

# The Role of Eco Labels on Consumers' Purchase Decision – A Study With Respect to Electronic Home Appliances

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**ABSTRACT** - The present study aims to provide information about the effect of eco labels on consumers purchasing behavior. The increase in public concern in relation to their surrounding natural environment has started to show off their consumption behaviors and led to the creation of a new group of consumers - the green consumers. Green production and consumption are a necessity of this century because of dreadful environmental degradation and changing consumer behaviour. Consumer behaviour is a dynamic factor in order to cope up with; new strategies and ideas are developed from the part of manufactures to sustain in the highly competitive markets.

**KEY WORDS:** Consumer Behaviour, Eco Awareness, Eco Labels, Green Consumer

## I. INTRODUCTION

Businesses are being encouraged adopting more environmentally friendly business practices and are carefully monitored for their environmental performance by the influence of social, political and legal pressures for environment protection (Lampe and Gazda, 1995 & Prakash, 2002). Businesses that offer products which are manufactured and designed with an environmental marketing mix have a long-term competitive advantage (Wang, 2012). Sustainable marketing strategy helps in competitive advantage and cost savings (Kumar et al; 2012). Consumers will increasingly favour products and services from companies with strong sustainability practices. A major consequence of China's and India's rapid growth will be ongoing depletion of natural resources. Aspiration for economic progress and better life style will cause shortage in vital commodities. A better understanding of consumers buying behaviour will allow businesses to acquire more market-applicable approach to sustain in the competitive market. Individual consumers are asked to incorporate environmental or green factors into their buying behaviour, be it by consuming less, "thinking green" and are willing to pay more for environmentally friendly products consuming locally, purchasing environmentally friendly products, recycling and sharing, among many approaches to improved, greener consumer behaviour (Sarumathi, 2014). Consumers today are increasing in number. The increasing numbers of consumers who prefer and are willing to buy these products are subjected to the buying process. Consumers have different buying behaviors and these behaviors are constantly changing as a result of

the availability of best alternatives to choose from.

The main goal of the modern business is to understand and satisfy the needs of its buyers in well-defined target markets. Hence, green marketing from a business perspective should not be viewed as a way to support the environment but as a way to strengthen business position on the market by satisfying the needs of the growing amount of "green customers" (Chamorro et al; 2009) providing them with the "extra ecological value" they expect and, by doing so, reinvigorating the customer relationship. At the same time, understanding customer's needs is only one pillars of modern marketing.

Many individuals may have high ecological concern, but feel that the preservation of the environment is the responsibility of the government and big corporations. Green consumers or

Environmentally friendly consumers refer to those consumers who have examined the effect of goods production and consumption in their purchasing behaviour and relevant activities in the markets and decide accordingly. The green consumer is considered as anyone whose behaviour is influenced by environmental concerns and the environmental concern that consumers display in searching for, purchasing, using, evaluating, and disposing of products is considered as green consumer behaviour. The consumers may be interested in greening, but cannot identify it. Many consumers cannot identify the steps a business had taken to go green. This poses a challenge for the green revolution because if people are not aware of what greening entails, they are not likely to buy green products. In addition, consumers are often not willing to

pay more for green products. This led to a point where the environment has to come first and people have to be prepared to pay the price themselves rather than putting too much responsibility on their governments to make a difference

## II. THEORETICAL BACKGROUND

Green purchase behaviour is derived from the consumer as a result of their natural environment orientation, ecological knowledge and environmental concern on their attitudes (Mostafa, 2007) and the factors affected are environmental values and belief, environmental regulations and environmental knowledge (Smith, 2013 & Mustafa, 2006). Some authors argue consumer green buying behaviour as a result of perceived product price and quality (DSouza, 2007), company's environmental reputation (Schwepker and Cornwell, 1991), environmental concerns (Phau and Ong, 2007) and credibility of environmental advertising (Thøgersen, 2000). Consumers who live in balance with nature choose products that create less pollution, able to recycle and limit the consumption level. Consumers have their own responsibility towards nurturing environment (Ramanlal, 2015). As far as India is concerned, green marketing concept is in its infanticide stage (Sharma, 2011) and the Indian „eco mark“ scheme does not make any significant impact on Indian domestic market (Jamalpuria, 2012). The study conducted by (Nath et al; 2012) suggests more promotional techniques to penetrate the habit of using green products in Indian society.

Nowadays consumers are more sensitive in their environmental attitudes, preferences and purchases (Sarigollu, 2009). Some groups of consumers are willing to pay more for green products (Peattie, 2001). Different kinds of obstacles are existed in case of green consumer behaviour. The main obstacle in green product consumption is financial barrier i.e., high cost of green products (Biswas and Roy, 2015; Ageyman, 2014 & Geetha and Jenifer, 2014). Self awareness of green products enriches the sale of green products (Sharp and Wheeler, 2013) but this is comparatively low (Siringi, 2012). Eco labels provide information about the green friendliness of the products and encourage governments, manufactures and dealers to improve the environmental standards of products (Santos et al; 2006) through which boost up sustainable consumptions. A study by Teisl, Roe and Hick (2002) provided market-based evidence that consumers can respond positively to eco-labels and consequently contributed to the increased market share of the product concerned. Grankvist, Dahlstrand and Biel (2004) also found that information about environmental outcomes (which were either negative or positive) provided by eco-labels did influence product preference, especially those with strong concern for the environment. D'Souza et al., (2006) reported that eco-labels are increasingly being used by firms to promote the identification of their green products. The study conducted

by (Gasper and Antunes, 2011) reveals that women are more consider towards environmental aspects and men incline towards technological innovation. In a study by Nik Abdul Rashid (2009), awareness of eco-label has been found to yield a positive effect on consumer's green product purchase intention. Therefore, it is established from several previous studies that eco-labels have influence on green product preferences especially those with strong concern for the environmental.

### NEED FOR THE STUDY

In case of electronic home appliances, the role of eco labels is more important as, the disposal of such electronic equipments is the major contributor of e-waste. By adopting eco labelling strategy, manufactures are able to contribute their share towards carbon foot print and to make a sense of awareness about environmental habits in purchase among consumers.

### OBJECTIVES OF THE STUDY

The main objectives of the study are

- (1) To study the consumer behaviour towards purchase of eco friendly electronic home appliances,
- (2) To examine the role of eco labels on electronic home appliance purchase decisions
- (3) To analyze the relation between awareness of eco labels and demographic factors.

## III. METHODOLOGY

For the purpose of the study both primary and secondary data sources were used. Questionnaire was used to collect primary data. The questionnaire was designed with questions based on demographic profile of respondents, consumer purchase behavior, factors influencing their purchase and their willingness to pay more for eco-friendly home appliances. Secondary data was collected from journals both national and international, published books etc. The sample selected for the study is teaching and non-teaching staff of a Post Graduate College in Hyderabad. The samples are selected from these groups because of their better education background and that they are well equipped with the new product features and their power of purchasing. The size of sample is 30. The various statistical tools like frequency, mean, tabulation and chi-square have been used for the purpose of analysis and testing of hypothesis.

### HYPOTHESIS

To find out the role of eco labels on the buying decision of consumers, hypotheses are set as follows:

H1: There is no significant relation between buying decision of consumers and eco labels on electronic home appliances

H2: There is no significant relationship between

demographic variables and awareness of eco labels.

H2a: There is no significant relation between age of consumers and awareness of eco labels.

H2b: There is no significant relation between gender of consumers and awareness of eco labels.

H2c: There is no significant relation between education of consumers and awareness of eco labels.

H2d: There is no significant relation between income of consumers and awareness of eco labels.

#### IV. DATA ANALYSIS AND INTERPRETATION

Data collected through questionnaire analyzed by using statistical tools such as graphs, tables, percentages, chi-square. The questionnaire divided in to two sections- first part contains questions to know the personal, socio-economic details of respondents. The second part of the questionnaire contains questions to test their awareness of eco labels, role of eco labels on the buying decisions, source of information that know about eco labels and the various factors considered while taking a purchase decision.

**Table 1 - Socio- Economic profile of sample customers**

Sl. No:	Criteria	Number	%
1	Gender		
	a. Male	14	47
	b. Female	16	53
2	Age		
	a. 20-25	3	10
	b. 25-30	5	17
	c. 30-35	4	13
	d. 35-40	7	23
	e. 40-45	6	20
	f. 45-50	2	7
	g. 50-55	2	7
	h. 55-60	1	3
3	Level of Education		
	Post Graduate		
	a. Male	8	27
	b. Female	10	33
	Above P.G.		
	a. Male	6	20
b. Female	6	20	

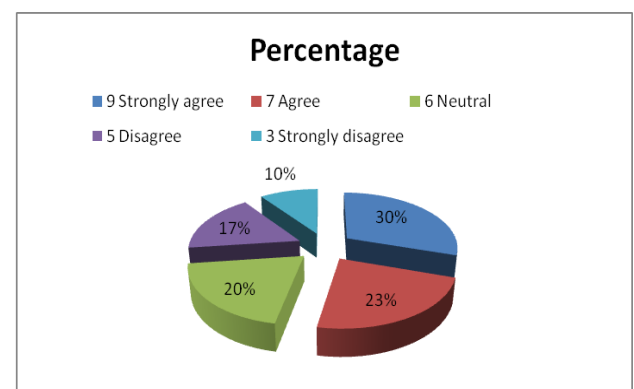
4.	Income per Month			
			M F	M F
	a. 10000-20000	0	10	3
	b. 20000-30000	5	5	17
	c. 30000-40000	9	10	30
5.	Type of Family			
	a. Nuclear		21	70
	b. Joint		9	30

The Table 1 shows that female respondents are more (53%) than male respondents (47%). Most of the respondents are from nuclear family (70%). 23% of the respondents are including in the age category of 35-40. 33% of the respondents are including in the category of 30000-40000 income level. In the case of level of education, post graduate male and female respondents are 27% and 33% respectively. 20% of male and female respondents are including above post graduates each.

#### Eco labels are beneficial in purchase of electronic home appliances

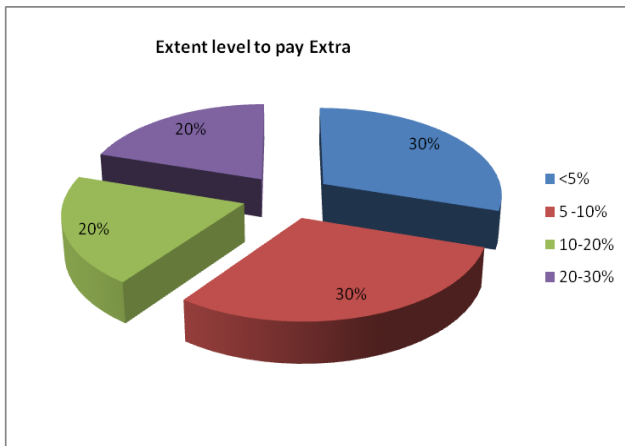
Sl. No:	Number of respondents	Opinion Likert [X]	Score [Y]	Rank
1	9	Strongly agree	5 45	I
2	7	Agree	4 28	II
3	6	Neutral	3 18	III
4	5	Disagree	2 10	IV
5	3	Strongly Disagree	1 3	V

**Table 2**



**Table 3 Willingness to bear extra price level for energy labeled home appliances**

Sl.No	Price Level	No. of Respondents	No. of Respondents (%)
1	<5%	9	30
2	5-10%	9	30
3	10-20%	6	20
4	20-30%	6	20



The pie diagram (Figure 2) shows that 60% of the sample respondents are ready to pay extra for energy labeled home appliances. 40% of the respondent's group would not ready to make extra payment. Table 3 explains that 30% of the respondents are ready to make <5% extra for these products. 30% of the respondents are ready to bear 5-10% extra price level. 20% of consumers are in the group of bearing 10-20% extra cost and another 20% would be ready to pay 20-30% extra cost.

### V. HYPOTHESIS TESTING

Chi-square test is used to test the hypothesis to find out the role of eco labels on the buying decision of consumers.

Ho: There is no significant relation between buying decision of consumers and eco labels on electronic home appliances

Calculated chi square value= 7.96 Table value @ 5% significance= 7.81.

7.96 > 7.81 i.e.; calculated chi square value is more than table value. So the hypothesis rejected.

Chi square test is used to find out the relationship between demographic factors such as age, gender, education and income and the awareness about eco labels. The hypothesis set as follows:

a) Ho: There is no significant relation between age of

consumers and awareness of Eco-labels.

b) Ho: There is no significant relation between gender of consumers and awareness of eco labels.

c) Ho: There is no significant relation between education of consumers and awareness of eco labels.

d) Ho: There is no significant relation between income of consumers and awareness of eco labels.

The result of test shown in Table 4 (Level of significance 0.05) as follows

Attributes	Calculated $\chi^2$ value	d.o.f	Table Value	Conclusion
Age	24.142	7	14.1	Reject H0. There is a high significant difference between age and awareness of eco labels
Gender	3.81	1	3.84	Accept H0. There is a no significant difference gender and awareness of eco labels
Education	3.94	1	3.84	Reject H0. There is relatively less significant difference between education and awareness of eco labels
Income	6.1	2	5.99	Reject H0. There is relatively less significant difference between income and awareness of eco labels

**Table 4** Level of significance 0.05

### VI. FINDINGS

The first objective of the study is to examine the consumer behaviour towards eco friendly electronic home appliances. 93% of the sample respondents are aware about eco labels and 7% are not familiar with the term eco labels. In case of male respondents, 79% believe in the credibility of eco labels and 21% not believe in the credibility of eco labels. But in the case of female respondents, 100% believe in the credibility of eco labels.

When shopped for electronic home appliances, 30% of the respondents strongly agree with the eco friendly factors. 23% agree, 20% are neutral, 17% disagree and 10%



strongly disagree. 60% of the respondents are ready to pay extra for eco friendly factors. The level of price they bear extra for eco friendly electronic home appliances as explained in the Table 3.

The role of eco labels on the consumers buying decision was studied with the help of chi square test. The calculated chi square value  $7.96 > 7.81$  table value. The null hypothesis ( $H_0$ ) rejected in this case with the explanation of consumers buying decision will be affected by the eco labels on the electronic home appliances.

The third objective of the study was to find out the relationship between demographic factors and eco labels awareness, chi square test was used to study it. The result is as follows: - in case of age calculated value  $24.142 > 14.1$  table value i.e.; reject  $H_0$  with the explanation of age of respondents have a significant relationship between eco awareness. In case of gender, calculated value  $3.81 < 3.84$  table values,  $H_0$  accepted by revealing that there is no significant relationship between gender and eco awareness. In case of education, calculated value  $3.94 > 3.84$  table value, proving that better education nourishes eco awareness. In case of income, calculated value  $6.1 > 5.99$  table value, proving that higher level of income enriches the eco awareness that leads to eco friendly purchasing.

## VII. CONCLUSION

The study of consumer behavior towards energy labeled electronic home appliances was conducted in various dimensions. The sample area of the study is much familiar with term eco label. On the basis of the analysis, it is concluded that most of the respondents are aware of eco-labels and have a positive attitude towards them. The data shows that consumers are intended to pay extra price for the product in regard to its eco-friendly nature. There is a positive relationship between age and eco-label awareness and also a strong relationship exists between education and eco-friendly behavior. The study also concludes that high income level leads to environmental awareness, which leads to eco-friendly purchasing behavior.

## REFERENCES

- [1] Agyeman, C. M. (2014). Consumers buying behaviour towards green products: An exploratory study. *International Journal of Management Research and Business Strategy*, 3 (1), 188-197.
- [2] Biswas, A; Roy, M. (2015). Leveraging factors for sustained green consumption behaviour based on consumption value perceptions: Testing the structural model. *Journal of Cleaner Production*, 95, 332-340.
- [3] Chamorro, A; Rubio, S; & Miranda, F, J. (2009). Characteristics on research on green marketing. *Business Strategy and the Environment*, 18, 223-239.
- [4] DSouza, C; Taghian, M; & Khosla, R. (2007). Examination of environmental belief and its impact on the influence of price, quality and demographic characteristics with respect to green purchase intention. *Journal of Targeting, Measurement and Analysis for Marketing*, 15(2), 69-78.
- [5] Gasper, R; Antunes, D. (2011). Energy efficiency and appliance purchases in Europe: Consumer profiles and choice determinants. *Energy Policy*, 39, 7335-7346.
- [6] Geetha,D; Jenifer, A. (2014). A study on consumer behaviour towards purchase on eco friendly products in Coimbatore. *Abhinav International Monthly Refereed Journal of Research in Management & Technology*, 3(3), 1-8.
- [7] Jamalpuria, A. (2012). On voluntary eco labelling and fiscal incentives. *Economic Letters*, 117,110-114.
- [8] Kumar, V; Rahman, Z; Kazmi, A.A; & Goyal, P. (2012). Evolution of sustainability as marketing strategy: Beginning of new era. *Procedia / Social and Behavioural Sciences*, 37, 482-489.
- [9] Lampe, M; Gazda, G, M. (1995). Green marketing in Europe and United States: an evolving business and society interface. *International Business Review*, 4(3), 295-312.
- [10] Mostafa, M, M . (2006). Antecedents of Egyptian consumers green purchase intentions. *Journal of International Consumer Marketing*, 19(2), 97-126.
- [11] Mostafa,M, M. (2007). A hierarchical analysis of the green consciousness of the Egyptian consumers. *Psychology & Marketing*, 24 (5), 445-473.
- [12] Nath,V; Kumar, R; Agrawal, R; Gautam, A; & Sharma, V. (2012). Green behaviours of Indian consumers. *International Journal of Research in Management, Economics and Commerce*, 2 (2), 488-498.
- [13] Peattie, K. (2001). Golden goose or wild goose? The hunt for the green consumer. *Business Strategy and the Environment*, 10(4), 187-199.
- [14] Phau, I; Ong, D. (2007). An investigation of the effects of environmental claims in promotional messages for clothing brands. *Marketing Intelligence and Planning*, 25 (7), 772-778.
- [15] Prakash, A. (2002). Green marketing, public policy and managerial strategies. *Business Strategy and the Environment*, 11, 285-297.
- [16] Ramanlal, H. (2015). Green consumer: Eco friendly behaviour. *Paripex- Indian Journal of Research*, 4(6), 545-547.
- [17] Sarigollu, E.(2009). A cross country exploration of environmental attitudes. *Environment and Behaviour*, 41(3), 365-386.
- [18] Sarumathi, S. (2014). Green purchase behaviour- A conceptual framework of socially conscious consumer behaviour. *Global Journal of Finance and Management*, 6 (8), 777-782.
- [19] Schwepker-Jr, C,H; Cornwell, T,B. (1991). An examination of ecologically concerned consumers and their intention to purchase ecologically packaged products. *Journal of Public policy and Marketing*, 10(2), 77-101.
- [20] Sharma,Y. (2011). Changing consumer behaviour with respect to green marketing – A case study of consumer durables and retailing. *International Journal of Multidisciplinary Research*, 1(4), 152-162.
- [21] Sharp, A; Wheeler, M. (2013). Reducing householders grocery carbon emissions: carbon literacy and carbon label preferences. *Australian Marketing Journal*, 21, 240-249.