A STUDY ON THE AWARENESS LEVEL AMONG CONSUMERS TOWARDS ENVIRONMENT FRIENDLY CARS WITH REFERENCE TO INDORE

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ABSTRACT

The current environment is having an all pervasive need for the equipment's which are non-detrimental to the present ambience. Green automobiles are those that are having a more environment friendly manifestation. Indian automobile industry in the current scenario is engaged in the process of providing the type of vehicles that are having the green concept promoting technology. This paper is an empirical study of the awareness level among the consumers towards the green automobiles. This paper would help proclaim a picture of the present mental setup of the masses which would help the automobile industry visualize the acceptability of the green automobiles. This paper would also help how far the different technology is preferred among the consumers.

Keywords: Environment friendly cars.

Cite this Article: Neeti Chaturvedi, Dr. Rajendra Singh and Dr. Ajit Upadhyaya, A Study On The Awareness Level Among Consumers Towards Environment Friendly Cars with Reference To Indore. *International Journal of Management*, 10 (1), 2019, pp. 7-13. <http://iaeme.com/Home/issue/IJM?Volume=10&Issue=1>

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1. INTRODUCTION

The Indian car industry has transformed tremendously since the first car rolled out on the roads of Mumbai in the year 1898. Currently the Indian car industry is the sixth largest in the world and the automotive industry being one of the largest in the world. The car industry employs directly or indirectly around six people per car, with an average 24 million vehicles

being produced annually leading to 29 million direct or indirect employment are being generated all over India. The expansion of Indian car industry is majorly due to a mental setup of the masses to own a four wheeler in their lifetime; it results in escalation of possession of cars by the individual. Indian environment is facing critical phase with cities shutting down their routine schedules out of the polluted environmental situation.

1.1. WHAT IS GREEN MARKETING

Green marketing means any production, distribution and promotion of environment friendly products. The products that are non-detrimental to the environment and are non-damaging to the ambience may be stated as green products. Mintu&Lozada (1993) defined green marketing as the “application of marketing tools to facilitate exchanges that satisfy organizational and individual goals in such a way that the preservation, protection and conservation of the physical; environment is upheld.”

“Green or Environmental marketing consists of all activities designed to generate and facilitate any exchanges intended to satisfy human needs or wants, such that the satisfaction of these needs and wants occur, with minimal detrimental impact on the natural environment”.(Polonsky 1994b,2)

1.2. GREEN AUTOMOBILES IN INDIA

Green automobile are the one being amicable towards the environmental combination and that retain the environment unperturbed. Heavy traffic, congestion on the roads and less use of highways make India the most suitable place for the electric vehicle, which is saving fuel through hybrid vehicles. The vehicles in India are more in the idle state and running at a lower speed as they are facing traffic logging quite frequently. The Indian roads are the more ideal ones for the electric vehicles as compared to the US or other developed countries. Since there are more fuel saving in case of Indian traffic, as this study states.(untapped potential of hybrid cars in India) (by Narayan Lakshman, The Hindu) The Indian roads are a bizarre mode of transport as compared to the US ones as they are not smooth, have frequent traffic jams compelling less speed on the part of Indian vehicles. Thus they require a different type of fuel saving vehicle technology as compared to the one in US.

1.3. RATIONALE OF THE STUDY

The Indian Government in 2013 launched a national plan with the goal of getting six to seven million hybrid and electric vehicles on the road by 2020, and has already begun working with the Berkley Lab to further analyze their results. The green cars are pollution free, which is the need of the hour in India. The study of awareness level among the consumers would help the car manufacturers to know about the future of environment friendly cars in Indore, and how far they are acceptable. This study would also help to generate a familiarity towards the green concept among the masses of Indore.

1.4. OBJECTIVES OF THE STUDY

The objectives of the present study are as follows:

- To know awareness level of green (environment friendly) cars among the masses of Indore.
- To study the awareness level of green (environment friendly) cars among the gender of Indore.
- To study the awareness level of green (environment friendly) cars on the basis of age level in Indore.

1.5. HYPOTHESIS OF THE STUDY

The hypothesis of the study is as following:

- H_{O2} There is no significant difference of the awareness level regarding green cars with respect to genders.
- H_A there is significant difference of the awareness level regarding green cars with respect to genders.
- H_{O3} There is no significant difference of the awareness level regarding green cars on the basis of age.
- H_A there is significant difference of the awareness level regarding green cars on the basis of age.

2. RESEARCH METHODOLOGY

DATA: For the particular research data is collected through a structured questionnaire.

SAMPLING: By adopting convenience sampling method, 120 respondents residing in Indore city have been selected for the study.

FRAMEWORK OF ANALYSIS: The collected data has been analyzed through independent t-test and one way ANOVA was also applied to study the relationship between the awareness

LIMITATIONS OF THE STUDY: The data required is collected through a questionnaire thus all sorts of limitations affiliated to the primary data are applicable in the current study. Further the study is confined only to Indore, which again limits the area of study and results.

3. FINDINGS & INTERPRETATION

In order to analyze the data for normality a Kolmogorov & Smirnov test was conducted, thus the data is stated to be Normal. Cronbach Alpha test for reliability was also conducted, the data was found to be normal and the Cronbach Alpha value is 0.871 which is quite high, thus the data is supposed to be reliable enough. A total awareness level among the masses regarding the green concept turns out to be high enough ($M= 102.21$; $SD= 12.567$). An independent t-test was conducted in order to study the awareness level on the basis of gender. “There was a significant difference between the mean value of males ($M=105.93$; $SD= 14.191$) and females ($M=100.24$, $SD=11.214$); $t(119) = 2.417$, $p= 0.012$ ”

Table 1
GENDER

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid male	42	34.7	34.7	
female	79	65.3	65.3	100.0
Total	121	100.0	100.0	

Table 2

One-Sample Kolmogorov-Smirnov Test		
		Total awareness
N		121
Normal Parameters ^{a,b}	Mean	102.21
	Std. Deviation	12.567

A Study On The Awareness Level Among Consumers Towards Environment Friendly Cars with Reference To Indore

Most Extreme Differences	Absolute	.098
	Positive	.058
	Negative	-.098
Kolmogorov-Smirnov Z		1.076
Asymp. Sig. (2-tailed)		.197
a. Test distribution is Normal.		
b. Calculated from data.		

3.1. Cronbach's Alpha

Table 3

Case Processing Summary			
		N	%
Cases	Valid	113	93.4
	Excluded	8	6.6
	Total	121	100.0
a. List wise deletion based on all variables in the procedure.			

Table 4

Reliability Statistics

Cronbach's Alpha	N of Items
.871	25

Figure 1

Table 5

Descriptive Statistics					
	N	Mean	Std. Deviation	Minimum	Maximum
Total awareness	121	102.21	12.567	71	124

3.2. INDEPENDENT T TEST

Table 6

Group Statistics					
	GENDER	N	Mean	Std. Deviation	Std. Error Mean
Total awareness	Male	42	105.93	14.191	2.190
	female	79	100.24	11.214	1.262

Table 7

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Total awareness	Equal variances assumed	6.545	.012	2.417	119	.017	5.688	2.353	1.029	10.347
	Equal variances not assumed			2.251	68.757	.028	5.688	2.527	.646	10.730

Since the t-test states that the significant value is less than .05, it means there is significant difference in the mean value of male and females and thus the Null hypothesis is rejected.

3.3. ONE WAY ANOVA

A one way ANOVA test was conducted in order to compare the effects of different age groups on the awareness level. An ANOVA test was essential for the multiple age group comparison. There was no significant difference between the means of age group of 18-28 years, 28-38 years, 38-48 years and 48-above years, as the significant value in all the cases is not less than .05, and thus the null hypothesis is accepted.

3.4. ONE WAY ANOVA

Table 7

Descriptives								
Total awareness								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
18-28years	62	101.16	12.240	1.554	98.05	104.27	73	122

A Study On The Awareness Level Among Consumers Towards Environment Friendly Cars with
Reference To Indore

28-38years	34	104.06	12.647	2.169	99.65	108.47	82	124
38-48years	17	104.76	12.132	2.942	98.53	111.00	82	121
48-aboveyears	8	97.13	15.487	5.475	84.18	110.07	71	115
Total	121	102.21	12.567	1.142	99.95	104.48	71	124

Table 8

Test of Homogeneity of Variances			
Total awareness			
Levene Statistic	df1	df2	Sig.
.442	3	117	.724

Table 9

ANOVA					
Total awareness					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	502.210	3	167.403	1.062	.368
Within Groups	18450.203	117	157.694		
Total	18952.413	120			

There was no significant difference that existed between the means of various age groups “F (3) = 1.062, p=0.368”. Thus the null hypothesis is accepted, which states that there is no significant difference of awareness level with respect to different age groups.

Table 10

Multiple Comparisons						
Dependent Variable: Total awareness						
Tukey HSD						
(I) AGE	(J) AGE	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
18-28years	28-38years	-2.898	2.680	.702	-9.88	4.09
	38-48years	-3.603	3.438	.722	-12.56	5.36
	48-aboveyears	4.036	4.718	.828	-8.26	16.33
28-38years	18-28years	2.898	2.680	.702	-4.09	9.88
	38-48years	-.706	3.730	.998	-10.43	9.02
	48-aboveyears	6.934	4.935	.499	-5.93	19.79
38-48years	18-28years	3.603	3.438	.722	-5.36	12.56
	28-38years	.706	3.730	.998	-9.02	10.43
	48-aboveyears	7.640	5.384	.490	-6.39	21.67
48-aboveyears	18-28years	-4.036	4.718	.828	-16.33	8.26
	28-38years	-6.934	4.935	.499	-19.79	5.93
	38-48years	-7.640	5.384	.490	-21.67	6.39

A multiple comparison between different age-groups was also conducted which resulted in no significant difference between the means of different age groups individually, since the significance value is higher, thus the Null Hypothesis is accepted.

4. CONCLUSION & SUGGESTIONS

Indian environment is excelling in pollution and the top most polluted cities in the world are from India only (WHO report, 2018). Since the major contribution to the environmental imbalance is the emissions from the automobiles. Concrete steps are supposed to be taken in order to curb the emissions towards preserving the environment. The Indian automobile industry is going through a transformation stage which means new technology, new structures are being introduced into automobiles especially cars. A major step would be to enhance the acceptability of the new technology products among the consumers. Augmenting the awareness level among the consumer is one of the major requirements. The results of the study state that the awareness level and inclination towards green notion among the female is slightly on the higher side which is a critical aspect of the study. If a step is taken by the manufacturers of green vehicles with female also being considered as a prime consumer and the green products be promoted more with the female consumer in mind, it would surely appreciate the business to a great extent.

Since there is no effect of age on the green awareness thus the product might be acceptable to all age groups in the same manner and age does not make a difference to the awareness level regarding the green vehicles. Thus with many global companies indulging and innovating with environment friendly cars, the green vehicles do hold a better future but the acceptability would be gradual.

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