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STATEMENT OF THE PROBLEM

OBJECTIVES

HYPOTHESIS (ES)

RESEARCH METHODOLOGY

RESULTS & DISCUSSION

FINDINGS

RECOMMENDATIONS/SUGGESTIONS

CONCLUSIONS

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A STUDY ON THE CONSUMER AWARENESS TOWARDS GREEN PRODUCTS WITH SPECIAL REFERENCE TO BANGALORE CITY

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ABSTRACT

For the last few decades, concerns over the different environmental issues are gaining attention of various groups of the society. Consumers are becoming more aware about the environmental problems and have started realizing that majority of issues are because of increasing population, our consumption habits and are the consequences of technological advancements. These awakened consumers are now ready to change their preferences from mainstream products to greener products which have least impact on the environment. Changing consumption habits and rising preferences of consumers for green products are proving to have greater influence on the corporate world also. This paper tries to investigate the awareness of consumer about green products and practices grouping green products as Agricultural green product, green electrical equipment, green services, green consumer durables and environmental issues and activism.

KEYWORDS

green marketing, green products, environmental issues, green awareness.

INTRODUCTION

ith accelerate economic development and coupled with uncontrolled urbanization the world is now experiencing severe environmental problem of air, land water and urban ecosystem climate change, enhanced green-house gases emission unplanned solid waste. These are some environmental issues are most talked about issues now a day. A study established that 69% of the general public believes that pollution and other environmental damage are impairing their everyday life. There are only a few who accept that the Earth is no longer a resource at the disposal of human beings to make use of and dispose after, rather it is believed to be a "collective custodial trust" that is to be preserved, enhanced and passed on to the next generation in a healthier state than we found it

National Geographic ranked Indians at the bottoms of the list of 14 Nationalities in environmental awareness. (May, 2008) The World Health Organization Reported air pollution in India causes 5,27,700 deaths every year. 21% of communicable diseases in India are related to polluted water. (Mannarswmy, 2011)

Consumers now have worries about the future of the world and as result of this mostly prefer environment-friendly products. In return to these attitudes of the consumers, companies have started to form their marketing strategies so as to appeal increasing awareness of this environment-friendliness. These marketing strategies, names as Green Marketing, have caused companies to adopt green policies in their pricing, promotion, product features and distribution activities.

GREEN MARKETING

Green marketing includes the developing and marketing such products and services that the customer requirement for quality, reliable price and easy availability of the products without having a harmful impact on the environment (Polonsky, 1994). In business the term – Green product and environmental product are used commonly to describe those that strive to protect or enhance the natural environment by conserving energy and/or resources and reducing or eliminating use of toxic agents, pollution and waste (J. Ottman, 1997). Put simply, Green marketing companies all those marketing activities which the firms undertaken to create a positive impact or lessen the negative impact of their products on the environment.

STATEMENT OF THE PROBLEM

Awareness about environmental issues is growing day by day. Product choice and buying behaviour of products are changing every day. But awareness of consumer towards different categories of green products like Agricultural green products, green electrical equipment, green services, green consumer durables and environmental issues and activism and level of awareness are to be known, and what is the awareness level of the respondent are to be studied that is main intention of the study.

LITERATURE REVIEW

Ottman et al, (2006, p 24) who states "although no consumer product has a zero impact on the environment, in business the terms "green products "or 'environmental product 'are used to describe those that strive to protect or enhance the natural environment by conserving energy and /or resources and reducing or eliminating use of toxic agents, pollution and waste"

A study Elham Rahbar et all., 2011 In his study A survey was carried out on 250 Malaysians and result revealed that customer's trust in eco-brand and their perception of eco-brand show positive and significant impact on their actual purchase behaviour.

Pickett et al., evaluated the attitude and demographic factors, the results showed that the influence of psychological and social factors are more powerful than demographic factors on consumer's green behaviour. In addition, they believe that by affecting these factors, people show different behaviour, and therefore have a positive effect on developing marketing strategies.

Cherian and Jacob (2012) found in their" A study of consumer's Attitude towards environment Friendly products" that consumers lack green knowledge and because of this low awareness, organisations are still not focusing towards development of green products.

RESEARCH METHODOLOGY

A structured questionnaire is used and random sampling method was adopted by the researcher and selected the samples from Bangalore urban and suburban region representing both the genders, different age groups, education level, marital status and monthly income. The data collected from the respondents and are coded, tabulated and analyzed and hypothesis is tested. Secondary data was collected from the available literature. In total data collected from 212 samples. The study has been carried out with following objectives.

RESEARCH OBJECTIVES

- To investigate the awareness of consumer about green products and practice grouping green products as Agricultural green products, green electrical equipment, green services, green consumer durables and environmental issues and activism.
- 2. To measure the levels of awareness of the consumer for the green products.
- 3. To find the source for getting awareness of eco-friendly products.

HYPOTHESES

Based on the above objectives and literature review following hypotheses were to be verifying with statistical analysis.

- H1: There is significant relationship between education level and awareness of eco-friendly products.
- H2: There is no significant difference in mean awareness across four categories of age group.

A BRIEF ANALYSIS ON THE AWARENESS OF GREEN PRODUCTS PROFILE OF THE RESPONDENTS

TABLE 1: GENDER OF THE RESPONDENT

Sr. No.	Gender	No. of Respondent	Percentage
1	Male	235	57
2	Female	177	43
Total		412	100

TABLE 2: AGE GROUP OF THE RESPONDENTS

Sl.No	Age	No. of Respondent	Percentage
1	Less than 30 Years	218	52.91
2	31-40 Years	121	29.37
3	41-50 Years	54	13.11
4	50 Years& above	19	4.61
	Total	412	100

TABLE 3: EDUCATIONAL QUALIFICATION OF THE RESPONDENTS

SI.No	Education Qualification	No. of Respondent	Percentage
1	Higher primary	33	8
2	Below Graduation	86	21
3	Graduates	107	26
4	Post-Graduation	137	33.33
5	Professional Courses	49	12
	Total	412	100%

TABLE 4: OCCUPATION OF THE RESPONDENTS

SI.No	Employment Status	No. of Respondent	Percentage		
1	Student	136	33.01		
2	Homemaker	60	14.56		
3	Business	43	10.44		
4	Services	115	27.91		
5	Government Employee	58	14.08		
	Total	100	100		

TABLE 5: MONTHLY INCOME OF THE RESPONDENTS

Sl.No	Monthly Income	No. of Respondent	Percentage
1	<rs 15000<="" td=""><td>150</td><td>36.41</td></rs>	150	36.41
2	Rs 15000- Rs 30000	107	25.97
3	Rs 30000- Rs 50000	78	18.93
4	Rs 50000- Rs 75000	41	9.95
5	>Rs 75000	36	8.74
	Total	412	100

TABLE 6: FAMILY MEMBERS OF THE RESPONDENTS

SI.No	Family Members	No. of Respondent	Percentage
1	<3	23	5.58
2	3-5	334	81.07
3	6-8	47	11.41
4	Above 8	8	1.94
	Total	100	100

The data shows that 57% of the respondents were males and rest 43% were female, 52.91% of the respondents falls under the age group of <30 years, 23.37% falls in 31-40 years, 13.11% falls in 41-50 years, and rest were falls in >50 years of age, 8% of the respondents have higher primary education level, 21% of the respondents were below graduation, 26% of the respondent have graduates, 33% were post graduates and 12% were professional courses, 33.01% were students, 14.56 % includes homemakers, 16.44% were engaged in business activities, 27.91% were in services and rest of 14.08% were government employees, 44.9% in middle income group and 18.69 belong to higher income group and rest belong to lower income group, and 86.65% belong to small and medium size family rest belong to big family.

I. AGRICULTURAL GREEN PRODUCTS

TABLE 7: AWARENESS ABOUT GREEN PRODUCTS [MULTIPLE RESPONSE]

	Responses		
	N Percent		Percent of Cases
Organic farm products	281	27.8	68.1
Bio fuel	220	21.8	53.4
Biodegradable packaging	197	19.5	47.9
Herbal products	311	30.8	75.5
None of these	2	.2	0.6
Total	1011	100.0	

Table 7 depicts the awareness of the respondents about the green products. Firstly, it is observed that 68.1 percent of the respondents [representing 27.8 percent of the responses] are aware of Organic farm products. Similarly, 53.4 percent of the respondents [representing 21.8 percent of the responses] are aware of the use of *Bio Fuel* while 47.9 percent of the respondents [representing 19.5 percent of the responses] are aware of Biodegradable Packaging. Interestingly and perhaps which look obvious is that fact that more than three fourth (75.5 percent) of the respondents [representing 30.8 percent of the responses] are aware of Herbal products.

Now, with regard to awareness level of agricultural green products, it is observed that 39 percent [see Fig 1] that only one third [33 percent] of the respondents are completely aware and another 39 percent of them are moderately aware about agricultural green products. Cumulatively, about 70 percent of the respondents under the study are aware of agricultural green products to a considerable extent. Yet, about 19 percent of them were somewhat aware and another eight percent were not much aware of the existence or usage of agricultural green products.

II. GREEN ELECTRICAL EQUIPMENTS

TABLE 8: AWARENESS ABOUT GREEN ELECTRICAL EQUIPMENTS

	Responses		
	N	Percent	Percent of Cases
Energy saving equipments	281	22.3	61.0
CFL&LED lighting bulbs	300	26.5	72.7
Electric vehicles	257	22.7	62.3
Solar and wind energy	316	28.0	76.6
None of these	5	.5	1.3
Total	1159	100.0	

Furthermore, Table 8 depicts the awareness of the respondents about green electrical equipments to the sample respondents. Accordingly, it is observed that 72.7 percent of the respondents [representing 26.5 percent of the responses] are aware of *CFL&LED lighting bulbs*. Similarly, 61.0 percent of the respondents [representing 22.3 percent of the responses] are aware of the use of *Energy saving equipments* while 62.3 percent of the respondents [representing 22.7 percent of the responses] are aware of *Electric Vehicles*. Interestingly and perhaps which look obvious is that fact that more than three fourth (76.6 percent) of the respondents [representing 30.8 percent of the responses] are aware of *Solar and wind energy*.

Now, with regard to awareness level of green electrical equipments, it is observed that 39 percent [see Fig 1] that nearly half [49 percent] of the respondents are completely aware and another 34 percent of them are moderately aware about agricultural green products. Cumulatively, about three fourth [75 percent] of the respondents seems to be aware of agricultural green products to a considerable extent. Yet, about 11 percent of them were somewhat aware and another six percent were not much aware of the existence or usage of green electrical equipments.

III. GREEN SERVICES

TABLE 9: AWARENESS ABOUT GREEN SERVICES

	Responses		
	N	Percent	Percent of Cases
Car pooling/e-books emission testing	205	18.8	49.7
Rain water harvesting	310	28.5	75.2
Waste separation	286	26.3	69.4
ATM	286	26.3	69.4
None	0	0	0
Total	1087	100.0	

In continuation, Table 9 depicts the awareness of the respondents about Green Services to the sample respondents. Accordingly, it is observed that 75.2 percent of the respondents [representing 28.5 percent of the respondents [representing 18.8 percent of the responses] are aware of Rain water harvesting. Similarly, 49.7 percent of the respondents [representing 18.8 percent of the responses] are aware of concept of Car Pooling and e-books emission test and another 69.4 percent of the respondents [representing 26.3 percent of the responses] are aware of the process of Waste Separation. Interestingly and perhaps which look obvious is that fact that nearly 70 percent of the respondents [representing 26.3 percent of the responses] are aware of ATMs which fall under Green Services category.

Now, with regard to level of awareness of Green Services, it is observed that 41 percent [see Fig 2] of the respondents are completely aware and another 38 percent of them are moderately aware about Green Services. Cumulatively, about 70 percent of the respondents seem to be aware of Green Services to a considerable extent. Yet, 12 percent of them were somewhat aware and another seven percent were not much aware of the concept of Green Services.

IV. GREEN CONSUMER DURABLES

TABLE 10: AWARENESS ABOUT GREEN CONSUMER DURABLES

	Responses		
	N	Percent	Percent of Cases
Recycled products	308	33.3	74.7
Rechargeable batteries	281	30.4	68.2
Ozone friendly products	193	20.9	46.8
Low fumes paints/ water efficient soaps	129	13.9	31.2
None of these	13	1.4	3.2
Total	924	100.0	

Likewise, Table 10 depicts the awareness of the respondents about **Green Consumer Durables** to the sample respondents. Accordingly, it is observed that 74.7 percent of the respondents [representing 33.3 percent of the responses] are aware of *Recycled products*. Similarly, 68.2 percent of the respondents [representing 30.4 percent of the responses] are aware of *Rechargeable batteries* and another 46.8 percent of the respondents [representing 20.9 percent of the responses] are aware of the process of *Ozone friendly products*. On the other, 31.2 percent of the respondents [representing 13.9 percent of the responses] are aware of Low fumes paints/ water efficient soaps which fall under Green consumer durables category. Surprisingly, about three percent of the respondents were not aware of any of the green consumer durables.

Now, with regard to level of awareness of Green consumer durables, it is observed that 25 percent [see Fig 4] of the respondents are completely aware and another 44 percent of them are moderately aware about Green Durables. Cumulatively, about 65 percent of the respondents seem to be aware of Green Durables

to a considerable extent. Yet, 18 percent of them were somewhat aware and another eight percent were not much aware of the concept of Green Consumer Durables.

TABLE 11: AWARENESS OF ENVIRONMENTAL ISSUES AND ACTIVISM

	Responses		
	N	Percent	Percent of Cases
Green Consumerism	126	13.3	30.5
Swach Bharat Abhiyan	324	34.3	78.6
Environment day	265	28.0	64.2
Global warming	201	21.3	48.7
None	29	3.0	7.0
Total	945	100.0	

Answering to the query on the having awareness about environmental issues and activities, the responses of the response from the selected citizens of Bengaluru is depicted in Table 11. Accordingly, it is observed that 78.6 percent of the respondents [representing 34.3 percent of the responses] are aware of Swach Bharat Abhiyan initiated by Government of India. Similarly, 64.2 percent of the respondents [representing 28.0 percent of the responses] are aware of Environment day and another 48.7 percent of the respondents [representing 21.3 percent of the responses] are aware of the impact of Global Warning. Furthermore, 30.5 percent of the respondents [representing 13.3 percent of the responses] are aware of Green Consumerism. Surprisingly, about three percent of the respondents were not aware of any of the above mentioned environmental issues and activism.

TABLE 12: OVERALL AWARENESS OF RESPONDENTS TOWARDS GREEN PRODUCTS

Response	Frequency	Percent	
Yes	364	88.35	
No	48	11.65	
Total	412	100	

Above table showing that the percentage of responses the awareness of responses about the awareness of green products. The result shows that 88.35% of the respondents said that they are aware of green products, rest of 11.65% of the respondents said no to the question. On the basis of above categorized green products it came to understand that consumer might be aware of the term green product (88.35%) but they are not aware of with the concept of green products because in green services almost all the respondents are aware of green products. The consumer who said no are found to be involved in using green products which means that they don't know that what they are buying/using is a green product, they are buying/using green products unknowingly.

Finally, answering to the question on the source of information for getting aware of eco-friendly products, the responses is shown in the form of bar graph in Fig 5. It clearly emerges that the major source of information is the print media – especially the Newspaper and Magazines to which 63.2 percent of the respondents exclusively opting for this source. Similarly, in case of 57.2 percent of respondents, it was the Television that emerged as the primary source of getting awareness about eco-friendly products. Interest was the major source of information in case of 40.3 percent of the respondents acknowledging it. Furthermore, 28.4 percent of the respondents disclosed that they got to know about the eco-friendly products through word of mouth and similar percentage of respondents exclusively through their friends. Another 21.4 percent of the respondents acknowledge the fact the source for awareness about eco-friendly products is through Radio. Interestingly, for 18.9 percent of the respondents, it was the government agency and through other means of sources for getting awareness about eco-friendly products.

HYPOTHESIS 1

H₁: There is significant relationship between education level and awareness of eco-friendly products [such as agricultural green products, green electrical equipment, Green Services & Green Durables]

TABLE 13: CROSS TABULATION BETWEEN LEVEL EDUCATIONAL QUALIFICATION AND AWARENESS LEVEL ABOUT ECO-FRIENDLY PRODUCTS

	Awareness about eco-friendly products				
	Slightly Aware	Somewhat	Moderately	Completely aware	Total
High on Drive on .	4	18	6	4	32
Higher Primary	(12.5)	(56.2)	(18.8)	(12.5)	(100.0)
Under Graduate	6	20	48	12	86
Onder Graduate	(7.0)	(23.3)	(55.8)	(14.0)	(100.0)
Craduata	6	24	88	34	152
Graduate	(4.0)	(16.0)	(58.0)	(22.0)	(100.0)
Post Graduates	5	9	58	18	90
Post Graduates	(5.7)	(10.0)	(64.3)	(20.0)	(100.0)
Professional courses	2	6	28	16	52
Professional courses	(3.8)	(11.5)	(53.8)	(30.8)	(100.0)
Total	23	77	228	84	412
Total	(5.6)	(18.7)	(55.3)	(20.4)	(100.0)

Pearson Chi-Square Value (table 13) = 49.974

Asymptotic significance (p-value) = 0.000*

From the Chi-square test result (see Table 13), it is observed that p-value is 0.000 (chi-square = 49.974) which is less than the significant alpha level of 0.05 (at 95 percent confidence level). Hence, the hypothesis (H₁) that there is an association between the levels of awareness and education level of the respondents is accepted. In other words, it can be concluded as there is an increase in the level of education (from Primary to Post graduate and professional courses) of the respondents, there is an increase in the percentage of respondents about the awareness about eco-friendly products. This is supported by the percentage of respondents across each level of awareness and each level of education. Accordingly, the percentage of the respondents with complete awareness increases with the increase in the level of education of the respondents.

Finally, we intend to test whether there is any significant difference in the perception about the level of awareness across the age group with an intention on whether younger generation are better equipped with high awareness about eco-friendly products as compared to higher age group or vice-versa. This is statistically tested using ANOVA.

HYPOTHESIS 2

H₀: There is no significant difference in mean **Awareness** across **four categories of age group**. In a sense, the mean Awareness score do not significantly differ between the respondents with less than 30 years of age group and respondents with 31 to 40 years of age group, between the respondents with 31 to 40 years and 41 – 50 years of age group and so on.

^{*} Significant at 5 % level

TABLE 14: ONE-WAY ANOVA BETWEEN AGE GROUP AND AWARENESS OF ECO-FRIENDLY PRODUCTS

L		Sum of Squares	df	Mean Square	F	p-value
ſ	Between Groups	1.176	3	0.392	0.628	0.597
ſ	Within Groups	2552.216	409	0.624	0.028	0.597
ſ	Total	2553.392	207			

It is seen from one-way ANOVA result (Table 14), that there is no significant (statistically) difference in overall mean score of *Awareness of eco-friendly products* [$F_{(3,204)} = 0.628$, p=0.597, p>0.05] dimension among four age group categories. Hence, we accept null hypothesis and reject the alternative hypothesis. In other words, mean *Awareness level* rating score do not differ significantly between respondents with less than 30 years of age group and respondents with 31 to 40 years of age group, between the respondents with 31 to 40 years and 41 – 50 years of age group.

CONCLUSION

Results of the study indicate that the majority of the respondents appeared to be aware of green products and practices, yet they appeared to have little understanding of the terms involved. The core idea of green marketing is to create awareness among people on the environmental issues and how consumers would be helping the environment if they switch over to green products. Women are often more concerned about the environment, and increasing levels of awareness among the female population might provide leverage to promote green and environment ideas and products. And it is necessary younger people also motivated though Govt. and NGO campaigns that raise awareness for environmental sustainability and encourage positive behavioural change among youngster and children. The government should strengthen its efforts in informing the public about safety issues and polices related green products and practices by exploiting the services of mass media.

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