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Research Article

Consumer Awareness And Knowledge Of Green Marketing And Green Electronic Products In Haryana: An Empirical Investigation

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ABSTRACT

As environmental concerns continue to gain prominence globally, the adoption of green marketing practices and products becomes imperative. This empirical investigation delves into the consumer awareness and knowledge of green marketing, specifically focusing on green electronic products, within the region of Haryana, India. The study aims to assess the level of awareness among consumers regarding environmentally friendly products and the extent of their knowledge about green marketing strategies employed by electronic product manufacturers. Using a mixed-methods approach, data was collected through questionnaire from a diverse sample of consumers across various demographics in Haryana. The survey questionnaire was designed to gauge consumers' understanding of green marketing concepts, their perception of green electronic products, and their purchasing behavior concerning such products. Preliminary findings indicate varying levels of consumer awareness and knowledge regarding green marketing practices and green electronic products in Haryana. While some consumers demonstrate a high level of consciousness and actively seek out eco-friendly alternatives, others exhibit limited awareness or skepticism towards green initiatives. Factors such as price, product performance, brand reputation, and accessibility of information emerge as critical influencers shaping consumer attitudes and behaviors. The findings hold implications for marketers, policymakers, and environmental advocates aiming to promote sustainable consumption patterns and enhance consumer engagement with green products.

KEY WORDS – Green Marketing, Green electronic Products, Environmental pollution & problems, Customers attitude and perception etc

INTRODUCTION:

Marketing is defined as activities in which a manufacturer promoting its goods and services to the present and potential customers. Those n activities are performed as demonstrate product, build brand reputation and strives continue marketing by which sales are boost. Marketing is the process of exploring, evolving, and delivering value to pacify a target market's needs for products and services. It may involve choosing a target audience, selecting particular qualities or themes to demonstrate in advertising, starting to run advertising campaigns, participating in trade shows and public events, customizing products and packaging that appeal to consumers, and defining the terms of sale, such as the purchase price, discounts, warranty period, and easy returns. The seller, who is often a retailer or manufacturer, is in charge of promotion. (Kotler, P., Armstrong, G., Harker, M., & Brennan, R. (1990). The business process of discovering, predicting, and meeting consumers' needs and wants is known as marketing, also says garnering customers. Marketing involves knowledge obtained through researching the management of transaction relationships

In late 1980's and in early 1990's, the phrase "environmental marketing" (often referred to as "green marketing") gained popularity. When certain items were discovered to be detrimental to the earth's atmosphere, it all started in Europe. New "green" items that were less harmful to the environment were consequently introduced. First workshop on the "Ecological Marketing" was presented by American

Marketing Association (AMA) in 1975. The workshop's proceedings were published as "Ecological Marketing," one of the earliest books on green marketing. Bell, Emeri, and Feldman originated the branch of green marketing in 1970s. They explained how marketing theories have been misapplied to focus solely on meeting client needs, ignoring long-term community and environmental concerns (McDaniel & Rylander, 1993).The keywords "green marketing" and "environmental marketing,""ecological marketing,""sustainable marketing,""greener marketing," and "societal marketing" all seem to be similar. Henion and Kinnear coined the phrase "ecological marketing" in a 1976 workshop sponsored by American Marketing Association (AMA). Green marketing states study of good and bad effects of marketing activities, especially on pollution, use of energy resources & non-energy resources.

Evolution in green marketing

In 1975, American Marketing Association (AMA) organised its first workshop on "Ecological Marketing". Ist book on Green Marketing named as Ecological Marketing is a output driven at this workshop proceedings. The evolution of green marketing can be divided into three stages (Mishra, Sharma, 2014; Zampese et al., 2016; Lazar, 2017; Papadas et al., 2017)

- The first stage was renowned as "Ecological" green marketing, and in this stage all marketing activities were concerned with caring for the environment and delivering solutions for these problems.
- The second stage was "Environmental" green marketing, with the main focus shifting to clean technology and the advent of innovative new products that identify pollution and waste issues.
- The final level of green marketing was "Sustainable." It gained prominence in the late 1990s and early 2000s. This was because of the principle of sustainable development, which is outlined as "satisfying the today's needs without negatively impacting future generations' ability to meet their own needs."

Green Products :

Green product are manufactured using green technology effectively and pose no environmental risks. It includes:

- Natural products: these may be animal based or plant based or extracted minerals etc.
- Products are recyclable, reusable and biodegradable. For example paper, metal, biodegradable wastes etc.
- Products having natural ingredients. For example 100% biodegradable bags are available in the markets that are a good substitute to plastic or polythene bags. These are made using tapioca and potato extracts.
- Products contain also recycled contents and non-toxic chemical.
- Products have under approved chemical. For example bio enzyme based chemicals.
- Products do not pollute and harm the environment. For example cotton fibre, wood, copper etc.
- Products have eco-friendly packaging such as refillable, reusable containers etc. For Example glass bottles of cold drinks.

A green product has been manufactured with the least negative environmental impact as possible. This can apply to items manufactured from renewable resources, recycle material products, and items that are made to be renewed or recycled. Moreover, environmentally friendly goods can be ones that have received certification from an independent body.(Tiwari, J., 2014)

OBJECTIVES OF THE STUDY:

- To know about the level of knowledge and awareness among consumers in Haryana regarding green marketing practices in the context of electronic goods.
- Identify the key barriers hindering the adoption of green electronic products among consumers in Haryana.
- To study the effect of green electronics products on consumers of Haryana region.

HYPOTHESIS:

- H1: There is no significant difference in the "Knowledge and Awareness of respondents" amongst respondents in different age groups.
- H2: The gender of respondents had no significant impact on the respondents' "Knowledge and Awareness."
- H3: Respondents with different academic backgrounds do not significantly differ in their "Knowledge and Awareness of Green Products."
- H4: Respondents' "Knowledge and Awareness towards Green Products" do not significantly differ based on their occupation.
- H5: There is no significant difference in "Knowledge and Awareness of Respondents towards Green Products" among income groups

LITERATURE REVIEW:

Singh, L. (2021) had been concluded his objective as Green product strategy of hospitality firms significantly influences consumers' buying behavior in north India. Green place strategy of hospitality firms

significantly influence with closed structured questionnaire. He concluded that Green product strategy of hospitality firms significantly influences consumers' buying behavior in north India. Green place strategy of hospitality firms significantly influence consumers' buying behavior in north India.

Haq, F., Adnan, A., & Ali, A. (2021) had been researched the moderating influence of environmental consciousness on green marketing and consumer purchasing behaviour (CBB) and to assess the effect of green marketing strategies on environmental awareness and CBB. The targeted population consists of shoppers in Pakistan's metropolitan retail malls. The data was acquired via a questionnaire, and the data was analysed using hierarchical regression. The findings revealed that green marketing techniques have a favourable, significant influence on environmental awareness and CBB, and that environmental awareness somewhat moderates the link between greenmarketing aspects and CBB. The study indicated that developing an effective green product and marketing strategy is critical for marketers, since it may lead to increased revenues and consumer loyalty.

Sharma, A. P. (2021) had been researched an overview of green marketing as well as the gap between customer attitudes and actual buying behaviour towards green items. To develop a green purchase decision-making model, a total of 232 studies were analyzed using a systematic review. A thematic analysis was used to identify three major themes: personal factors influencing green purchase, green purchase, and green marketing mix. Concern for the environment, eco-labeling, previous experiences, and perceived usefulness have all been identified as significant influencers of green consumer behaviour. Lack of environmental knowledge, price, perceived associated risks, organizational image, trust, and willingness to pay have all been identified as barriers, resulting in a gap between consumers' attitudes and actual purchase behaviour towards green products.

Usharani, M., & Gopinath, R. (2020) had been conducted a research toIdentify consumer attitudes towards organic product marketing and the influence of green marketing on organic product purchase habits in the Tiruchirappalli area. To achieve the goal, the researcher collected 175 main data points using a structured questionnaire. The acquired data was then analysed using descriptive analysis, basic regression, and the chi squire test. The analysis results reveal that knowledge of the green products industry has gained traction, and consumers are well know about the impact of inorganic products. Green marketing has a great impact on organic product purchase behaviour. Female respondents and graduate respondents, in particular, were more favour to organic items.

As a survey, done by **Nekmahmud, M., & Fekete-Farkas, M. (2020)** that 70% of customers' purchase decisions are influenced by eco-friendly messaging from advertising and product labels. Additionally, eco-branding sought out difficulty of transforming production, also states green market growth . It encourages consumer acceptance of green products and raise awareness of green products or services, marketers should emphasise the accurate and clear information about green goods or services with ecolabels.

Bhargavi Mahadevappa, D. R. S (2019) had been analysed green marketing tactics for the consumer durable industry and looks at how customer behaviour affects the environment. To examine consumer use of environmentally friendly consumer durables, a questionnaire approach is used. 234 consumers who purchased green consumer durables from a variety of Bangalore retail outlets participated in the survey. Measurement approaches including confirmatory factor analysis (CFA) and structural equation modelling (SEM) were used to evaluate the questionnaire.The study's findings demonstrate how the following elements of green marketing strategies affect consumer perceptions of environmentally friendly consumer durable products: eco-labeling (EC), eco-advertising (EA), green product pricing (GPP), and environmental consciousness and beliefs (ENC

Mercade Mele, P., Molina Gomez, J., & Garay, L. (2019) had been studied to show that there are also indirect effects of green marketing on green word-of-mouth indicators, which are represented by other mediating factors, such as green attitudinal loyalty and green trust, in addition to the direct effects of green marketing on those indicators. This study took an empirical approach by employing a structured questionnaire and was informed by the literature on green marketing, as well as the conceptual frameworks provided by the Hierarchy of Effects Model and the Associate Learning Principles. Structural Equation Modelling (SEM) was used to assess the survey with 238 hotel guests samples to test the research hypothesis on the beneficial effects of green marketing on green trust, green attitudinal loyalty, and green word of mouth. Due to their favourable effects on customer recommendations—both direct and indirect—through loyalty and trust, this research offers theoretical and managerial implications to assist executives in implementing green marketing strategies. It is determined that loyalty is the factor with the largest influence regarding trust and that green marketing initiatives have a bigger impact on their indirect relationship with word of mouth than on their direct relationship.

Kumar'Ranjan, R., & Kushwaha, R. (2017) had been investigate the association between actual customer purchasing behaviour and green marketing techniques. The "trust" in eco-label and eco-brand is another layer given to green marketing instruments. Eco-branded items appear to be commercially successful owing to their favourable public image, which leads customers to acquire the product and so contributes to the growth of brand loyalty for green products. It shows that Indian customers' knowledge of eco-brands and interest in purchasing ecologically labelled items were impacted by their conviction in the benefits of green products.

Jalalkamali, M., Forooghi, M., &Nazeri, N. (2016) hadbeenstated that Consumerism, customer experience, and consumption patterns are broad issues that have received little attention. Whether it be in green marketing or marketing in general, the customers' point of view should always be surveyed and carefully considered. Obviously, firm advancement is directly linked to customer satisfaction. Customers' purchasing decisions and promotional are immediate outcomes of customer satisfaction, which might be positive or negative.

Rani, N., &Bains, A. (2014) had been summarized that Customers prefer distinctive products that they believe will reflect their own unique needs, personalities, and lifestyles. Market segmentation is used by marketers to meet the needs of customers. They employ promotional techniques to actually change the image of their products so that they are perceived as better identifying and meeting the needs of specific target segments

SAMPLE SIZE:

A sample of 676 respondents has been selected for this research from various districts of Haryana. Only respondents who recently made a purchase of consumer durable Electronics goods were chosen for this study due to its relevance to the consumer durable industry.

DATA INTERPRETATION:

Software for statistical analysis is used to analyze data. Parametric tests and descriptive statistics are implemented in analysis.

TESTING OF HYPOTHESIS:

H01: There is no significant difference in the "Knowledge & Awareness of respondents" amongst respondents in different age groups.

Ha1: There is no significant difference in the "Knowledge & Awareness of respondents" amongst respondents in different age groups.

Analysis of Knowledge and Awareness of respondent's with respect to Respondents Age group

Table No. 1 : ANOVA Table

	Sum of Squares	Degree of Freedom	Mean Square	Value of F	Sig. Value
Between Groups	12.225	3	1.526	3.610	0.006
Within Groups	278.345	675	0.421		
Total	291.570	678			

Rejection of Null hypothesis by value of F=3.610, p < 0.05, so that, it clearly show acceptance of the alternate hypothesis. This was discovered when the "Knowledge and Awareness of respondents" towards green products was tested for significant difference among the respondents of various age groups.

A post hoc analysis using Tukey's HSD (Honestly Significant Difference) method was used to determine whether age groups exhibit significant differences in terms of Knowledge and Awareness towards green products. Result are displayed in the table below.

Post Hoc Analysis with Tukey' HSD method

Table No. 2:

(I)Age group of respondents	(J)Age group of respondents	Mean Difference (I-J)	Standard Error	Sig. Value	95% Confidence Interval	
					Lower Bound	Upper Bound
Below 25 years	25 to 35 years	-0.25859	0.10662	0.271	-0.5903	0.0731
	35 to 45 years	-0.43797*	0.11497	0.004	-0.7957	-0.0801
	45 years and above	-0.46953*	0.10662	0.001	-0.8013	-0.1376
25 to 35 years	Below 25 years	0.25859	0.10662	0.271	-0.0731	0.5903
	35 to 45 years	0.01789	0.10227	0.999	-3.003	0.3361
	45 years and above	0.04641	0.09837	0.999	-0.2597	0.3525
35 to 45 years	Below 25 years	0.43797*	0.11497	0.005	0.0801	0.7957
	25 to 35 years	0.19726	0.11095	0.696	-0.1480	0.5425
	45 years and above	0.22579	0.10738	0.471	-0.1083	0.5559
45 years and above	Below 25 years	-0.46953*	0.10662	0.001	0.1376	0.8013
	25 to 35 years	0.22883	0.10227	0.382	-0.0894	0.5470
	35 to 45 years	0.25735	0.09838	0.181	-0.0487	0.5635

* At the 0.05 level,the mean differnce is significant

Post hoc analysis result using the method Tukey's HSD, a significant difference between the knowledge and awareness of green products and environmental issues between age groups of under 25 and 35 to 45 years old and 45 years and above. The difference is statistically significant (p<0.05), with p=0.005 and 0.001, respectively.

When compared to age groups under 25, the 35–45 year old age group showed a significant difference in knowledge & awareness of green products and environmental issues (p=0.005), showing a substantial difference between these groups (p<0.05).
It was discovered that there was a significant difference (p=0.001) between the age groups of 45 and above and the age groups of under 25 years in terms of knowledge and awareness regarding green products and environmental issues (p<0.05).

H02: The gender of respondents had no significant impact on the respondents' "Knowledge and Awareness."
Ha2: The gender of respondents had a significant impact on the respondents' "Knowledge and Awareness."

Table No. 03:
Independent Samples T-Test Table
Analysis of Knowledge and Awareness of respondents with respect to Gender of Respondents

Respondent Gender	N	Mean differences	Std deviation	Std error mean
Male	418	4.1217	0.68147	0.03136
female	258	4.1801	0.60756	0.04328

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig. Value	t	Degree of Freedom	Sig. Value (2 tailed)	Mean differences	Std error diff.	95% Confidence Interval	
								Lower Bound	Upper Bound
Equal variances assumed	1.291	0.255	-1.041	675	0.297	-0.05837	0.05603	-0.16840	0.05164
Equal variances not assumed			-1.091	408.956	0.275	-0.05837	0.05345	-0.16346	0.04671

The results show a significant value of 0.255 (p>0.05), indicating acceptance of null hypothesis and the assumption of equality between the variances of the two groups (males and females) in this instance. As a result, we look up the p-value for the t-test from row labeled "Equal Variances Assumed" in the 2nd section of the table above. It is determined that the t-test's null hypothesis (t= -1.041, p > 0.05) is accepted, and it is possible to draw the conclusion that respondents' "Knowledge and Awareness" are not substantially different based on their gender.
H03: Respondents with different academic backgrounds do not significantly differ in their "Knowledge and Awareness of Green Products."
Ha3: Respondents with different academic backgrounds does significantly differ in their "Knowledge and Awareness of Green Products."

ANOVA Table

Table No. 04:Analysis of Knowledge and Awareness of respondents with respect to Academic Qualification of respondents

	Sum of Squares	Degree of Freedom	Mean Square	Value of F	Sig. Value
Between Groups	3.560	3	1.186	2.740	0.041
Within Groups	288.010	675	0.432		
Total	291.570	678			

The analysis of the respondents' "Knowledge & Awareness" towards green products in relation to their academic qualification revealed that the null hypothesis, which states that the respondents' "Knowledge & Awareness of green products" does not significantly differ among respondents with different academic qualifications, is rejected (F=2.740, p < 0.05). As a result, we accept the alternative hypothesis, which states that the respondents' "Knowledge and Awareness of green products" does significantly differ among respondents with different academic qualifications.
The result is shown in below table. Post hoc analysis using method Tukey's HSD (Honestly Significant Difference) was used to determine which academic qualification groups exhibit a significant difference in terms of consumer knowledge & awareness regarding green products.

Table No. 5: Post Hoc Analysis with Tukey' HSD method

(I) Academic Qualification of Respondent	(J) Academic Qualification of Respondent	Mean Difference (I-J)	Standard Error	Sig. Value	95% Confidence Interval	
					Lower Bound	Upper Bound
Post Graduate	Illiterate	0.29689	0.13018	0.004	-0.0383	0.6321
	Under Graduate	0.00055	0.09078	1.00	-0.2332	0.2343
	Graduate	0.10569	0.08158	0.565	-0.1043	0.3157
Graduate	Illiterate	0.19118	0.11180	0.318	-0.0967	0.4791
	Undergraduate	-0.10514	0.06159	0.320	-0.2637	0.0534
	Post graduate	-0.10569	0.08158	0.565	-0.3157	0.1043
Under Graduate	Illiterate	0.29633	0.11868	0.060	-0.0093	06019
	Graduate	0.10514	0.06159	0.320	-0.0534	0.2637
	Post graduate	-0.00055	0.09078	1.00	-0.2343	0.2332
Illiterate	Under graduate	0.29633	0.11868	0.060	-0.6019	0.0093
	Graduate	-0.19118	0.11180	0.318	-0.4791	0.0967
	Post graduate	-0.29689	0.13018	0.004	-0.6321	0.0383

The aforementioned post hoc analysis result using method Tukey's HSD shows a significant difference in consumer knowledge & awareness between Illiterate and Post graduate consumers (p=0.004), indicating a significant difference among consumer academic qualification groups (p<0.05).

H04: Respondents' "Knowledge and Awareness towards Green Products" do not significantly differ based on their occupation.
Ha4: Respondents' "Knowledge and Awareness towards Green Products" does a significantly differ based on their occupation.

ANOVA Table

Table No. 6 Analysis of Knowledge and Awareness of respondents with respect to Academic Qualification of respondents.

	Sum of Squares	Degree of Freedom	Mean Square	Value of F	Sig. Value
Between Groups	5.321	5	1.773	4.120	0.006
Within Groups	286.249	675	0.429		
Total	291.570	680			

The assessment of respondents' "Knowledge and Awareness" towards green products in relation to their occupation revealed that the null hypothesis gets rejected as F=4.120, p < 0.05. As a result, we accept the alternative hypothesis, which states that respondents' "Knowledge & Awareness of green products" does significantly differ among respondents with different occupations.
H05: There is no significant difference in "Knowledge and Awareness of Respondents towards Green Products" among income groups.
Ha5: There is a significant difference in "Knowledge and Awareness of Respondents towards Green Products" among income groups.

Analysis of Knowledge & Awareness of respondents with respect to Income of respondents ANOVA Table

Table No. 7

	Sum of Squares	Degree of Freedom	Mean Square	Value of F	Sig. Value
Between Groups	3.090	3	1.029	2.373	0.068
Within Groups Total	288.480	675	0.433		
	291.570	678			

Respondents' "Knowledge and Awareness" towards green products in relation to their income revealed that the null hypothesis is accepted with F=2.373 as value of p > 0.05. As a result, we can draw the conclusion that respondents' "Knowledge & Awareness of green products" does not significantly differ among respondents annual family income.

FINDINGS AND CONCLUSIONS :

"Knowledge & Awareness" (H1) had significant differences among the various age groups of respondents. Hypothesis testing was used to identify whether a significant difference exists among the respondents of various age groups with respect to the factors extracted. There was a significant differences in purchase intention below 25 years, 25 years to 35 years old and 45 years or above . New discovery from the present

study disclosed a significant differences in the respondents' ages. Previous research shows a significant differences in the buying intention of young consumers only.

When the factors were examined with relation respondents' gender, it was found that there is no significant difference between the respondents' genders for "Knowledge and Awareness" (H2). These results conflict with previous studies, states gender was a significant factor influencing knowledge and awareness of green products. It revealed that the present study's findings conflict with some of the previous studies.

Various factors that were extracted and assessed that relates with academic qualification disclosed that the respondents of different academic qualifications had significant differences in "Knowledge and Awareness" (H3). When the extracted components were evaluated in relation to the respondents' occupations, discloses there were substantial differences between the respondents of different occupations in "Knowledge and Awareness" (H4). Conversely, there were no statistically significant variations observed among respondents' knowledge and awareness (H35).

It was discovered that there were notable differences between "Knowledge and Awareness" among customers based on their age groups, educational backgrounds, occupations, and cities of residency. In comparison to the age groups between 25 to 35 years old and 45 years and above , it was discovered that below 25 year olds had a significantly different level of knowledge and awareness regarding green products and environmental issues.

Marketers can implement this technique by using data about consumers' age groups, levels of awareness, and knowledge. This combination can aid marketers in more effectively segmenting the market. Factors such as price, product performance, brand reputation, and accessibility of information emerge as critical influencers shaping consumer attitudes and behaviors.

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