INFLUENCE OF ECO LABELS ON CONSUMERS' PURCHASE INTENTION: AN EMPIRICAL STUDY CONDUCTED IN KOLKATA

Dr.Debarun Chakraborty
Assistant Professor, Department of Management & Social Science
Haldia Institute of Technology, Haldia, West Bengal, India

Abstract

Consumer choices reflect not only price and quality preferences but also social and moral values, as witnessed in the remarkable growth of the global market for organic and environmentally friendly products. Environmentally friendly (also eco-friendly, nature friendly, and green) are synonyms used to refer to goods and services, laws, guidelines and policies considered to inflict minimal or no harm on the environment. To make consumers aware, environmentally friendly goods and services often are marked with eco-labels. Over the years the company has greatly expanded its range of environmentally friendly promotional products. The purpose of this article is to find out the influence of eco-labels on consumers' purchase intention. Based on choice experiments conducted via face-to-face interviews with 180 participants in Kolkata, Indian consumers' preferences and motives for purchasing green-labeled products are examined in this study. The heterogeneous effects of each motivating channel are also investigated. The results reveal that there is a significant association between customers' label attitude and perceived social value with purchase intention but there is no significant association between perceived private value and purchase intention.

Keywords: *eco-labeling, eco-environmental concern, label attitude, purchase intention, perceived social value, perceived private value*

Introduction

Eco-labels influence consumer behavior in two ways. First, they introduce green as a considered attribute at the point of sale. Second, they enable consumers to comparison shop based on green. Over the past few years, there have been many new eco-labels launched by governments, manufacturers and retailers. Interestingly, the Natural Marketing Institute's (2007, LOHAS Consumer Trends Database report) determined that not all eco-labels have the same impact. In fact, consumers indicate that they are more likely to make eco-friendly purchase decisions if the eco-labels are also widely recognized and trusted brands in of themselves. Familiar labels for programs have a more significant influence on consumer behavior than others.

While such a finding reinforces the value of eco-labels, it does challenge the notion that companies and retailers should necessarily launch proprietary labels to differentiate themselves on green. Like all brands, eco-labels take significant time and resources to build. Moreover, given the sensitivities regarding green washing, for-profit entities may have to overcome a higher hurdle than government or a non-profit organization given the appearance of conflict if proprietary labels adorn their own products. Marketing Green also recommends that retailers simultaneously push for industry-wide labels. While some retailers may consider proprietary labels as a competitive differentiator, it is likely that broadly recognized labels will accelerate consumer adoption while reduce the cost to support them.

Moreover, retailers should differentiate themselves by sourcing more green products. Arguably, this is one of Wal-Mart's strategic priorities today. Greater variety combined with recognized eco-labels will likely drive more sales as well as consumer loyalty. In the end, this approach is likely to have more impact for both business and the environment. As such, Marketing

Green recommends that product companies and retailers focus on disclosing product information about environmental impact to differentiate them in the market rather than trying to define new green labels. Disclosures provide consumers with information that can inform purchase decisions rather than certify a product's greenness. This is what HP has done with its launch of Eco Highlights labels on its products.

Review of Literature

One of the significant green marketing tools used is the eco-label on environmentally friendly products. Environmental labels are used by marketing to promote the identification of green products (D'Souza C, Taghian M, Lamb P. 2006). Labels consist of a range of small pieces of paper, up to very complex diagrams that are included as a part of the goods packaging. Labels can contain simply the brand products or a range of varied information. In some cases, the seller may want a simple 'Label', but law obliges them to provide additional information (Kotler, 2010). Sammer and Wustenhagen (2006), identify the eco-label as an important tool to allocated asymmetry information between sellers and buyers. They also state that labels are a signal to accomplish two main functions for consumers: an information function that informs them about intangible product characteristics, such as product quality and a value function, which provides a value in themselves (e.g. prestige).

Rex and Baumann (2007), define eco-labels as a tool for consumers to facilitate making a decision to select environmentally-friendly products, it also enables them to know how products are made. Many of the studies on eco-labels look for ways to make them effective in consumers' purchase behavior and environmentally safe products. Sometimes consumer distrust of eco-labels can be expressed through their ignorance in identifying eco-labels and the regulations that companies follow to place authorized labels on their products (Iyer G., 1999). Nik Abdul Rashid's (2009) study has shown that awareness of eco-label has a positive effect between the knowledge of a green product and consumer's intention to purchase. However, other studies indicate that although the functions of labels are recognized by some consumers, this does not automatically lead them to green purchasing decisions.

Few studies have investigated the link between environmental labeling and a consumer's intention and behavior to purchase environmentally friendly products (Nik Abdul Rashid NR., 2009, D'Souza C., 2004). In addition, D'Souza C., (2004) explains that little is understood about the effect of label information on a consumer's intention to purchase environmental friendly products. Kuhn (1999) illustrates that these situations will emerge from growth in pollution from enlarging the market as a result of achieving greater market share through manufactured environmental friendly products.

According to a prior study by Rahbar and Abdul Wahid (2010), Malaysian consumers consider glass based, household cleaning, aerosols, pesticides and plastics as non-green product categories, with a high level of impact on the environment. Hence, it can be predicted that consumers will respond positively to products with environmental features, known as 'eco-branded' products. Earlier research in western countries supports the idea that consumers in the USA and Germany take positive action to eco-branded products, such as the Body Shop and green energy (Wustenhagen R, Bilharz M., 2006).

Hartmann et al. (2005) explained that the significant factor motivating consumers to change actual purchase behavior to buy eco-friendly products is emotional brand benefits. list different

types of emotional brand benefits as: a feeling of well-being, auto-expression benefits through the socially visible consumption and nature-related benefits.

Knowing about consumers' brand purchase decisions are very important for marketers and market researchers. This effect is known as brand equity. Brand equity can be defined as data that has different effects on consumer response to the marketing. Green brands that generally focus on the environment should be used to highlight the status of green products, in a similar way to non-green products (Aaker DA., 1992). The following hypotheses have been derived from the literature review:

H_1: There is a significant association between customers' label attitude and purchase intention.

H_2: There is a significant association between perceived social value and purchase intention

H_3: There is a significant association between perceived private value and purchase intention

Objective of the Study

- To study the influence of eco-labels on consumers' purchase intention

Research Methodology

Descriptive Research has been used to conduct the study and the type of research design is Cross-sectional. The primary data has been collected for the study through a pre-tested questionnaire whereas all the secondary data has been collected from doctoral theses, magazines, research articles, credible sources etc. In this study researchers have collected the samples from Kolkata, capital of West Bengal. The questionnaires were distributed to the 240 respondents and out of that 180 properly filled up questionnaires have been arrived to researchers. The researchers have used 5 point Likert scale in questionnaire. In the questionnaire, respondents are requested to indicate, on five-point Likert scale, ranging from "highly important" to "highly unimportant", a statement explaining the degree of their perceived importance of a factor. For overall data analysis the researcher has used SPSS 21. Convenience sampling method has been used to collect various perceptions of consumers on influence of eco-labels. Exploratory Factor Analysis and Multiple regression method have been used to conduct the study.

Analysis & Data Interpretation

Validity Testing

In order to be certain about the research instrument as well as the data collected, validity is checked. For this study, face validity, content validity, discriminant and convergent validity were checked for confirmation of the instrument. In face validity researchers determine whether or not their instrument is valid enough to measure what is intended to measure and this is done by taking the validity of the instrument at face value. In order to validate the instrument, academicians, professionals and potential respondents were shown the questionnaire to thoroughly review and analyze the content. Content that was unfit and may have caused issues in the future was deleted or modified. In content validity the content of the questionnaire was thoroughly checked and matched with the theoretical framework. Three questions were deleted after analyzing the content so as to make sure that the instrument is valid. So, here both face & content validity has been checked. The construct validity contains convergent & discriminant validity. Here between the various variables of the factors is having the strong co-relation coefficient & most of the co-relation coefficients values are in higher ranges. So, here it proves that the convergent validity exists. Though there are high co-relation coefficients between the variables of a particular factor,

there are very weak correlation also exists between the one factor's variable to another factor's variable. Here it also proves that the discriminant validity exists.

Reliability Testing

Reliability Statistics	
Cronbach's Alpha	N of Items
.897	12

Here overall reliability of the study was judged by the Cronbach's Alpha for 12 variables and it is good (0.897) in our study. Cronbach's alpha has been used to measure internal consistency of questionnaires and found to be strong and reliable. The reliability score for questionnaire is 0.897. Though the value is well above, 0.70 so from the above table, researcher can conclude that the Cronbach's Alpha result is acceptable & accordingly the researcher can proceed the further analysis.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.824
Bartlett's Test of Sphericity	Approx. Chi-Square	1294.238
	df	136
	Sig.	.000

KMO Test (0.824) indicates factor analysis is appropriate with the data. The KMO Measure of Sampling Adequacy is showing 0.824 which is quite suitable to conduct the factor analysis. It is also showing that Bartlett's Test of Sphericity is .000 which is quite acceptable. So, it means it is useful to conduct the study. Bartlett's test of sphericity describes that significance level is less than 0.01 means variables are correlated within a construct. So, it proves the Convergent validity. The following table highlights the rotated factor loading with their respective variance explained (%). Here factor loading values are more than 0.5 and segregated 4 factors separately which indicates the evidence of convergent & discriminate validity. 8 factors from Rotated Component Matrix describe total 79.106 % of the variance & it clearly says that it is more than the value of 60%, which is recommended for the analysis.

Rotated Component Matrix

Variables	Components			
	Perceived social value	Perceived private value	Label attitude	Purchase intention
Reduction in environmental pollutants	.896			
Reduction in energy consumption	.784			
Climate change improvement	.682			
Usefulness		.903		
Economic benefit		.818		
Ease of use		.736		
Usefulness of eco-label information			.867	
Interest of eco-label information			.751	
Reliability of eco-label information			.693	
Purchasing				.796
Replacement				.723
Recommendations				.654
Variance Explained	29.456	22.869	16.543	10.238
Cumulative	29.456	52.325	68.868	79.106
Cronbach's Alpha	.891	.865	.896	.873

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.[a]
a. Rotation converged in 7 iterations.

According to the table the four components have found more than 1 Eigen values and the total variance explained by them is 79.106% which is quite adequate to conduct the study. From the above table it has been observed that all the 12 variables have been divided in 4 components. Here we have used the Principal Component Analysis for extraction & Varimax with Kaiser Normalization for rotation method. Rotated Component Matrix table illustrates that the 1st component explains about perceived social value, 2nd component explains about perceived private value, 3rd component is about label attitude and 4th explains about purchase intention. The component named perceived social value explains about reduction in environmental pollutants, reduction in energy consumption and climate change improvement, where reduction in environmental pollutants are the most influencing factor. The component named perceived private value explains about usefulness, economic benefit and ease of use, where usefulness is the most influencing factor. 3rd component named label attitude explains about usefulness of eco-label information, interest of eco-label information and reliability of eco-label information whereas, usefulness of eco-label information are the most influencing factor. 4th component, named as purchase intention, the most influencing variable is purchasing; the other influencing variables are replacement and recommendations.

Regression Analysis

The four factors which have been identified from the factor analysis are, perceived social value, perceived private value, label attitude and purchase intention. Here the purchase intentions have been used as a dependent variable and the remaining three factors have been used as an Independent variable.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.778[a]	.605	.618	1.282	2.005

a. Predictors: (Constant), perceived social value, perceived private value, label attitude

b. Dependent Variable: purchase intentions

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	105.868	3	35.289	21.482	.000[b]
	Residual	289.127	176	1.643		
	Total	394.994	179			

a. Dependent Variable: purchase intentions

b. Predictors: (Constant), perceived social value, perceived private value, label attitude

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.374	.554		2.479	.014		
	label attitude	.451	.102	.378	4.426	.000	.571	1.752
	perceived social value	.126	.092	.114	1.374	.001	.608	1.646
	perceived private value	.161	.068	.160	2.378	.018	.923	1.083

a. Dependent Variable: purchase intentions

Perceived social values, perceived private value and label attitude are the independent variables whereas purchase intention is the dependent variable in this study. The multiple regression analysis will give the answer that which is the most influencing factor when tourists are choosing a rural destination to conduct a tour.

To test the multiple regression, at first, the researcher have found out 0.778 is the Correlation coefficient (R) for Model 1, it emphasizes an amount of correlation between the independent variables and dependent variable (tourist preferences). The R square value explains the 0.605 or 60.5% which is quite acceptable for the study. The Durbin-Watson is mainly explaining that there is no auto-correlation though the value is quite close to 2.

The ANOVA table shows that the F value is 21.482 with degree of freedom 3 and here the significance value is .000 which is less than .05 and it means it is quite acceptable.

Multi co-linearity has been checked through Variance Inflation Factor (VIF) which needs to be less than 3 for acceptability range. Here all VIF values are in acceptable range in & it concludes that the variables are free from multi co-linearity.

From the coefficient table the researcher has found that label attitude is having highest un-standardized B value of .451 as well as t value is also high. So it is the most preferred factor on purchase intention. After that the second highest will be perceived private value with the B value of .161. It is also observed from the study that perceived social value is the least preferred attribute.

All the three factors namely perceived social values, perceived private value and label attitude are having a positive & significant influence on purchase intention. It has been also found out that all the three factors are quite significant in 1% & 5% significance level.

So, here the multiple regression equation can be expressed as,

Purchase Intention = 1.163 + (.451) X_1 + (.126) X_2 + (.161) X_3

[Label attitude = X_1, perceived social value = X_2, perceived private value = X_3]

Findings & Implications

Perceived private value was shown to affect purchasing intention. The loading from perceived private value to purchase intention was 0.161, which is significant at the 5% level. This result suggests that some consumers feel as though the presence of an eco-label guarantees that a product is economically beneficial, not after acquiring some information by reading eco-labels. Furthermore, the loading from perceived private value to purchase intention was larger than perceived social value to purchase intention. The path loading from label attitude to purchase intention was 0.451, which was significant at the 1% level. This result reveals that consumers' perceived private value is more effective than social value in inducing consumers' purchasing intention. General consumers interested in obtaining personal benefits from the eco-label in making their purchasing decision.

The results from this study reveal that consumers' perceived private value is more effective than their perceived social value. A strategy for consumers' private value is required. When an eco-label indicates that a product allows consumers to save money or cut costs, it will be purchased. If no private value is provided by an eco-label, the introduction of an alternative method, such as a cash-back system in which consumers can convert prior purchases to cash, could be a solution to encourage the purchase of eco-labeled products.

Conclusion

The purpose of eco-labels is to provide eco-information and to increase the sale of eco-labeled products. In some research, consumers have expressed a higher willingness to pay for eco-labeled products. However, in the real world, the introduction of eco-labels has not encouraged consumers to purchase eco-labeled products. A gap is evident between eco-label awareness and purchasing behavior in relation to eco-labeled products. To increase the market for eco-labeled products, it is essential that eco-labeled products be purchased by general consumers.

The empirical results provide implications for the design of effective policies to induce consumers to purchase eco-labeled products, which can considerably contribute to a sustainable environment. Governments can make good use of eco-labeling schemes to increase public awareness of the environmental benefits of eco-labeled products, thereby stimulating consumers' environmental motivation. People with certain socio-economic and household characteristics are the target groups for such efforts. The government could produce messages that appeal to emotions about food safety and environmental protection, which may have an impact on behavior by inducing a favorable attitude toward the purchase of eco-friendly products. Since knowledge is critical to establishing correct attitudes toward purchase decisions, it is necessary to enhance the knowledge of the eco-label preferred group. Eco-labeling schemes could be accompanied by information campaigns on the production aspects underlying eco-labels.

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