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A Study on Mediating Effect of Environmental Concern and Health Benefits on Green Advertising and Purchase Decision

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ABSTRACT

The current scenario and health hazards taught us the importance of our immunity system. Health becomes imperative when we need to live long, and the environment is significant to contribute to the wellbeing of every human. Green products have shown a ray of hope among consumers to not only save the environment but at the same time become healthy. Valuable inputs and information regarding green products are being corroborated by green advertising. Green advertising is a promotional tool used to attract consumers. This paper studies the influence of green advertising on the purchase decision of green products by consumers. A total of 216 self-administered questionnaires were filled from the respondents through convenience sampling. The eco labels, safety and price factors are significant influencers of the purchase decision of green products. Further the study attempts to find out whether environmental concern and health benefits have a positive and significant mediating effect on consumer purchase towards green products. This study will be valuable for marketers and for advertisers to comprehend and reach the target buyers in an efficient way.

Key words: Green Advertising, Eco labels, Environmental concern, Health benefits

INTRODUCTION

With technological advancement, we might have been quite off tracked from our roots, our environment, our nature. As a consumer, we must protect the environment, take care of it at any cost. Taking care of our environment in the marketing context begins with green marketing. In recent times, conservation of the nature appears to bother all responsible and aware citizens, enterprises, and institutions across the globe much more than it did three decades ago. Research at national and international levels prove that shoppers are vigilant about the ecosystem and adapt their behavior carefully. A new space for sustainable goods surfaces, which is further supported by active consumers. It is a way to commit to the safeguarding the environment.

The journey of green marketing starts from sustainable manufacturing ending up by green packaging. Though it is debated that the prices of green products are expensive but at the same time are not we the responsible citizens of our country investing in capital intensive, technology-oriented costly products, which might also have a side effect on our health. On the contrary, green products are like a feather's touch, with no side effects, ever-lasting visible results. We are ready to invest in tech-intensive treatments but not ayurvedic ones, but why? aren't they costly? do they not tag along with terms and conditions of what to do and what not to, don't they crop up with rising health concerns? or is it hard to read natural labels than complex chemicals one? Does it justify the protection of our heritage? Millions of trees are uprooted, millions of lives are lost, and for what? For the sake of status-quo? Won't the label " a responsible advertiser, cautious advertiser, do the trick for namesake for once! It will only work in our favor if we allow it to, we can begin with spreading awareness about green

marketing, reliability of the green products, usage of green products. On the brighter side, it also promotes make in India, and Go Vocal for Local, and assists our economic development. It will also help in reducing carbon footprint, water pollution, oil spills, plastic footprint, and save our environment from a detrimental end. By purchasing green products, we are becoming considerate towards our motherland, and using green materials to the required extent. According to recent research, on a global level, the backend fame of a company about its environmental responsibility is determined by the 53% of end-users as a rational and empathetic reason that starts them buy and use its products.

Environmental regulation has reached a high level of consciousness of environmental concerns in the marketplace domain, and many enterprises are required to analyze the upshots in their strategic preparation to meet more stringent on the environmental transformation that is far easier said than done. The so-called "green consumer" movement has strived to keep drifting by not positively being able to reach a critical population and not signifying at the very vanguard of shopper's perceptions. And adopt to recycle the attitude of the green product. Thereby, reducing the world from the apocalypse of no trees. Imagine a world with no natural air purifiers, no pure air to breathe, only chemical infused products to survive. In the end, we might then realize the importance of going green and accepting green products to maintain and raise our standard of living.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Eco-Label

Eco-Label is an information tool which usually expresses the information to the consumers on the environmental implications of buying the products (Tang et al., 2004). Eco-Label is also defined as a weapon for consumers to make substitutes that will reduce natural impact and enable them to control how products are manufactured (Rex & Baumann, 2006). Elham Rahbar and Nabsiah Abdul (2011) developed a conceptualized model that investigated the effects of eco-label, eco-brand, and environmental advertising on consumers‟ purchasing behaviour in Penang, Malaysia. They suggested that these marketing tools will help to increase the customers' knowledge about green products and their ability to differentiate between green products and conventional products.

H1: Eco label has positive and significant impact on Green advertising.

Price

The consumers are engaged in green products so that their purchase decision can improve their surroundings (Yaacob & Zakaria, 2011). Chen and Chang (2012) inspected the roles of green perceived value, green perceived risk, and the mediating effect of green trust on the green purchase intention of information and technology products in Taiwan. The definition of green perceived value or price in Chen and Chang (2012) study was adopted from Patterson and Spreng (1997), who documented green product price as consumers‟ overall pricing of the net benefit of a good or service between what is received and what is given based on consumers‟ surroundings desires, sustainable expectations, and green wants. Hence, the pricing of green products was developed as a single-dimension variable based on the study by Chen and Chang (2012).

H2: Eco label has positive and significant impact on Green advertising.

Safety

The claim for green products started to increase when environmental awareness, pressure of Government, for eco-technology in manufacturing and public safety concerns started to rise

among people (Srinivas, 2015). Green products use materials which are safe for nature and are recyclable (Chan & Chai, 2010).

H3: Safety has positive and significant impact on Green advertising.

Green Advertising

Green advertisement refers to the promotions related to natural and biological care that aim to fulfill the needs and wants of ecological customers (Zinkhan & Carlson, 1995). The Government puts pressure on the companies to modify their policies and strategies as per the environment change and make nature friendly products. In fact, advertising plays a crucial role in changing the scenario regarding ecological issues and also creating awareness regarding green products among users of products (consumers) and manufacturers (organizations) (Guraˇu & Ranchhod, 2005; Menon & Menon, 1997; Polonsky & Rosenberger, 2001; Sriram & Forman, 1993). It is proved that green advertising is increasing at rapid pace during last 20 years (Futerra, 2008).

H4: Green advertising has positive and significant impact on Purchase decision.

H5: Green advertising has positive and significant impact on Environmental concern.

Environmental Concern

A concern may vary from person to person in a positive or negative way and sometimes a person can simultaneously possess both positive and negative attitude towards a specific product in question of a place, thing, event or person. With this statement, environmental concern in a more brief context is defined as a learned inclined to respond consistently in a friendly or unfriendly manner with respect to nature (Nik Abdul Rashid, 2010). Additionally, environmental concerns are rooted in a person's concept of self and it shows the degree that a person perceives himself or herself to be an important part of nature (Schultz & Zelenzy, 2000). There has been consistent empirical proof associating a positive stimulus between environmental attitude and behavior (Rashid, 2009; Chen & Chai 2010; Mun, 2009, Laroche et al., 2001).

H6: Environmental concern has positive and significant impact on Purchase decision.

Health Benefits

Additionally, through it the health of the consumers benefit and they remain fit and the products are recyclable which develops the environment in a better way (Chan & Chai, 2010). Hence, green products are safe for the environment and healthier for every person.

H7: Green advertising has positive and significant impact on Health benefits.

H8: Health benefits has positive and significant impact on Purchase decision.

Purchase Decision

Purchase decision is defined as a pre-decided plan to try to buy a particular product or service (Spears & Singh, 2004; Peter & Olson, 2008). Additionally, green product purchase decisions are defined as the purchasing of such products or services which are less harmful to nature and human health (Lee, 2008). The green purchasing means that the customer is willing to purchase the green product in spite of conventional products in their purchase consideration (Nik Abdul Rashid, 2009). While green purchasing also defines a unique way of expressing the concern towards nature and has an eco-friendly behavior (Chan, 2001).

RESEARCH FRAMEWORK AND METHODOLOGY

Based on literature review, the following Conceptual Framework was framed for research.

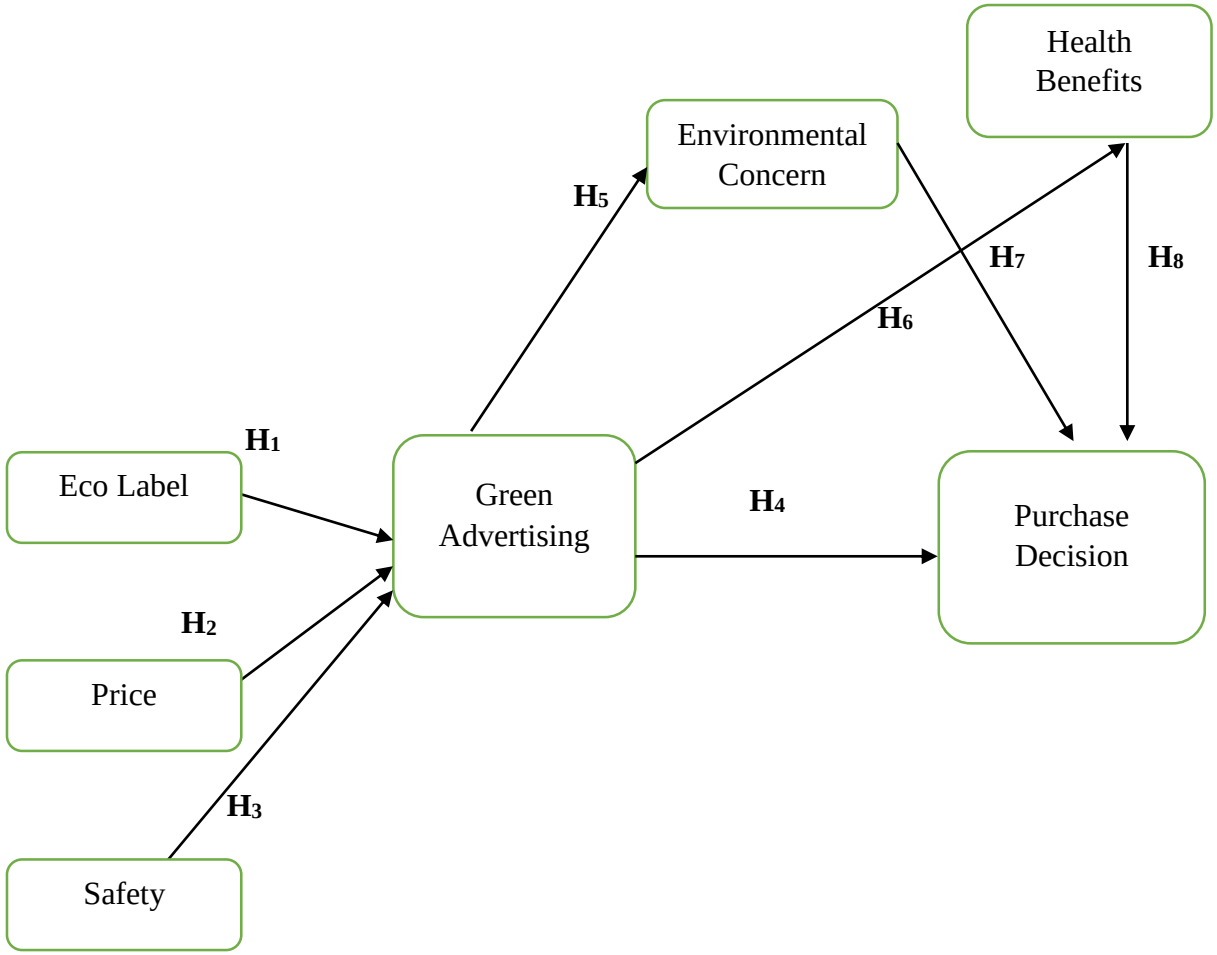

Figure 1: Conceptual model

Structural Questionnaire was used for the purpose of research. Measurement scales of the research model constructs were adopted from previous related studies. Questionnaire was divided into 2 parts. The first part covered the demographic profile of the respondents whereas the second one was related to factors affecting the green products. Five point Likert scale was used for measuring the factors ranging from Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree. Pilot testing of the questionnaire was done on 55 respondents before proceeding for the further research. The results 55 respondents were acceptable. Hence, the researcher proceeded for the further research.

The study was conducted in the Chhattisgarh area. Sampling technique used for this study is Random Sampling. The population for the research was the members who were associated with usage of green products and have concern for the environment. The data was collected from 253 respondents out of which 216 were used for further purpose.

Table 1: Profile of the respondents

Respondent Characteristics	Percentage (%)
Gender	
Male	55%
Female	45%
Age	
20 - 30	54 %
31 - 40	38 %

41 - 50	8 %
51 & above	0 %
Marital Status	
Married	48 %
Unmarried	52 %
Education	
Graduate	36 %
Post - Graduate	52 %
PhD	10 %
Other	2 %
Occupation	
Student	36 %
Private employee	14 %
Government employee	39 %
Business	11 %
Monthly Income	
Below 20,000	17 %
20,001 – 40,000	22 %
40,001 – 60,000	33 %
Above 60,000	28 %

DESCRIPTIVE STATISTICS

Under the descriptive statistics, the results as shown in Table 1 shows that 66 percent of the respondents are males and 33 percent are females. 48 percent of the respondents are married. The age of respondents revealed that about 54 percent are in the age of 20-30, followed by 38 percent in the age of 31-40, 8 percent are in the age of 40-50. The education level of the respondents from the study is 36 percent respondents are graduate, 52 percent are post graduate and only 10 percent are PhD degree holders. 36 percent of respondents are students, followed by 14 percent as private employee, 39 percent of the respondents are government employee and 11 percent are having their business. Monthly income of the respondents in the income group below 20000 is 17 percent, followed by 22 percent in income group of 20001-40000, followed by 33 percent in the income group of 40001-60000, 28 percent are in income group of above 60000.

MODEL ASSESSMENT

The assessment of the measurement model is done using PLS -SEM technique. The process begins with checking the reliability of the item which is done factor loading. The item score of the items were above 0.7.The items EC 1 of Environmental concern, PRI 1 of Price and PD 5 of Purchase decision are little less but are retained as the CR and AVE values are fulfilling the criteria as suggested in study of Hair et al. (2019). For checking the internal consistency of the construct, the composite reliability is evaluated which is above 0.7 representing a good internal reliability of the model. Another check of reliability is Cronbach's alpha value which above 0.7 shows good reliability (Hair et al., 2017). The convergent validity is checked through the composite reliability and average variance explained. The results of AVE are above 0.5 which is required for validity (Hair et al., 2017). Table 2 represents the results of assessment model.

Table 2: Assessment result of Measurement model

Items	Indicator loading	Cronbach's Alpha	rho_A	Composite Reliability	(AVE)
EL1	0.778	0.835	0.859	0.889	0.667
EL2	0.832				
EL3	0.861				
EL4	8.794				
GA1	0.792	0.877	0.895	0.909	0.669
GA2	0.788				
GA3	0.846				
GA4	0.817				
GA5	0.845				
EC1	0.686	0.876	0.890	0.910	0.669
EC2	0.819				
EC3	0.889				
EC4	0.800				
EC5	0.878				
HB1	0.875	0.846	0.862	0.896	0685
HB2	0.866				
HB3	0.808				
HB4	0.755				
PRI1	0.670	0.722	0.719	0.779	0.641
PRI2	0.765				
PRI3	0.767				
PD1	0.819	0.825	0.848	0.873	0.708
PD2	0.810				
PD3	0.822				
PD4	0.767				
PD5	0.656				
SAF1	0.752	0.835	0.858	0.889	0.768
SAF2	0.870				
SAF3	0.797				
SAF4	0.846				

Note: EL: Eco-label; GA: Green advertising; EC: Environmental concern; HB: health benefits; PRI: Price; PD: Purchase decision; SAF: Safety
Source: Author's calculation

Fornell and Larcker (1981) in their studies mentioned that if the square root of AVE is higher than the correlation coefficients there is a discriminant validity. The results of the Table 3 exhibits that criteria for discriminant validity is achieved.

Table 3: Discriminant Validity-Fornell Larcker criterion

	EL	EC	GA	HB	PRI	PD	SAF
EL	**0.817**						
EC	0.434	**0.818**					
GA	0.449	0.348	**0.818**				
HB	0.286	0.392	0.566	**0.827**			
PRI	0.356	0.282	0.289	0.371	**0.735**		
PD	0.232	0.542	0.328	0.463	0.413	**0.713**	

SAF	0.422	0.480	0.491	0.664	0.272	0.395	**0.817**

Note: EL: Eco-label; GA: Green advertising; EC: Environmental concern; HB: health benefits; PRI: Price; PD: Purchase decision; SAF: Safety
Source: Author's calculation

Heterotrait Monotrait Ratio (HTMT) criterion to check discriminant validity is also used. HTMT is contemporary technique developed by Henseler, Ringle and Sarstedt (2015). The studies of Kline (2011) suggest the values obtained by HTMT ratio should be below 0.85. Table 4 exhibits the results are below 0.85.

Table 4: Discriminant Validity- HTMT Criterion

	EL	EC	GA	HB	PRI	PD	SAF
EL							
EC	0.233	0.533					
GA	0.549	0.583	0.241				
HB	0.324	0.441	0.658				
PRI	0.225	0.410	0.377	0.428			
PD	0.309	0.614	0.413	0.553	0.534		
SAF	0.511	0.561	0.567	0.767	0.320	0.475	

Note: EL: Eco-label; GA: Green advertising; EC: Environmental concern; HB: health benefits; PRI: Price; PD: Purchase decision; SAF: Safety
Source: Author's calculation

Structural Model Assessment

The absence or presence of multicollinearity issue is in the model is checked through the variance inflation factor (VIF). Table 5 represents that all the values of construct range between 1.353 to 3.31 (Diamantopoulus & Sigouw, 2006). Thus, it is predicted that there is no multicollinearity issues in the model. The hypotheses are tested through Bootstrapping analysis with sample size of 5000.

Table 5: Inner VIF values of model

	EL	EC	GA	HB	PRI	PD	SAF
EL1	1.746						
EL2	1.826						
EL3	1.998						
EL4	1.853						
EC1		1.969					
EC2		2.244					
EC3		3.051					
EC4		2.143					
EC5		2.943					
GA1			1.992				
GA2			1.958				
GA3			2.244				
GA4			2.237				
GA5			2.152				
HB1				2.224			
HB2				2.265			
HB3				1.790			

HB4				1.687			
PRI1					1.953		
PRI2					1.052		
PRI3					2.011		
PD1						1.722	
PD2						2.483	
PD3						2.318	
PD4						2.270	
PD5						2.066	
PD6						1.412	
PD7						1.223	
SAF1							1.819
SAF2							2.31
SAF3							1.942
SAF4							1.986

Note: EL: Eco-label; GA: Green advertising; EC: Environmental concern; HB: health benefits; PRI: Price; PD: Purchase decision; SAF: Safety
Source: Author's calculation

Structural Model

The hypotheses in the structural model are tested using the bootstrapping method which assesses the significance of the path coefficient and evaluates their confidence intervals. Figure 2 represents the path analysis for one such bootstrap sample.

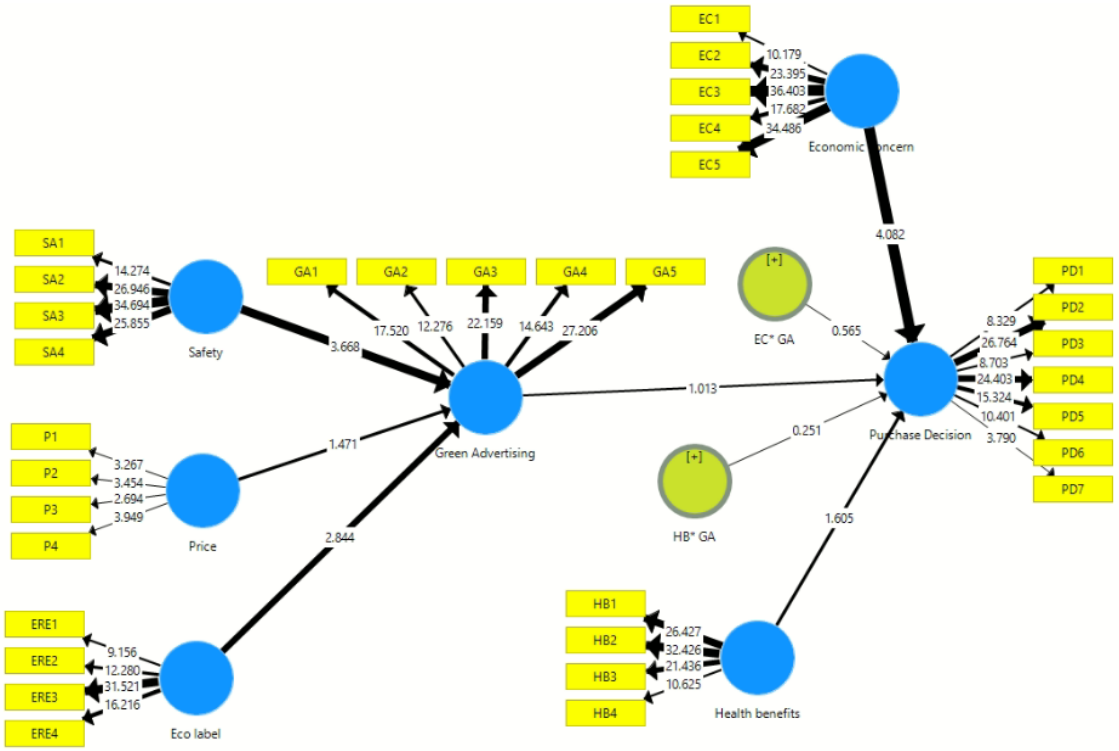

Figure 2: Structural equation model

Inner model represents the p-values & outer model represents the t-value of factors. R square adjusted of the model is robust and significant (0.63).

HYPOTHESIS TESTING

Table 6: Results of Hypotheses testing

Hypotheses	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Adjusted R square	Decision
H_1 :EL ->GA	0.352	0.341	0.132	2.662	0.008	0.632	Supported
H_2 :PRI -> GA	0.238	0.270	0.102	2.334	0.020		Supported
H_3 :SAF -> GA	0.297	0.294	0.096	3.084	0.002		Supported
H_4 :GA_ -> PD	0.056	0.048	0.121	0.463	0.643		Not Supported
H_5 :GA -> EC	0.373	0.376	0.111	3.354	0.001		Supported
H_6 : GA -> HB	0.284	0.282	0.066	4.337	0.001		Supported
H_7 : EC* GA -> PD	0.435	0.436	0.107	4.051	0.001		Supported
H_8 : HB* GA -> PD	0.310	0.308	0.124	2.494	0.802		Not Supported

Note: EL: Eco-label; GA: Green advertising; EC: Environmental concern; HB: health benefits; PRI: Price; PD: Purchase decision; SAF: Safety
Source: Author's calculation

Table 6 exhibits that the six hypotheses are supported at 1 percent level of significance. Eco label (β=0.352; p value=0.008) and Price (β=0.238; p value=0.020) has a significant positive influence on the on Green Advertising. So, H1 and H2 alternative hypotheses were duly supported by the result. Safety has significant positive influence on Green Advertising as (β =0.297; p value is 0.002) which indicated that alternative hypothesis H3 is duly supported.

To check whether Green advertising is having any impact on the Purchase decision of the respondents one new constructs was added by taking proper consideration of previous literature. Green advertising (β=0.056; p value=0.643) a negative (non-significant) influence on the Purchase decision which fails to reject the null hypothesis H4.

From the results it was stated that there was no direct influence of Green advertising on Purchase decision, thus an attempt was made to find whether if mediating variable is introduced there is any indirect effect between them. Thus, based on previous literature two mediating variables were introduced in the model Environmental concern and Health benefits.

Environmental concern (β=0.373; p value=0.001) and Health benefit (β=0.284; p value=0.001) has a significant positive influence on Green Advertising. So, H5 and H6 alternative hypotheses were duly supported by the result.

Environmental concern (β=0.435; p value=0.001) as a mediating variable between green advertising and purchase decision has a significant and positive influence on purchase decision. So, H7 hypothesis were supported by the result.

Health benefits (β=0.310; p value=0.802) as a mediating variable between green advertising and purchase decision reported a non-significant impact on purchase decision which fails to reject the null hypothesis H8.

CONCLUSION

This study has developed an integrated model for explaining and predicting various factors that has significant impact on Green advertising which further leads to purchase decision. The proposed model was examined by PLS-SEM. Six out of eight hypotheses were supported providing insight of the customer purchase decision which in turn is a result of Green advertising. Ecosystem plays an essential part in the wholesome life of a human being. Hence the regime, should be run and consumers should come ahead to safeguard the atmosphere to

stimulate a healthy life. With the injurious impacts on civilization and on their wellbeing using different creations, services etc. consumers are implementing environmental products. For this, green advertising is turned to be best tool to tell them about the eco-friendly products. The present study has brought out various factors of green products with various relationships of purchase decision, knowledge, and attitude with green consumers comportment in the green marketing aspects. With the improving necessity of eco-friendly product, corporations are producing green products, modifying packaging system, modifying their existing product etc. to meet this demand for the environmental safety and help in maintaining healthy lives. The results of the study show that directly the green advertising is not triggering the customers purchase decision but when mediating variable environment concern is introduced an indirect effect is exhibited in the model. Health benefit was also taken into consideration to check the indirect effect of green advertising on purchase decision. The results were not supportive leading to a scope for further research.

IMPLICATIONS OF THE STUDY

The study suggest that Eco-label, Price and Safety has impact on Purchase decision. This creates a space wherein commercial's promotions may be used as additional to promote the use of eco-friendly products and enhance the purchase decision of the buyers. Such promotions can be targeted at growing concerns about environmental problems among consumers and publicize the use of eco-friendly products. Vendors can utilize of these outcomes to improve their promoting plans specifically for green products. It is highly recommended by the business houses which are focusing mainly on manufacturing the eco-friendly products the safety and eco labels are the indispensable marketing tools to enhance the purchase decision of the consumers.

FUTURE RESEARCH

The study was conducted in Chhattisgarh state of India. Due to geographical constraints the users may differ in certain attributes as compared to other parts of the world. Future research can be conducted in more diversified areas.

The study included few factors which were having impact on green advertising. Therefore, future studies can examine the different other factors which are not mentioned in the study and their impact on purchase decision of green products of other companies to determine the model developed in this study is beneficial for other companies.

Finally, the study reported the mediating effect of Environmental concern on Purchase decision but there was no mediating effect of Health benefit on Purchase decision of the buyers. This gives a scope for the researcher to conduct further study.

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