	2.9560	3.5703	1.00	5.00
Graduate	113	2.9735	.94925	.08930	2.7965	3.1504	1.00	5.00
Post Graduate	184	2.9185	1.06555	.07855	2.7635	3.0735	1.00	5.00
Others	146	3.2534	.95997	.07945	3.0964	3.4104	1.00	5.00
Total	500	3.0680	1.03029	.04608	2.9775	3.1585	1.00	5.00
ANOVA								
Reasons for purchasing green products								
	SS	df	MS	F	Sig.			
Between Groups	12.315	3	4.105	3.935	.009			
Within Groups	517.373	496	1.043					
Total	529.688	499						

Descriptive								
Reasons for purchasing green products								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Higher Secondary	57	3.2632	1.15768	.15334	2.9560	3.5703	1.00	5.00
Graduate	113	2.9735	.94925	.08930	2.7965	3.1504	1.00	5.00
Post Graduate	184	2.9185	1.06555	.07855	2.7635	3.0735	1.00	5.00
Others	146	3.2534	.95997	.07945	3.0964	3.4104	1.00	5.00
					df1	df2	Sig.	
	Levene Statistic		3.540	3	496	.015		
	Welch		3.909	3	196.828	.010		
	Brown-Forsythe		3.783	3	300.367	.011		

H4: There is no significant difference among consumers in purchasing green products with respect to occupation.

The ANOVA results for purchasing green products and occupation had exhibited insignificant results as the p value was observed to be .468. This implies that that there is no significant difference between the mean scores of purchasing green products and occupation of respondents that is classified as under: professionals, Business, Service, Housewife and others. The mean scores of respondents who are engaged in different occupation categories seem to be very close to each other. The mean score obtained by respondents in service sector was 3.1654, housewives was 3.1573, professional was 3.0192, business was 2.9608 and others was 2.9500 explained in above table with their standard deviations. The assumption of ANOVA for homogeneity of variance has not been violated as $p > 0.05$. The ANOVA F ratio is 0.893 and p value = 0.468 represent that calculated value is lesser than table value. Hence, the hypotheses is accepted.

Table 5 : Purchasing green products with respect to occupation.

Descriptive								
Reasons for purchasing green products								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Professionals	156	3.0192	1.10990	.08886	2.8437	3.1948	1.00	5.00
Business	102	2.9608	1.08017	.10695	2.7486	3.1729	1.00	5.00
Service	133	3.1654	.95490	.08280	3.0016	3.3292	1.00	5.00
Housewife	89	3.1573	.91576	.09707	2.9644	3.3502	1.00	5.00

Other	20	2.9500	1.09904	.24575	2.4356	3.4644	1.00	4.00
Total	500	3.0680	1.03029	.04608	2.9775	3.1585	1.00	5.00
ANOVA								
Reasons for purchasing green products								
		SS	Df	MS	F	Sig.		
Between Groups		3.794	4	.948	.893	.468		
Within Groups		525.894	495	1.062				
Total		529.688	499					
				df1	df2	Sig.		
	Levene		1.383	4	495	.239		
	Statistic							
	Welch		.906	4	114.556	.463		
	Brown-		.883	4	198.868	.475		
	Forsythe							

H5: There is no significant difference among consumers in purchasing green products with respect to Income.

It has been observed that the mean score of income level of respondents is statistically different at age group that is between 41-50. The mean score was highest for the income which is less than 20000 i.e 3.3333 with 1.00702 standard deviation; followed by income level ranging 40,000-60,000 with mean score 3.1338 and .99808 standard deviation; followed by the high range of income level (more than 60,000) with 3.0206 mean score and 1.03057 standard deviation and lastly, middle class income range (20,000-40,000) has 2.9418 mean score with 1.04769 standard deviation.

The result of Levene’s statistics is 0.911 showing the variances of groups are not significantly different. As the ANOVA significance value is less than 5 percent, it can be said that there is significance difference in purchasing green products with respect to Income among consumers. The results of Welch and Brown – Forsythe also explained the same. Awad (2011) stated in his study that income was positively correlated to green purchasing behaviour because price of green products is higher than conventional products.

Table 6 : Purchasing green products with respect to Income

Descriptive								
Reasons for purchasing green products								
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
Less than 20000	72	3.3333	1.00702	.11868	3.0967	3.5700	1.00	5.00
20000 - 40000	189	2.9418	1.04769	.07621	2.7915	3.0921	1.00	5.00
40000 - 60000	142	3.1338	.99808	.08376	2.9682	3.2994	1.00	5.00

More than 60000	97	3.0206	1.03057	.10464	2.8129	3.2283	1.00	5.00
Total	500	3.0680	1.03029	.04608	2.9775	3.1585	1.00	5.00
ANOVA								
Reasons for purchasing green products								
	SS	Df	MS	F	Sig.			
Between Groups	8.912	3	2.971	2.829	.038			
Within Groups	520.776	496	1.050					
Total	529.688	499						
			df1	df2	Sig.			
	Levene Statistic	.178	3	496	.911			
	Welch	2.834	3	220.520	.039			
	Brown-Forsythe	2.856	3	400.059	.037			

Findings

- With regards to gender, out of sample size of 500 respondents majority of green products users are females (55%) and 45% of them are male.
- The significant difference exists in green products purchasing decision among consumers with respect to gender. Females are more interested in buying green products as compared to men. Generally, in India, women are engaged in household related activities like cooking food, maintaining house etc. The responsibilities towards their family lie on women therefore; they are most interested in buying and consuming green products as precautionary measures.
- It has been observed that matured respondents with age between 45-60 have shown more interest towards green products. Whereas information obtained from respondents crossing age limit of 60 years are less in numbers. Although, aged people suggest new generation to adopt green products.
- The significant difference among consumers in purchasing green products with respect to age group was observed in this study. As the age increases, starting from 48 years until 60 years, respondents' buying behaviour towards green products also gets increases.
- The sample consists of educated consumers in term of education as most of them are having post graduate and other professional degrees following post graduation and graduation.
- The significant difference in purchasing green products among consumers with respect to education was examined. As the people get more educated their responsibilities towards family or society increases. They are more aware about products and their uses.
- As far as occupation is concerned, whether the respondents are engaged in service sector or business activities; whether they are housewives or belong to student category, all of them believes in green purchasing.
- The result of hypotheses 4 implied that there is no significant difference among consumers in purchasing green products with respect to occupation. Green purchasing is affected by income capacity of consumers but not through the source or line of business through which income generated.
- Respondents whose earning capacity is more than 20,000 per month are able to spend more on green purchases, as green products are expensive. Generally, middle and rich family class can afford to buy these products. People belong to lower class neither aware nor take interest in buying expensive products.
- The significance difference among consumers in purchasing green products with respect to income was found. High income and high earning capacity can change the attitude of person purchasing high quality product with high price. They can be ready to spend premium price.

Suggestions

- It is not only the responsibility of manufacturers or government alone to take initiative steps towards promotion of green marketing techniques. Consumers should also take the lead and let the others understand about the prevention of natural resources by familiarizing with the benefits of consuming organic products along with their benefits.
- In order to increase sustainability and to attract consumers, eco friendly products and other related alternatives should be linked with rewards. Some kind of recognition (in the form of incentives or in kind) should be made available to consumers who are adopting it and also to motivate non green consumers.
- The fake companies who claim that their products involves non toxic ingredients should be punished.
- Some motivational programmes should introduced so as to motivate rural retailers to adopt green marketing practices such as sending short notice, through meetings etc.
- Rural consumers are also get informed through nukkad natak, aur through role play about the difference between green and non green products.
- Generally, retailers avoid carrying green products in their shops. Therefore, it is suggested that retailers must make availability of green products more than non-green products such as food items in grocery shops or electronic appliances consuming no or low electricity.

Limitations

- The data were gathered from 500 respondents only. This sample size may not be the accurate representative of all consumers in India basis.
- Since convenient sampling technique is adopted, there may be some error in this technique.
- Consumer purchasing behaviour keeps on changing as per situation. There are lots of factors which may influence their purchasing criteria. While the present research study is cross sectional, whereby data is collected for one time. Therefore, results obtained could not be appropriate in case of purchasing pattern.

Conclusion

The finding of the study reflects that people these days are more educated/literate and show high concern for environmental protection. They have strong belief that green marketing can definitely be used as a tool for gaining competitive and sustainable growth. Those people who are not consuming green products or do not prefer green purchasing should be given awareness regarding its utility, durability and positive effects on environment and consumer's health. It is expected that all the stakeholders of the environment will follow the concept of Vasudev Kutumbakam where, earth is like a single family consisting of ecosystem including all the organism such as plants, trees, animals, birds etc. having soul which need to be preserved.

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