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A Study on Consumer Perspective towards Green Products in Bengaluru City, India

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Abstract

Sustainability is a trending concept of the 21st century. With an increase in global warming and carbon emissions, green marketing gained importance and subsequently encouraging green products, which can further contribute to sustainable environment. The consumer play a major role in determining the demand for any product and since green products are eco-friendly, they have created niche for those environmental consciousness customers. In this context, a study on consumer perspective and attitude towards green products will be quite useful for marketers, to understand both, consumers and market. This study focus on the consumer awareness, attitude and purchase intention towards green products.

Keywords: green marketing, green products, customer awareness, attitude, purchase intention

Introduction

The Paris climate summit has come to an end with a promise to achieve reduction in carbon emissions ‘as soon as possible’, whereas timeframe is not defined, and no firm commitments were made by countries. To please mother earth, the emission reduction should begin with every activity being sustainable in all aspects. The responsibility to subside carbon emissions by reducing greenhouse gasses is on every country. Green marketing is a prominent area working towards sustainability. Since 1990s it is familiar the name of sustainable marketing or ecological marketing. It employs eco-friendly practices by modifying product, changes to production process and consumption of material, employs sustainable packing and also changes advertisement. It means the marketing of products that are environmentally safe, in other words Green Products. These can be described as earth friendly or eco-friendly, bio-degradable or recyclable products.

Green products may range from food products to clothing and electronics, to automobiles and buildings; every product can be made green by changing the raw-material and processes. Several Government’s and organizations have come together by labeling these products as Green, like U.S. Green Building Council, FSC for forest products, Energy Star for electronics, etc.

The customer is termed as King, and can change the direction in which the market is heading and can influence the growth of a product. The consumer can contribute to sustainability by shifting towards green products and influence producers to produce eco-friendly products, i.e. a green consumer. The consumer perspective is the point of view towards a particular stimuli, it is the consumer's attitudes, interests and preferences, intentions towards green products, while the factors influencing customer perspective include social, cultural, political, economic, technological, demographic and natural factors.

Methodology and Purpose of the study

The study covers consumer perspective (point of view) i.e. attitude and motivation towards green products. The study was performed in Bengaluru City, which is considered as an electronic and green city in India, with mostly educated people. A survey has been performed among 500 respondents using Stratified random sampling. The respondents are different: students, employees, self-employed, professionals, retired and housewife. A questionnaire was distributed

with 3-likert scale, demographic factors being independent variable and consumer awareness, attitude and purchase intention being dependent variables. The research work is being performed from 2013 and the sample collected in 2014-2015. Chi-square analysis and ANOVA tests are performed to test the hypotheses using SPSS software.

Green products are priced higher, as the production process costs more and people's knowledge towards green products depend on the education levels. So, this study considers education and income of respondents as independent variables and awareness as dependent, further awareness as independent and consumer attitude and purchase intention towards green products as dependent variables.

Literature review

Consumer behavior is mostly influenced by several internal (demographic) and external factors (product and market), an extensive literature survey has been made to study the consumer behavior with regards to green products. Banumathi Mannarswamy (2011) outlined that consumer's preferences are changing with changing the requirements of the environment. A research was performed to understand the awareness and attitude towards Green products by the consumer's in Coimbatore, and for that purpose a survey of 100 General Public (Men and Women) and 100 Students of Coimbatore city, Tamilnadu was performed and the results found the customers in Coimbatore are aware of environmental problems, but the green purchase behavior is not improved.

In another study Hossein Ataei, Farnaz Taherkhani (2015), studied the consumer behavior towards purchasing green products and investigated the consumer price sensitivity standpoint. The experimental study among Canadian consumers identified that most consumers see added value in eco-friendly products in particular to energy efficient products rather than products with social and environmental benefits. The study also found consumer behavior differs between low-end household products and expensive products like electronics and appliances. Ming-Feng (2011) stated in his dissertation report about the consumers increasing attention towards environmental deterioration and began green consumption to reduce environment pollution. The study included factors like consumers environmental knowledge, attitude, awareness and purchase intentions and observed that the environmental label information awareness has a moderating effect between the

environmental attitude and environmental purchase intention. Yogita Sharma (2011) contributed with a paper regarding the changing's in the consumer behavior towards green products. Her study observed an increasing trend in awareness of green products in consumers and green consumers are influencing most products with improvement in environmental information through eco-labeling, consumer groups and consumer guides. Companies are gaining competitive advantage by integrating green strategies into their operational and marketing activities.

Environment up-gradation is the main objective of green products. Dileep Kumar (2013) has conducted a study to understand people's desire to choose products and services that are better for the environment and the findings indicated a relation between company's green marketing campaigns, brand perception and the buying behavior of consumers. Leslie Lu, Dora Bock, Mathew Joseph (2013) in their study tried to understand the consumption pattern of green products by consumers in the millennium. The study focused on two research questions: What product attributes influence green products purchases? What are the primary reasons for non-adoption of green products? The study found that marketers are developing attention towards recyclability or re-usability, biodegradability and positive health effects stemming from eco-friendly products. A survey found that high pricing was the reason for not choosing green products by most consumers.

Consumer is the focal point for which the whole activity of marketing takes place. João Pedro Pereira Luzio, Fred Lemke (2013) made a study about customer perception of green products and detect product demands of green consumers and their consumption practices. A study was made with Portuguese green customers to understand their reasons to buy green products, required product features, pricing, environment knowledge, use and disposal. The study suggested the marketers should concentrate on the entire market rather than target a niche market based on intangible environment. Joel Jebadurai (2013) analyzed in his study the attitude of students towards green products. He observed that consumer awareness about products is increasing and their purchase attitude change with the market trends. He conducted a survey of 293 college students in Tirunelveli city to understand the attitude and awareness towards green products and found the awareness is low among them and companies should concentrate in promoting awareness among consumers about green products. Wend Marc Lim et

al. (2013) identified green products tag on products doesn't result in actual adoption, purchase and consumption of green products. The paper tried to identify the reason for failure of green products in market place namely; lack of understanding by consumers, ignorance, market opportunity, low customer delivered value, etc. The study implied that the government and organizations has a greater role in cultivating favorable perceptions and attitudes towards purchasing and consumption of eco-friendly products.

Based on the literature review, the following objectives and hypotheses were framed. The Objectives of the study are:

1. To examine the nature of green products in the consumers' perspective;
2. To understand the awareness of consumers towards green products;
3. To study the impact of income and education on consumer awareness, attitude and purchase motive towards green products.

Hypotheses of the study:

H₁: Income has impact on consumer awareness towards green products.

H₂: Education has impact on consumer awareness towards green products.

H₃: Awareness has impact on attitude of consumers towards green products.

H₄: Awareness has impact on purchase intention (action) of consumers towards green products.

Nature of Green Products

Green products can be described as having qualities that protects environment and has replaced chemical ingredients with natural ingredients (Green Retail decisions). These goods are produced with a least impact on environment in an energy-conservative manner or made from recycled components, without the use of chemicals that could harm both, consumer and environment, and supplied to market with recyclable or less packing. Some categories of green products are presented in table no. 1.

Table no. 1. Green features of products

Product	Green product	Green features
Food	Organic food	Produced using environmentally and animal friendly farming methods on organic farms
Beverages	Organic wine	Produced from grapes through organic farming without use of chemicals and pesticides
Textiles	Organic fiber	Produced from cotton, jute, silk or wool obtained from organic farm, free from genetically modified seeds, without use of harmful herbicides and pesticides
Automobiles	Hybrid vehicles, hydrogen fueled, electronic vehicles	Low carbon emissions, follow euro-vi or California's Zero Emission vehicle standards causing less pollution
Electronics	Energy efficient products- CFL, LEDs bulbs	Low power consumption and less release of gasses in electronics like television, refrigerator, etc.
Plastics	Bioplastics	Biodegradable, producing plastic bags and products with thickness above 20micron which is recyclable
Paints	Lead free paints, paints with zero volatile organic compounds (VOC)	Release low level toxins after application, chemical free
Perfumes	Eco-friendly perfumes	Without chlorofluorocarbons (CFCs) propellants, using hydrocarbons and nitrous oxide as propellants
FMCGs	Herbal soaps, cosmetics, shampoos, etc.	Without chemicals, artificial colors and compounds harming skin and complexion

The product and production process should help in upgrading environmental quality, but there is fear of “Green Washing” where by companies adopt green practices outwardly or name product just to propagate they are green to increase profit rather than real concern for environment and do very little for the environment benefit to attract the niche eco-friendly customers segment, i.e. green consumers. So, eco-labeling has become familiar with green products. Eco-label is the mark inscripted on products, which define the environmental aspects of consumer products that quantify pollution or energy consumption by way of index scores or units of measurement or reduction of harm to the environment. Product specific labels like Energy star, EU Eco label, Nordic Swan, German Blue Angel, Forest Stewardship Council (FSC), etc. and General labels include recyclable, eco-friendly, low energy, recycled content or biodegradable.

Results of the study

Consumer Awareness towards green products

Awareness of consumers creates interest towards the products. Once the consumer gain interest towards products, he will understand the pros and cons of the products and that create desire to possess the products which pushes the consumer towards action i.e. buy the product. It can be termed as Awareness – Interest – Desire – Action, AIDA principle. This study combines interest and desire as attitude, therefore AAA model Awareness – Attitude – Action. This study considers education and income demographics of consumers.

As stated earlier Bengaluru population is well educated, the sample constituted of graduates and post-graduates with 85% and the remaining 15% are mostly students in high school, a very small proportion of respondents are high school dropouts. Income is another important variable. About 45% of the respondents have an annual income of ₹ 6lakh and above, and around 28% of them are students and are yet to start earning. Only 3% of respondents are in pay scale of ₹ 2-4 lakh and 23% are earning ₹ 4-6 lakh. A high proportion of 80% respondents know a lot about green products and only 10% of respondents know just somewhat about green products; almost 50% of the respondents feel that green products shouldn't be harmful to the environment, minimize waste and conserve energy, 30-40% of the respondents feel that green products should probably be made with bio-

degradable material, and less than 20% of the respondents stated don't know the required features of green products.

From the total 500 respondents, only 354 purchase green products, 146 respondents doesn't buy for various reasons like lack of trust in producer/product, too expensive or lack of awareness/knowledge and 50-60% of the respondents buy green products to save energy, to protect environment and for a better quality of life. 35% of the respondents who buy green products feel these features are moderately important and 5-10% of those buying green products feel these features are likely important.

Testing of Hypotheses

Decision Rule

Null hypotheses is accepted if p value is greater than 0.05 ($p > 0.05$) and reject alternate hypotheses and vice-versa.

H₁: Income has relationship with consumer awareness towards green products.

This hypothesis helps to identify if there is any relationship between the income of consumers and the awareness towards green products.

H₀: There is no significant relationship between the income of consumers and the awareness towards green products.

H₁: There is a significant relationship between the income of consumers and the awareness towards green products.

Chi-square test is run in SPSS to study the relationship at a 5% Significance level.

Table no. 2. Income * aware of green products

			Aware of green products			
			Know a lot	Know some what	Don't know much	Total
Your income	0-200000	Count	101	17	25	143
		Expected Count	114.1	14.9	14.0	143.0
	200000-400000	Count	12	2	2	16
		Expected Count	12.8	1.7	1.6	16.0
	400000-600000	Count	91	13	14	118
		Expected Count	94.2	12.3	11.6	118.0
	600000-800000	Count	87	10	4	101
		Expected Count	80.6	10.5	9.9	101.0
	800000-1000000	Count	67	6	4	77
		Expected Count	61.4	8.0	7.5	77.0
	>1000000	Count	41	4	0	45
		Expected Count	35.9	4.7	4.4	45.0
Total		Count	399	52	49	500
		Expected Count	399.0	52.0	49.0	500.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	23.269(a)	10	.010
Likelihood Ratio	27.414	10	.002
Linear-by-Linear Association	20.832	1	.000
N of Valid Cases	500		

The Pearson Chi-square value (p) is 0.01 is less than 0.05, $p < 0.05$, therefore we will reject null hypotheses (H_0) and accept alternate hypotheses (H_1). Thus, we can state that income have impact on the awareness of consumers towards green products.

H₂: Education has impact on consumer awareness towards green products.

Since education provides knowledge about products, we try to find the relationship between the education level of the consumers and their awareness towards green products.

H_0 : There is no significant relationship between the consumer's education and awareness towards green products.

H_1 : There is a significant relationship between the consumer's education and the awareness towards green products.

Chi-square test is run in SPSS to study the relationship at 5% Significance level:

Table no. 3. Education qualification * aware of green products

Your education qualification		Aware of green products			Total
		Know a lot	Know some what	Don't know much	
High school	Count	8	3	9	20
	Expected Count	16.0	2.1	2.0	20.0
Under graduate	Count	36	6	9	51
	Expected Count	40.7	5.3	5.0	51.0
Graducate	Count	175	21	24	220
	Expected Count	175.6	22.9	21.6	220.0
Post graduate	Count	180	22	7	209
	Expected Count	166.8	21.7	20.5	209.0
Total	Count	399	52	49	500
	Expected Count	399.0	52.0	49.0	500.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	43.859(a)	6	.000
Likelihood Ratio	35.204	6	.000
Linear-by-Linear Association	33.682	1	.000
N of Valid Cases	500		

The Pearson Chi-square value (p) is .000 is less than 0.05 i.e. $p < 0.05$, therefore we will reject null hypotheses (H₀) and accept alternate hypotheses (H₁).

Thus, we can state that consumers education have an impact on the consumers awareness towards green products. As green products needs knowledge about environment, ingredients and production processes, the less educated consumers have a low awareness towards green products than the others.

H₃: Awareness of consumers has impact on the attitude of consumers towards green products.

The knowledge and understanding of consumers influences their attitude and perspective towards green products.

H₀: There is no significant relationship between awareness and attitude of consumers towards green products.

H₁: There is a significant relationship between awareness and attitude of consumers towards green products.

Anova test is run in SPSS to study the relationship at 5% Significance level:

Table no. 4. Awareness * Attitude towards green products

ANOVA		Sum of Squares	df	Mean Square	F	Sig.
Not harmful to environment	Between Groups	23.397	2	11.699	25.840	.000
	Within Groups	225.011	497	.453		
	Total	248.408	499			
Waste minimization	Between Groups	42.420	2	21.210	50.933	.000
	Within Groups	206.962	497	.416		
	Total	249.382	499			
Energy conservation	Between Groups	52.874	2	26.437	58.118	.000
	Within Groups	226.076	497	.455		
	Total	278.950	499			
Bio-degradable material	Between Groups	7.595	2	3.798	6.354	.002
	Within Groups	297.053	497	.598		
	Total	304.648	499			

Since the ANOVA value (p) is less than 0.05, $p < 0.05$ we reject null hypotheses (H_0) and accept alternate hypotheses (H_1). Hence, we conclude that awareness have an impact on the consumers attitude towards green products. Those who know much about green products consider they should not be harmful to environment, minimize waste, made of bio-degradable material and help conserve energy.

H₄: Awareness of consumers has impact on purchase intention of consumers towards green products.

Awareness of consumers creates a positive opinion and attitude towards green products and can influence the consumer purchase intention.

H_0 : There is no significant relationship between awareness and purchase intention of consumers towards green products.

H_1 : There is a significant relationship between awareness and purchase intention of consumers towards green products.

ANOVA test is run in SPSS to study the relationship at 5% Significance level:

Table no. 5. Awareness * Purchase intention towards green products
ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
To save energy	Between Groups	.430	2	.215	.539	.584
	Within Groups	140.045	351	.399		
	Total	140.475	353			
To protect environment	Between Groups	.223	2	.111	.306	.737
	Within Groups	127.870	351	.364		
	Total	128.093	353			
For better quality of life	Between Groups	.985	2	.493	1.038	.355
	Within Groups	166.622	351	.475		
	Total	167.607	353			

Since the ANOVA value (p) is more than 0.05, $p > 0.05$ we accept null hypotheses (H_0) and reject alternate hypotheses (H_1). Hence, we conclude that awareness about green products have no impact on purchase intention or purchase attitude of consumers towards green products.

Discussion

The market is a combination of consumers with different knowledge and awareness. The study observed high income and education of consumers have more exposure to various products and low income consumers are traditionally using the same old products. The current study supported H₁ and H₂ stating income and education have impact on awareness of green products. The study was consistent with Rohit Nema (2011), who stated educated consumers tend to be aware of eco-friendly products and their income supports their purchase.

Awareness creates attitude towards green products and results in ultimate action towards purchasing the products, results of H₄ stated awareness has no impact on purchase action which was consistent with the study made by Banumathi Mannarswamy (2011), which identified consumers are aware of environment problems, but the green purchase behavior is not improved; the results are in contrary with the study made by Norazah Mohd Suki (2013), who stated there is a significant relation between consumer awareness and their purchase of green products.

Conclusion

Green products are environmental friendly products and help in promoting the sustainability of the environment. Any product in the market can be successful with customer participation and encouragement. Market is a mix of several products and consumers with different demographics and knowledge. The consumers' awareness should be created by the marketers by different promotional means to initiate the consumer awareness. Such awareness will create positive attitude towards goods and drive them towards purchase of goods, i.e. Awareness-Attitude-Action.

The present study made an insight into products with green features (eco-friendly) and understands consumer perspective, their opinion and attitude towards green products. The study identified the relationship between income, education and awareness of consumers towards green products and observed positive relationship between them. The study also identified a relationship between awareness, attitude and action towards green products, and observed positive relationship between awareness and attitude, but no relationship between awareness and purchase intention towards green products.

The concern for global warming has necessitated a high promotion of eco-friendly initiatives and as a result, green products

concept is an upcoming aspect in India, which is an attractive market on the global map. Undoubtedly, further studies in this regard can be made on broader aspects like acceptance levels, satisfaction and recall of green products by consumers in India.

Bibliography

- Banumathi, M. (2011). "A study on the environmental awareness and the changing attitude of the students and public in Coimbatore towards green products." *Research Journal of Social Science and Management*, 1(7):p. 52-57
- Cai, M. F. (2011). "Ecological label information effect on consumer behavior." *Thesis retrieved from National Central University Library Electronic Theses and Dissertation System* http://thesis.lib.ncu.edu.tw/ETD-db/ETD-search-/view_etd?URN=984203029
- Dileep, K. M (2013). "Does Green Marketing works with consumers?" *Wulfenia Journal*, 20 (3): p. 329-347
- Hosseini, A., Farnaz, T. (2015). "Analysis of Canadian consumer spending patterns towards green products." *International Journal of Marketing Studies*, 7(2)
- João Pedro Pereira, L., Lemke, F. (2013). "Exploring green consumers' product demands and consumption processes: The case of Portuguese green consumers." *European Business Review*, 25(3): p. 281 – 300
- Jebadurai, J. (2013). "A Study on attitude of college students towards green products in Tirunelveli city." *Dissertation submitted in partial fulfillment of Manonmaniam Sundaranar University for the award of M. Phil*
- Lu, L., Bock, D., Joseph, M. (2013). "Green marketing what the millennium buys." *Journal of Business Strategy*, 34(6): p. 3-10
- Norazah Mohd Suki (2013). "Green Awareness Effects on Consumers Purchasing Decision: Some insights from Malaysia." *IJAPS*, 9(2): p. 49-63.
- Rohit Nema (2011). "Green Buying Behavior in Indian Consumers Study". *Marketing & Strategy Articles*, published on 14 Nov.
- Weng, M. L., Ding, H. T., Woo, K. N., Chin, J. H., Wei-Xiang, A. B. (2013). "Why Green Products Remain Unfavorable despite

Being Labeled Environmentally Friendly?“ *Contemporary Management Research*. 9(1): p.35-46

Yogita, S. (2011). “Changing consumer behavior with respect to green marketing.” *Zenith International Journal of Multidisciplinary Research*. 1(4): p.152-162

www.greenretaildecisions.com, Green Retail Decisions - Sustainable Retail trends

www.cop21.gouv.fr/en/, COP21 | United Nations conference on Climate change