



Article

A Study on Eco-Labels Awareness, Understanding and its Influence on Consumers' Buying Decision.

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Abstract: Purpose- The study aims to examine the awareness and understanding of consumers towards eco-labels or environmental certification and the influence of these factors on consumers' buying decision. **Design/ Methodology/ Approach-** This exploratory research incorporates convenience sampling, with the aid of questionnaire, the data was collected from 176 respondents. A lack of awareness and understanding is observed among the consumers, and whether they consider these factors during purchase decision or not, actually provoke to carry the research. **Findings-** The result of data analysis through nonparametric statistical tools using SPSS 20 by using chi-square test shows that there is a significant difference among the consumers towards the awareness and understanding of eco-labels. The Kruskal-Wallis test shows that the mean rank value of eco-label and environmental certification is higher in comparison to other factors which influences the consumers' buying decision. The implication of these findings and future directions of the research are explained at the end of the paper. **Originality/ Value-** This study offers preliminary exploratory insight towards the consumers with respect to awareness, understanding and influence towards eco-labels or environmental certifications and the consideration of eco-label as an influencing factor for making any purchase decision.

Keywords: Consumer, Eco-labels, Environmental certifications, Awareness, Understanding & Buying Decisions.

INTRODUCTION

Green Marketing is important for organization to uniquely place them in the market and at the same time providing consumers' true and sufficient information to make rational purchase decisions. So it communicates their green attributes (McDonagh, 1998). Eco-labeling acts as a technique being mostly used to furnish environmental information to consumers (Delmas, Nairn-Birch, & Balzarova, 2013;

Ecolabel Index, 2018), related to environmental claims (Atkinson & Rosenthal, 2014). Several studies depicts that eco-labeling is mostly confusing and is misunderstood (Brecard, 2014; Czarnezki et al., 2014; D'Souza, Taghian, Lamb & Peretiatko, 2007), at the same time perceived to be unreliable (Eurobarometer, 2008), or not honest and truthful (Gertz, 2005; Thøgersen, Haugaard, & Olesen, 2010). Several research identified that due to below par eco-

label design, insufficient information (D'Souza, 2004; Horne, 2009), absence of clarity (D'Souza, Taghian, & Lamb, 2006), or poor image (Polonsky, Carlson, Prothero & Kapelianis, 2002), leads to confusion rises due to several inconsistent eco-labels prevailed in the industry (Brecard, 2014; Czarnezki et al., 2014; Langer, Eisend & Kub, 2008). If any label is as per the international eco-labeling standards like ISO 14024 (ISO, 1999), it also found to be insufficient to obliterate the confusion, doubt or misbelief (Czarnezki et al., 2014). The complexity associated with eco-labels obstructs consumers' ability to analyze the information about the eco-labels and make more rational or environmentally responsible purchase decisions.

Eco-labeling as a marketing strategy acts as a promotional and communication strategy which is meant to aware consumers with the environment friendly products attributes and guiding them to make a greener, responsible and rational purchasing decisions (Rettie, Burchell, & Riley, 2012). It is found that not all eco-labels gives accurate environment related information (Czarnezki et al., 2014) which led to development of international standard which tries to ensure that eco-labels accurately gives environmental information (ISO, 2012). Eco-labels that practices international standard should ensure that consumers are well aware of the specific eco-labels along with its meaning, and trust the given information (Thogersen, 2000).

The current research has three main objectives. The first one is to have a proper understanding of how much the consumers are aware of the term eco-labels and environmental certification in India. Second one is to identify their understanding towards any specific eco-labels and environmental certifications. The third one is to analyze how much influence eco-labels and environmental certifications have while making any purchase decision. The process will involve identifying, testing a set of factors based on the literature.

1.1 Eco-labeling & Eco-Labels:

Eco-labeling is a discretionary environmental accomplishment certification and labeling process accepted and practiced all around the globe. An eco-labels evaluate and identify products environmental positive characteristics for a specific product or services (Global Eco-Labeling Network, 2014), and the information mentioned shows goods attributes towards the environment protection (ISO, 1995, p.2). Bougherara and Combris (2009, p.321) elucidate eco-labeling as an information tool that "aims to internalize the external effects on the environment of the production, consumption, and disposal of practices, protects organization from social regulation and/or facilitate the firms to gain

competitive advantage" (Delmas et al., 2013). A systematic review of the advantages of eco-labeling express that environmental certification (a kind of eco-labeling) emerged as a tool for considerable manufacturer benefit (Carlson & Palmer, 2016). For consumers, eco-labeling is depicted to remove doubt about any products environmental attributes and performance, and thus helping the consumers to select the environmentally lesser harmful goods (ISO, 2012). Thus eco-labels give a primary informational hint about any specific goods or services environmental attributes (Horne, 2009). Organizations use particular eco-label on their offerings with a view to differentiate green products from traditional products (Gallastegui, 2002, p. 316; Teisl et al., 2001, p. 339). A green certification or eco-label is a mark or insignia to authenticate that a product adjoin higher environmental and performance standards and minimally effect the environment in comparison to non-labeled products. Apart from the environmental aspects, it reveals that an enterprise is responsible towards the society (Ghauri & Cateora, 2005, p. 475). Many a time's customers have to pay a higher price for the products or services that have an eco-label (Vitalis, 2002, p.7). If we talk about consumers, eco-labels may be used as a technique or as a scale to strengthen consumers' decision-making regarding the advantages and values, which eco-friendly products carry. It is very crucial to escalate the environmental consciousness and awareness. Eco-labels can be an effective procedure in awareness and training of customers about environment favoring products. For the customers favor the eco-labels reduce the ambiguity and insecurity about the environmental commitments and performance and certify the buyer's to choose the product having lesser environmental impacts (Porter, 1995). The rises in the prospective consumers of environmentally friendly products are providing new opportunities to develop their products as per the newly evolved market segment (Moon et al., 2002).

Eco-labels are regarded as a new technique targeting on distinct information related to environmental impact during production process, consumption effect and disposing consequences of a product. There is a classification of eco-labels i.e. mandatory and voluntary. Mandatory labels are mostly which is obligatory, directed by the government and as per the prevailed law. Voluntary labels are further classified as Type-I, Type-II, & Type-III.

1. 1. 1 Type-I labeling:

The term used for Type-I labeling is eco-labeling, which certify the environmental labeling through the third party. These labels carry greater authenticity as they embrace a third party evaluation of any enterprise ecological standards. Products earn the

Label when they achieve or exceed the set parameters. The advantage of eco-label is that, it provides a certificate, seal or symbol to the organization, if the product found fit for the environment (Hassan & Vandermerwe, 1994). As the organization uses the free-standing accreditation, so consumers comparatively trust these labels more than the organizations own label (Muska, 1999).

1. 1. 2 Type -II labeling:

Type- II labeling simply means or signify the general affirmations like reusable, recyclable, CFC free, or ozone friendly. They come up in written or in symbol or logo on the product and in an integrated marketing communication.

1. 1. 3 Type-III labeling:

Type-III labeling is an extended version of Type-I labeling. It is same, because it also incorporates third party certification. It is useful to overcome some of the shortfalls connected with Type-I labeling. In Type-III the product is tested by an independent entity regarding the performance as per the environmental parameters where the third party gather the life-cycle assessment data and compare the product ratings on several parameters like natural resources used, energy usage (both quality and quantity); water exploitation, carbon emissions and solid waste generated.

1.2 Green Buying Decision:

The ecological issues in recent times have attracted the attention of stakeholders and have originated as one of the crucial challenge in the world. The increase in environmental concerns bear a considerable impact on consumers purchase decisions and the retailers are now behaving in a responsive manner towards the environmental guidelines, because the purchase, consumption and disposal of products have negative consequences on the environment (Gocer & Oflac, 2017). Consumers in current time evidently recognize that their consumption pattern is resulting in environmental degradation, which has resulted in the reconstruction and motivation towards environmentally conscious buying decisions like green buying. The younger generations are evidently more responsive towards the environment and the reason is the influence and inspiration gained from their family members towards buying (Naderi & Steenburg, 2018). The newer generations are emphasizing on the importance of the recycling wastes, which is one of the major reason, leading to the damage of the environment (Suki, 2013). Al Mamum et al., (2018) elucidated that most of the studies regarding the consumers' environment-friendly behavior are from the west of the globe and there is a lacuna from the other side of the world. Likewise, there is a need to investigate the consumers green buying decisions in several circumstantial

contexts to have better understanding (Gocer & Oflac, 2017; Pedersen & Neergaard, 2006). The green buying decisions is impacted by several factors. The theory of green consumerism needs an investigation in accordance with the attitudes, perception, values and behavior (Pederson & Neergaard, 2006). The ecological circumambient are completely determined by the consumers choice (Joshi & Rahman. 2015; Gilg, Barr, & Ford, 2005). Several research studies tried to analyze the connection between eco-labels and consumer behavior; few researches explore about customers, as how they make any purchase decisions after being aware about the eco-labels on a product, (Grankvist, et al., 2004; Sammer & Wustenhagen, 2006); while few researchers focused on the factors which attracts the consumers attention towards eco-labels (Thogerson, 2000; Van Amstel, et al., 2008).

LITERATURE REVIEW:

Absence of awareness towards eco-friendly products creates negativity about products, and the solution to this issue is educating customers and manufacturing good quality products (Bonini & Oppenheim, 2008). The consumers' awareness and education should be responsibility of both organization and government agencies and they should encourage the consumers for adopting eco-friendly products. A study shows how life-style can impact the consumers' behavior towards green products and established that enthusiastic consumers have positive attitude towards green products (Wang & Tung, 2012), proposed a model in order to understand the green purchase intentions of the consumers by analyzing four factors perceived value, perceived risk, trust and purchase intention and elucidated that consumers who care for environment have positive intention towards green products. Cheah & Phau (2011), examined that the factors like ecoliteracy, interpersonal impact and value orientation have positive association with the attitude of consumers with respect to eco-friendly products. Manaktola & Jauhari (2007), in their study identified that the consumers have a positive attitude towards the green practices of the hotels and are quite impressed but not prepared to pay higher price for the same. The green marketing instruments or practices like eco-labels and environment focusing advertisements impacts the buying behaviour of consumers and the trust in respect of eco-labels and eco-brands have a positive association with the green product buying behaviour (Rahbar & Wahid, 2011). The consumers having clearly defined knowledge of environmental issues are supposed to have pro-environmental behaviour in comparison to inexact knowledge (Polonsky et al., 2012; Laroche et al., 2001). Several researchers put forward concept based and relevant information, about green products to aware and captivate consumers (Testa et al., 2015; Minton & Rose, 1997). Consumers' awareness and knowledge

in respect to eco-labels is an essential predictor of attitude towards green products (Taufique et al., 2017). Polonsky et al., (2012), elucidated that knowledge towards carbon-generation in environment give rise to ecological behaviour. Consumers are constantly identifying options in products having recyclable characteristics and at the same time durable and fairer (Lozano, et al., 2010). The global challenges due to environmental degradation have instigate the marketers to think about green practices, packaging labeling (Rahbar, 2011) to meet customers' expectation. Furthermore, the shift in consumers' attitude, competition and government pressure has motivated organizations to frame green strategies and identify new eco-friendly techniques (Ghosh, 2010). Such techniques like eco-labels given by third party or other competent authorities ensure that quality product is sold to consumers. Nonetheless, there is a lacuna with regard to, influence of the labels on consumer buying intention (Bickart & Ruth, 2012). Moreover, the impact of consumers' attitude towards the eco-labels granted by authorities, needs more insightful investigation. Eco-labels and certification project was initiated with a view to aware and inform the consumers and at the same time provide benefits to the manufacturers. These techniques were perceived as a possibility to establish credibility and to persuade marketers (J. Ottman, 1996). Eco-labels converts a true and reliable feature into inquiry feature and thus facilitate consumers in making rational choice positioned on true and reliable information (Grolleau & Caswell, 2006), enhancing the consumers trust through transparent information related to environment and social impacts (Thogersen, 2012). Benoit-Moreau et al., (2008), in their research investigated that consumers ascertain environmental labels as an evidence of unbiased and true certification, nonetheless, they are not always correct and valid. Eco-labels play a crucial part in promising brand conscious consumers with a responsibility of ethics and therefore promote sensible and responsible purchasing and

consumption (Bartiaux, 2008; Erskine & Collins, 1997). A survey in ten western countries by Albemarle Marketing Research (AMR) in 2012, shows rise in the trust towards environmental labels and the study also express that eco-labeled products creates a positive influence on consumers perception about the particular brand (AMR, MSC, 2012). In spite of various assurance and certification suggestion that companies use to assure the quality of products, the effect of such labels and certifications on purchase intention is still ambiguous. Bonti-Ankomah and Yiridoe (2006), proposed that consumers encounter skepticism and ambiguity when analyzing the features of labeled products, which may lead to mental obstacle while product purchasing. In the words of Fishbein and Ajzen (1975), the purchase intention is associated with buying behavior, the particular way to predict a consumers' behavior is to analyze their intention towards the product. Thus researchers continuously collect data and analyze it for required information on consumers' attitude and impact on brand and attractiveness of the eco-labeled products (Bickart & Ruth, 2012). Contrary to this, large number of labels and certification has created confusion in the minds of the consumers, thus resulting in lower credibility (Salzhauer, 1991; Nilsson et al., 2004). Byrd-Bredbenner and Coltee (2000), in their study expressed that female consumer faces difficulty in understanding the label claims, the most prominent reason identified was low advertisement. There is a question on the amount of information to be provided on products which can influence the purchase intention of consumers but the answer is quite contradictory (Meyer & Johnson, 1989; Keller & Staelin, 1989). As per the research conveyed by Benoit-Moreau et al., (2008) and Sihem Dekhili, Mohammad Akli Achabou (2014), the environmental label influences the buying decision of the consumers. In the view of the above mentioned literature in this paper, the impact of eco-labels or environmental certification on consumers purchase intention, buying decision and behavior was investigated.

Conceptual Framework:

The present conceptual framework (Figure:1) can be adjusted for further research work in understanding the consumers buying decision. The relationship between the variables have been analyzed and considered on the ground of previous researches in the area of consumer buying behavior. The proposed model impart to the field of marketing and consumer buying decision with regard to eco-labels awareness, understanding and its influence towards consumers buying decisions. Various research studies express that there are several other variables which can improve the models ability to anticipate the more definite consumer behavior. So with a view to enhance the understanding the present study tries to include variables like consumer awareness, consumer understanding towards the eco-labels and the impact of eco-labels towards the buying decisions based on the theoretical support from the literature.

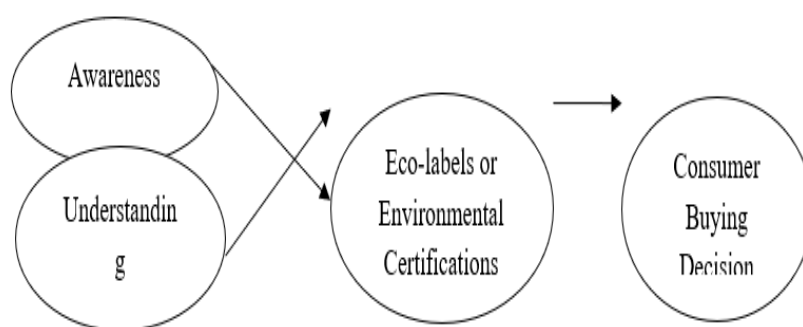


Figure 1): Conceptual Framework of Study

Objectives of the Study:

1. To investigate the level of awareness among the consumers towards the eco-label and environmental certification.
2. To examine the understanding of the consumers towards the eco-label and environmental certification.
3. To analyze the impact of eco-label on the purchase intention towards the eco-labeled products.

Hypothesis Framed:

H0a: There is no significant difference among the male and female consumers towards the awareness and understanding with respect to eco labels or environmental certification.

H0b: There is no significant difference between the identification of factors that influences the consumer's buying behaviour.

METHODOLOGY:

The current study incorporates mixed-method survey i.e. both qualitative and quantitative approach was adopted to examine the buying decision of the consumers. As one of the prime objective was to examine the awareness and understanding of the consumers towards the eco-labels, so in the first phase the researcher first of all identified the different types of eco-labels prevailed in the Indian market. The focus while identifying the various eco-labels was on the consumer durable products, packaged foods and beverages products, electrical and electronic appliances and textile related products. The relevant eco-labels and environmental certification were identified from the various sources like internet, published documents and other reliable websites. After creating a pool of eco-labels and environmental certifications, it was shared with the industry experts and academicians for their valuable opinion and finally the key components were identified. These components (sign and symbols of the eco-labels and environmental certifications) which seem to be important and crucial for the current study were further considered for including in the questionnaire (Kindly refer to the appendices section). The remaining questions for the study were framed keeping in view investigating the influence of eco-labels on buying decision of the consumers.

6. 1. Respondent's Profile:

A total of 175 (Table 1) applicable responses were received from the respondents of the current study having age group of (20-30 years, n- 114). With reference to other demographic characteristics (Table 1), the majority of respondents were male (n- 111). In terms of educational details, the majority of respondents have master's degree (n-177) and respondents who were having graduation degree (n-113). In terms of employment, the respondents employment detail is allocated between four categories: 119 respondents are from student category either completed their graduation or pursuing post-graduation, 19 respondents belong to government service, 30 respondents are in private jobs, 07 respondents are having self employment.

Table 1): Demographic Features

Data Analysis & Interpretation:

Awareness & Understanding towards Eco-labels & Environmental Certifications:

Table 2): Cross Tabulation Analysis Result (Author's own Analysis)

Gender * Awareness towards Eco-Labels Cross tabulation			Awareness towards Eco-Labels		Total
			Yes	No	
Gender	Male	Count	81	30	111
		% within Gender	73.0%	27.0%	100.0%

		% within Awareness towards Eco-Labels	65.3%	57.7%	63.1%
		% of Total	46.0%	17.0%	63.1%
	Female	Count	43	22	65
		% within Gender	66.2%	33.8%	100.0%
		% within Awareness towards Eco-Labels	34.7%	42.3%	36.9%
		% of Total	24.4%	12.5%	36.9%
Total		Count	124	52	176
		% within Gender	70.5%	29.5%	100.0%
		% within Awareness towards Eco-Labels	100.0%	100.0%	100.0%
		% of Total	70.5%	29.5%	100.0%

Table 3): Chi Square Test Result (Author's own Analysis)

Chi-Square Tests					
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.916a	1	.339		
Continuity Correction ^b	.617	1	.432		
Likelihood Ratio	.907	1	.341		
Fisher's Exact Test				.393	.215
Linear-by-Linear Association	.911	1	.340		
N of Valid Cases	176				
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 19.20.					
b. Computed only for a 2x2 table					

The Chi-square statistics is a nonparametric technique used to analyze group differences when the outcome variable is measured at nominal scale (Mc Hugh, 2013). Similar to other nonparametric statistics, the Chi square is powerful with regard to the normality of data. As it does not consider equality of variance or homoscedasticity in the data. It allows assessment of dichotomous independent variables. It is a powerful technique which enables the researchers to test the hypothesis of variables having nominal data nature. The results of inferential statistics of chi-square test is most reliable when the data has been collected randomly and having sufficient sample size (Mc Hugh, 2013). The Table 2, explains the awareness towards the eco-labels of the male and female consumers through cross tabulation of the analyzed data. The male consumers who are aware about the eco-labels is 46% and that of the male consumers who are unaware is 17%. On the contrary the female consumer who seems to be aware are 24% and that of unaware female consumers is 12.5%. If we consider the result in an integrated manner then around 70.5% of male consumers are aware about the term eco-labels and 29.5% of female consumers are aware about the term eco-label (Kindly refer to the attached file of Awareness and understanding).

The table 3, elucidates about the result of chi-square test on the sample of 176 male and female consumers with regard to the awareness towards eco-labels or environmental certifications. The Pearson Chi-Square test (at 1 degree of freedom having 0.05 level of significance) expresses the p value > 0.05. So the result of the chi-square test rejects the null hypothesis (H0a), so we can conclude that there is a significant difference between the male and female consumers towards the level of awareness of eco-labels or environmental certifications.

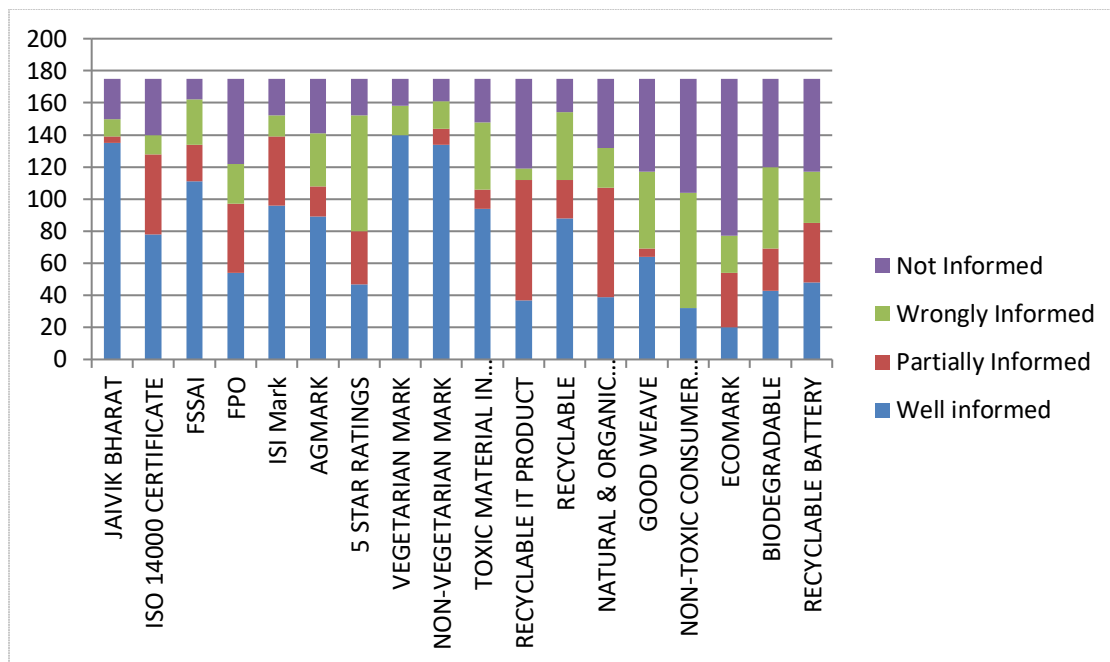


Figure 2): Consumers' Understanding towards Eco-labels & Environmental Certifications.

Source (s): Created by Authors

The figure 2 represents the level of understanding towards the eco-labels and environmental certifications of the consumers. The respondents were asked to choose the most appropriate option when they were exposed to a particular symbol, sign or figure. The particular figure on eco-label or environmental certification consist of four multiple choice option, out of which the one option was the correct and the rest options were either partially right or completely wrong with last option as can't say. The total of eighteen such questions related to eco-labels or environmental certifications were asked from the respondents (Kindly refer to the attached file of Awareness & Understanding). The interpretation of the above questions provides a mixed result. The option chosen by the respondents was further interpreted and classified by the researchers in four different categories (well informed, partially informed, wrongly informed and not informed). The first eco-label JAIVIK BHARAT, an identity to differentiate organic products from non-organic products express that 77% of respondents are well informed and 14% are not at all informed about the Jaivik Bharat. The 44% of respondents are having information about the ISO 14000 certification, which is authorized to such organization having environmental management system. The 63% of respondents understand the FSSAI (Food Safety and Standard Authority of India) symbol and its relevancy on the packaged food products. The certification of FPO (Fruit Product Order) is not very common among the respondents as only 31% of the consumers or respondents recognized the logo and choose the correct option describing the symbol. ISI mark is having 55% of awareness and understanding among the respondents. The 50% of respondents identified the AGMARK logo correctly and the rest were either in the category of partially, wrongly or not informed. The 5 star ratings given to the electronics for energy efficiency of the product have an alarming figure as only 27% of the respondents understand the symbol along its meaning and importance. When asked about the symbol representing the amount of toxic material in the product 54% of respondents identified it correctly. When exposed to the symbol of EPEAT (Electronic product Environmental Assessment Tool) only 21% of the respondents identified the correct meaning of the symbol or logo rests were either partially, wrongly or not informed at all. When asked about the recyclable symbol the 50% of respondents identified it accurately. When asked about the NATRUE Logo, which signifies the amount of chemicals or synthetic material used in the manufacturing of beauty products only 22% of respondents identified the true meaning of the symbol or logo. GOODWEAVE a symbol used in carpet weaving industry, which signifies that no child labour was employed during the manufacturing of the product was accurately identified by only 36% of the respondents. ECOMARK, a newly launched certification scheme by Bureau of Indian Standards of products approving that a set of standard was maintained with an aim to minimize the impact on the ecosystem. This particular symbol or logo was correctly identified by only 11% of the respondents and 56% are not at all informed or aware about the ECOMARK logo. When asked about the BEST (Better Environmental Sustainability Targets Standard 1001) logo, which is accredited by voluntary environmental certification agency for lead battery having less emission, waste disposal and take back provision, was correctly understood by only 27% of the respondents. The above mentioned discussion on the understanding towards the eco-labels or environmental certification rejects the null hypothesis (H_0a). With respect to above analysis and discussion we express that there is a difference in the awareness level and understanding of the consumers towards the eco-labels or environmental

certification.

Influence of Eco-labels and Environmental Certifications towards Consumer's Buying Decision:

Table 4): Non-parametric Descriptive Statistics (Kruskal-Wallis test)

Descriptive Statistics					
	N	Mean	Std. Deviation	Minimum	Maximum
Features of the Product	175	1.82	1.774	1	8
Place of Availability	175	5.13	2.152	1	8
Price of the Product	175	2.66	1.663	1	8
Manufacturer/ Marketer Details	175	6.36	1.641	1	8
Eco Labels Details on Product	175	5.18	1.728	1	8
Certification Details on Product	175	5.25	1.616	1	8
Brand Name	175	4.59	1.829	1	8
Offers and Schemes	175	4.99	2.062	1	8
Gender	175	1.37	.484	1	2

Table 5): Kruskal-Wallis Test Statistics

Test Statistics ^{a,b}			
	Chi-Square	Df	Asymp. Sig.
Features of the Product	4.600	1	.032
Place of Availability	1.442	1	.230
Price of the Product	.006	1	.939
Manufacturer/ Marketer Details	.066	1	.797
Eco Labels Details on Product	3.655	1	.056
Certification Details on Product	2.434	1	.119
Brand Name	.592	1	.442
Offers and Schemes	1.189	1	.275
a. Kruskal Wallis Test			
b. Grouping Variable: Gender			

Several researchers expressed that nonparametric techniques require less demanding assumptions in comparison to parametric test and at the same time use minimum information from the data (Aczel, 1989). When the assumptions related to parametric test are not fulfilled, the nonparametric tests are used (Aczel, 1989). The ANOVA F-test requires that the data must be normally distributed and at the same time the population variance should be equal in each group (homoscedasticity) along with data must be independent. If these assumptions are fulfilled then the F-test is most appropriate tool to analyze whether several population means are equal. But when the aforementioned conditions are not met, then Kruskal-Wallis nonparametric test is used (Montgomery, 2003; Ostertagova & Ostertag, 2013).

The Kruskal-Wallis test (Kruskal and Wallis, 1952, 1953) is nonparametric and is used for testing more than two independent samples as this test is actually an enhancement of Wilcoxon-Mann-Whitney two sample test (Wilcoxon, 1945; Mann & Whitney, 1947).

The Kruskal-Wallis test does not consider the assumptions of normality. Nevertheless, it considers that the data in each group comes from the same population having similar shape of distribution and at the same time they are random and independent. The test statistic for one-way ANOVA is calculated as the ratio of sum of squares and residual sum of squares. The Kruskal-Wallis test incorporates the similar method but, with the nonparametric tests, the ranks of the data are used in place of the raw data (Aczel, 1989). The Kruskal-Wallis test is very popular statistical technique used in a variety of discipline like engineering, medicine, consumer behaviour and psychology. The data was analyzed using the nonparametric Kruskal-Wallis test (table 4), the mean value of the rank order (kindly refer to the attached file of Rank Data) given by the respondents shows that the eco-label and environmental certification is 5.18 and 5.25, which is higher in comparison to other factors considered for the study. On comparing the eco-label and environmental certification with other lower mean value (table 4) like features of the product (1.82), price of the product (2.66), brand name (4.59), offers & schemes (4.99), and place of availability (5.13) the researcher identify that the consumers consider the eco-label and environmental certification as a factors during the buying decision, but the higher mean value reflects that the position of the eco-label and environmental certification during ranking is lower. The rest two factors having higher mean value in comparison to eco-label and

environmental certification is Manufacturer or marketers details (6.36). The higher mean value exhibit the low rank to the factors.

The test statistics exhibited in table 5, explains that the p-value of the features of the product and eco-label details are either equal to or lower than .005. The p-value of these two factors is lower than .005, which rejects our null hypothesis. So the researcher suggests that there is a difference among the male and female consumers with regard to identification and consideration of eco-label and features of the product as a factor during the information search for any buying decision. Rest factors are having p-value higher than the suggested threshold of .005. So in that case we accept our null hypothesis and infer that the male and female consumers are having no difference in the identification and consideration of factors during the buying decision.

DISCUSSION:

The findings of the current study can be classified under two sections. The first one is the chi-square test which examines the awareness level of the male and female consumers towards the eco-labels or environmental certifications. The chi-square test seems to be an appropriate tool to analyze the awareness level. The findings explain that there is a lack of awareness among the male and female consumers towards the eco-labels or environmental certifications. The descriptive analysis executed to identify the understanding of considered eco-labels or environmental certification of consumers' shows that if the researcher excludes the vegetarian and non-vegetarian labels, the rest of the eco-labels or environmental certifications were either partially or wrongly interpreted by the respondents. The majority of the respondents were wrongly, partially or not informed towards the eco-labels or environmental certifications.

The second section explains the influence or impact of eco-labels or environmental certifications as one of the factor among other factors like features of the product, place of availability, price of the product, manufacturer/ marketers details, brand name and offers and schemes, shows that the consumers rank mean value of features of the product (1.82), price of the product (2.66), brand name (4.59), and offers and schemes (4.99) are as an important factor for making any buying decision. After these first four ranking order, the consumer consider place of availability (5.13) on fifth rank, eco-label (5.18) on sixth rank and environmental certification (5.25) on seventh rank as factor for making any buying decision. The least preferred factor is manufacturer/marketers detail (6.36). The finding of the Kruskal-Wallis test statistics explains that the p-value of eco-label and features of the product is lower than or equal to the suggested threshold of 0.05. So the inference which can be drawn is that there is a difference among the male and female consumers while identification and consideration of eco-label and features of the product as factor for making any buying decisions.

Implications:

The marketers of the manufacturing or service industry should formulate strategies for awaring

about the environmental knowledge of consumers mostly for the eco-label products or services. The business houses should identify the target consumers who are really conscious towards environmental issues. The coming future will experience a huge demand for eco-label or environment certified products.

The researcher will have a clear idea from the current study regarding the understanding, awareness and influence of eco-label or environmental certification of products or services during buying decision of consumers. The future research could investigate the other attributes related to green consumers. The price as factor should be analyzed to understand that how much the consumer is willing to pay for eco-labeled or environmentally certified products or services. Further the researchers acknowledge that the current study is limited to self reported measures. So we suggest that experimental and objective measures may be incorporated in future research to have confirmed result.

CONCLUSIONS:

The current research investigated the demographic factors of the consumers with respect to their buying decision towards eco-label or environmental certification of the product or services. The research explored the awareness level of the consumers along with their understanding towards the most prevailed and used eco-labels or environmental certifications in India. The research explored or investigated the factors which consumers consider while making any purchase decision and where does the eco-label or environmental certification basically stands during their factor identification and consideration related to product or services. The research examined that how much weightage the consumers give to eco-label or environmental certifications during their buying decision process.

Limitations and Future Direction:

The current research study is basically exploratory in nature. The exploratory research is conveyed by researcher in order to define the problem and to have a better understanding towards the problem identified. The sample size considered for the current study is quite small, so the findings cannot be

generalized to all the population. In fact the prime objective of the researcher was to develop a better understanding towards the problem identified. The data collected for the current study was ordinal in nature and at the same time not fulfilling the assumptions of the normality. So the current study may prove to be a foundation for the future researchers to have a descriptive study with appropriate population size with a view to generalize the findings. The consumer buying decision get influenced by several internal and external factors, so the future research may be conveyed with more objective approach to clearly understand the relationship of the variables under study.

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