

Analysis of consumer behaviour towards green products: A study of South Delhi Region

¹Raghvendra Narayan Singh, ²Shivani Mehta

¹Student, ²Assistant Professor, ^{1,2}Amity School of Economics, Amity University, India.

¹raghavrajput20@gmail.com, ²smehta4@amity.edu

ABSTRACT - The wave of modernisation has given birth to an overall concern in regards to the sustainability which mainly revolves around environmental issues caused by the initial events of the industrialisation (Pandey & Ravindra, 2012). This has altered the mind-set of consumers and producers towards sustainable consumption and sustainable production respectively. This research paper aims at identifying different antecedents influencing the consumer behaviour towards green products and examining the relationships between different antecedents and green purchasing behaviour. The research is based on the primary data collected through well-structured questionnaire from 126 people in South Delhi. Five hypotheses were framed and tested using correlation and multiple regression analysis. The results showed that green values is the most significant factor influencing the green purchasing behaviour, followed by green marketing practices, awareness and quality. However, brand has no significant relationship with the green purchasing behaviour. The findings may help marketers in making decisions related to production and marketing of the green products.

Key words: Awareness, green buying behaviour, green marketing practices, green values, sustainable consumption, sustainable production,

I. INTRODUCTION

In today's modern and technology favoured world, exploitation of environment is increasing day-by-day. This overexploitation of environment resulted in global warming, pollution, climate change, land degradation, depletion of ozone layer, etc. (Makdhoomi & Nazir, 2016). Thus, environmental protection is becoming need of the hour. Government have framed various policies to protect the environment and various business houses opted for different environment friendly practices. The judiciary has also been compelling changes in usage of eco-friendly products & practices. Use of plastic carry bags, controlling pollution of rivers, generating solar & wind power to reduce dependence on fossil fuels and switching over to CNG instead of diesel fuel are specific cases that stand out (Mukherjee, 2017). General public is also becoming more and more aware about environmental issues and wants to contribute towards protecting the environment in any way possible.

There is a paradigm shift in the consumers and producers outlook. Consumers shifted their focus from simply consumption to green consumption and producers shifted their focus from marketing to eco-friendly marketing. This shift in consumer and producer outlook has gradually led to the emergence of the concept of green consumerism. It means buying and using of eco-friendly products which reduces the damage on the environment (Kataria, Kataria, & Garg, 2013). Many business houses are taking part in this

green movement, either out of social responsibility or just to feather their on nest by capitalizing on the increasing consumer demand towards green products.

Among recent developments in sustainable strategies, an uprising concept which is been given due importance is "Green Marketing". It is considered as eco-friendly marketing adopted with an aim to minimize environment degradation while carrying out various stages of the marketing mix and achieving sustainable growth. Different firms have adopted various green marketing practices like educating consumers, using eco-friendly modes of communication and promotion, using recycle materials for production process, etc. to attract and encourage consumers to purchase their products (Mukherjee, 2017). This has provided an advantage to the firms to increase their revenues by exploring new markets and by catering the needs of the green consumers.

Extensive researches have been done with an aim to identify various factors that can influence the buying behaviour of consumers towards green products. The factors which are studied over the years are perceived consumer effectiveness, environmental concern, awareness about the product, price of the product, quality of the product, green values, etc. Taking into account the intensity at which a particular antecedent affects the behaviour, the firms can easily adapt to the new market and can make better decisions related to production and marketing of the product. Keeping in mind the importance

of “Green Marketing” practices in the present time the research was conducted with the objectives of: a) studying the respondents buying behaviour towards green products. b) Identifying different factors influencing consumer buying behaviour towards green products and studying relationship between the green buying behaviour and its antecedents.

To achieve the above set of objectives, the subsequent chapter 2 discusses the evolution and trends of green marketing in India. Chapter 3 focuses on the analysis conducted by collecting data from South Delhi to examine the relationship between green purchasing behaviour and its antecedents. Finally chapter 4 puts forward the policy implications and conclusion.

II. EVOLUTION AND TRENDS IN GREEN MARKETING IN INDIA

The concept of green marketing came into picture in late 1980s and early 1990s. The term “Green Marketing” was first used in a seminar on Ecological Marketing organised by American Marketing Association (Tiwari, 2015). The term “green marketing” evolved in three phases: - a) ‘Ecological marketing’ which majorly focussed on various environmental issues and remedies to solve such issues b) ‘Environmental marketing’ which mainly focussed on use of clean technology c) ‘Sustainable marketing’ which mainly focussed on environmental cost of production and consumption. (Peattie K. , 2001).

Globally firms are incorporating different green marketing strategies in their day-to-day business operations because firms believe that they have moral obligation towards society. With rising concern for environment, consumer perception has also shifted towards sustainable or green products (Ali, Khan, & Ahmed, 2011). Also, competitor’s eco-friendly policies force them to change their business decisions and policies. Government bodies have imposed various restrictions and penalties on unsustainable or non-environment friendly business activities (Tiwari, 2015).

The trends of green marketing can be seen in different countries. For example, in Columbia steel has been replaced by the bamboo sticks for construction purposes. In Cuba, government provided connectivity of each house to a hydro station. Sweden is aiming at becoming first fossil fuel free county by 2039. (Juwaheer, 2012)

Green marketing assumes even more significance and prominence in India. Various green initiatives have already been taken in the field of cosmetics, food, medicine,

sanitary products and electrical appliances. For example, E-rickshaws were introduced in Delhi during Commonwealth games to promote pollution free transportation facilities in the city. Kansai Neroloc Pvt. Ltd has introduced paints which are free from hazardous metals like lead. Wipro Infotech introduced sustainable computer peripherals and developed desktops and laptops (called Wipro Green ware) which are Restriction of Hazardous Substances (RoHS) compliant (Madhavi & Raju, 2014).

Having understood the evolution, trends of green marketing and its growing importance worldwide the subsequent chapter will delve with the analysis conducted by collecting data from 126 respondents in South Delhi evaluating and examining the relationships between different antecedents and green purchasing behaviour.

III. DATA ANALYSIS

The research paper is based on analytical interpretation of primary data. The research paper is based on the primary data collected through well – structured questionnaire. The sample size for the purpose of the study is 126 respondents collected from South Delhi district. The sampling is done using convenience sampling method. Respondents were asked to fill the questionnaire by rating the statement provided on five point likert scale. Point 3 is considered as a neutral point. Any value above point 3 signifies overall agreement and any value below point 3 signifies overall disagreement. To analyse the data, different statistical tools were used like mean, standard deviation, simple correlation and multiple linear regression. Cronbach’s alpha is used to check the reliability and internal consistency of the data collected for the purpose of the research. The Statistical Package for Social Sciences (SPSS) was used to examine and study the data. From the above objectives, five hypotheses were framed which are as under:

H1: There is no significant relationship between green purchase behaviour and awareness about product.

H2: There is no significant relationship between green purchase behaviour and green values.

H3: There is no significant relationship between green purchase behaviour and brand of the product.

H4: There is no significant relationship between green purchase behaviour and green marketing practices.

H5: There is no significant relationship between green purchase behaviour and quality of the product.

IV. RESULTS AND DISCUSSION

Table 1: Demographics of the respondents

Demographics		Frequency	Percentage
Gender	Male	73	57.9
	Female	53	42.1
Age	18-24	48	38.1

	25-34	48	38.1
	34-45	24	19
	45 above	6	4.8
Annual income	Less than 2.5 lakhs	33	26.2
	2.5 lakhs – 5 lakhs	38	30.2
	5 lakhs – 7.5 lakhs	40	31.7
	7.5 lakhs – 10 lakhs	7	5.6
	Above 10 lakhs	8	6.3
Educational Qualification	Secondary level	26	20.6
	Undergraduate	73	57.9
	Post-graduate	24	19
	Doctorate	3	2.4

Source: Compiled and Structured

From the above table we can see that out of the 126 samples collected, 73 respondents (57.9%) are males and 53 respondents (42.1%) are females. Based on the survey, highest response belongs to age group 18-24 (38.1%) and 25-34 (38.1%); followed by age group 34-45 (24%) and lowest to age group 45 above (4.8%). Out of the 126 respondents, 57.9% are undergraduates, 19% are post-graduates, 20.9% studied till secondary level and 2.4% are doctorate. Out of 126 respondents, 20.6% have annual income less than 2.5 lakhs, 30.2% with income between 2.5 lakhs – 5 lakhs, 31.7% with income between 5 lakhs – 7.5 lakhs, 5.6% with income between 7.5 lakhs – 10 lakhs and 6.3% with income above 10 lakhs.

Descriptive Analysis and Reliability test

This test is performed mainly to check the reliability and internal consistency of the sample data collected for the purpose of the study. The statistical tool used to conduct reliability test is Cronbach's Alpha. Any value above 0.5 is acceptable. The mean score for the variables range from 3.56 to 3.89. So, the Cronbach's alpha values for different variables under study are as under:

Table 2: Descriptive Statistics and Cronbach's Alpha

Variables	Mean	Standard Deviation	No. of items	Cronbach's Alpha
Green purchase behaviour (Dependent variable)	3.70	0.746	3	0.682
Awareness	3.71	0.709	6	0.848
Green values	3.81	0.470	6	0.643
Brand	3.75	0.6	4	0.717
Green marketing practices	3.89	0.558	5	0.739
Quality	3.56	0.857	2	0.561

Source: Compiled and Structured

For all the variables defined in the study, the value of Cronbach's Alpha is found to be greater than 0.5 and thus the data is reliable and internally consistent.

Multicollinearity Analysis

One of the key assumptions of multiple linear regression analysis is that there should be no multicollinearity in the model. Multicollinearity is a situation of high inter-correlation among the independent variables. To check the multicollinearity, simple correlations analysis is conducted among the independent variables. Any value more than 0.7 signifies multicollinearity.

Table 3: Multicollinearity

	Awareness	Green values	Brand	Green marketing practice	Quality
Awareness	1				

Green values	0.670142	1			
Brand	0.554085	0.631803	1		
Green marketing practice	0.56985	0.602821	0.517017	1	
Quality	0.282854	0.211838	0.292189	0.386097	1

Source: Compiled and Structured

For all the parameters defined in the study, the correlation between independent variables is less than 0.7 and thus the data set used for the study depicts no multicollinearity.

Multiple linear regression analysis

Multiple regression analysis is a statistical tool used to determine the relationship between the green purchase behaviour and its determinants (awareness, Green values, brand, green marketing practices and quality). The results are listed as under:-

Model Summary

Table 4: R square				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.840 ^a	.706	.694	.413051

Table 5: ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	49.159	5	9.832	57.627	.000 ^b
	Residual	20.473	120	.171		
	Total	69.632	125			

Table 6: Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.411	.328		-4.299	.000
	Awareness	.268	.075	.254	3.583	.000
	Green values	.554	.123	.349	4.523	.000
	Brand	-.006	.083	-.005	-.070	.944
	Green marketing practices	.332	.091	.247	3.641	.000
	Quality	.205	.047	.235	4.312	.000

From the table, the p value of the awareness ($p=0.000$) is less than the significance level 5%. Thus, we reject the null hypothesis H1 and conclude that there exist a positive relationship between the awareness and green purchase behaviour. Seyrek and Gul (2017), in their research paper provided that knowledge of green products affect the consumer buying behaviour. Chen, Chen and Tung (2018), in their paper also supported that knowledge or awareness about green products has a significant effect on consumer buying behaviour. Similarly, p value of the green values ($p=0.000$), green marketing practices ($p=0.000$) and quality ($p=0.000$) is less than the alpha value of 0.05. Thus, we can reject null hypothesis H2, H4 & H5 and conclude that all the three variables are positively related to green purchase behaviour. Sheikh, Mirza, Aftab and Asghar (2011), in their research paper supported that quality has a positive

significant relationship with green purchasing behaviour. Joshi and Rehman (2015), in their research paper supported that personal green values or belief significantly influence the green purchasing behaviour. Ali and Amir (2016), in their research paper also supported that general environment beliefs has a significant relationship with green purchasing behaviour.

However, p value of the brand ($p=0.944$) is more than the alpha value of 0.05. Thus, we can say that brand is not significantly related to green purchase behaviour. Sheikh, Mirza, Aftab and Asghar (2011), in their research supported that there is no significant relationship between brand and green purchase decision because people are more interested in the price and quality of the products. If a high quality green product is available at competitive prices, people will

buy that particular product even if it does not belong to a brand. Doszhanov and Ahmad (2015), in their research paper supported that there is no significant relationship between green brand image and green purchase behaviour. The reason given behind this was the lack of clear green brand image among individual.

So, after neglecting the brand variable, the multiple regression equation formed is:-

Green purchase behaviour = $-1.409 + 0.556(\text{Green values}) + 0.33 (\text{Green marketing practice}) + 0.267 (\text{Awareness}) + 0.205(\text{Quality})$

The above equation explains that a unit change in the green values, green marketing practice, awareness and quality brings about 56.6%, 33%, 26.7% and 20.5% changes in the green purchase behaviour respectively.

It can be concluded from the results that green values is the most important antecedent affecting the green purchasing behaviour with beta coefficient 0.556. Green marketing practices, awareness and quality with beta coefficients 0.33, 0.267 and 0.205 comes at second, third and fourth respectively. All the four variables explain around 70.6% ($R^2 = 0.706$) variance in the dependent variable.

V. POLICY IMPLICATIONS AND CONCLUSION

Consumers now-a-days are becoming more and more sensitive towards environment protection. People want to know all the information available about the products and accordingly buy those products which are less damaging to the environment. Any industry that wishes to sustain their growth model must focus more on eco-friendly way of production and marketing. So, this paper examines different factors which can affect green purchasing behaviour of the consumers and help various firms to identify correct marketing mix strategy.

From the paper, we conclude that green values, awareness about the product, quality of the product and green marketing practices adopted by the firms are key antecedents affecting the green purchasing behaviour of the general public. In our country, people are more conscious about the price and quality of the products than about the brand of the product. Thus, brand has no significance while purchasing a green product. If a firm wants to have a competitive advantage over other firms, then it is important for them to take into consideration while making decisions related to production and marketing of the products. Green marketing practices like educating consumers, using eco-friendly modes of communication and promotion, using recycle materials for production process, etc. have become quite important now-a-days. So, by introducing such practices in routine can help firms to pursue more and more consumers to buy their green products.

The study thus provides good emphasis on the consumer buying behaviour towards green products. The changing priorities of consumers towards green products and assessment of their green values is what the future studies should focus on. With the start of an era of green marketing, this study has a good focus on how the governments, the manufacturers and the consumers need to change their perceptions & behaviour in order to protect the environment for a better future and to make the venture of green marketing successful.

REFERENCES

- [1] Ali, A., Khan, A. A., & Ahmed, I. (2011). Determinants of Pakistani Consumers' Green Purchase Behavior: Some Insights. *International Journal of Business and Social Science*, 2 (3).
- [2] Asgharian, R. (2012). Green product quality, green customer satisfaction and green consumer loyalty. *International Journal of Research in Management and Technology*, 2 (5), 2249-2263.
- [3] Joshi, Y., & Rahman, Z. (2015). Factors affecting towards green purchase behavior and future research direction. *International Strategic Management Review*, 3, 128-143.
- [4] Juwaheer, T. D. (2012). Analysing the impact of green marketing strategies on consumer purchasing patterns in Mauritius. *World Journal of Entrepreneurship, Management and Sustainable Development*, 8 (1), 36-59.
- [5] Kanchanapibul, M., Lacka, E., Wang, X., & Chan, H. K. (2014). An empirical investigation of green purchase behaviour among the young generation. *Journal of Cleaner Production*, 528-536.
- [6] Kataria, A., Kataria, A., & Garg, R. (2013). Factors affecting green purchase behavior: An in-depth study of Indian consumers. *Journal of Management Research*, 1 (2), 15-41.
- [7] Lee, K. (2008). Opportunities for green marketing: Young consumers. *Marketing Intelligent and Planning*, 573-586.
- [8] Madhavi, S., & Raju, M. (2014). Emerging Trends in India: Green Marketing. *International Journal of Management Sciences*, 2 (12), 552-560.
- [9] Mukherjee, P. (2017). Consumer perspective towards green agricultural marketing practices. *Indian Journal of Economics and Development*.
- [10] Pandey, J., & Ravindra, S. (2012). Factors influencing green purchasing behavior. *JM International Journal of Marketing Management*, 2 (2).
- [11] Peattie, K. (2001). Towards Sustainability: The Third Age of Green Marketing. *The Marketing Review*, 2, 129-146.
- [12] Peattie, K., & Crane, A. (2005). Green Marketing: legend, myth, farce or prophesy. *Qualitative Marketing Research: An International Journal*, 8 (4), 357-370.
- [13] Sheikh, F. Z., Mirza, A. A., Aftab, A., & Asghar, B. (2014). Consumer Green Behaviour Toward Green Products and Green Purchase Decision. *International Journal of Multidisciplinary Sciences and Engineering*, 5 (9).
- [14] Tiwari, J. (2015). Green Marketing in India: An overview. *IOSR Journal of Business and Management*, 33-40.
- [15] Vasanthi, T., & Kavitha, N. (2016). Consumer awareness and purchasing behaviour of green products: An analytical study. *Intercontinental Journal of Marketing Research Review*, 4 (2).