



A Study on Automobile Involvement Behavior and Awareness Among Consumers About Electric Cars and Carpooling

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ABSTRACT

The purpose of this research is to understand the automobile involvement behavior of consumers. The awareness of consumers about electric cars and carpooling is analyzed in this research paper. The primary data is collected through structured questionnaire and the sample size for the study is 140. The consumers' automobile involvement is moderate and their awareness toward electric cars and carpooling is also moderate. The statistical techniques like descriptive statistics, mean and standard deviation are implemented for analyzing the data. This paper provides insights for marketers of automobile companies, academicians for class room teaching and research scholars for conducting future studies in the field of automobile consumer behavior.

KEYWORDS : Automobiles, Electric cars, Carpooling, Environment consciousness, Consumer behavior.

INTRODUCTION

The awareness about new products among the consumers has an impact on their behavior in the long term. The consumers with knowledge about products develop an attitude towards specific products. The automobile involvement consumers can become potential buyers for innovative vehicles in the long term. If consumers adopt electric or hybrid vehicles then India can save approximately 9,500 million liters of crude oil which is worth of above 60,000 crore (PTI, 2016). In the next decade India will become third largest automobile market and domestic resources of crude oil may not be enough to meet the demand (Bloomberg, 2016).

The demand for electric vehicles had increased by 37.5 percent. Approximately 16,000 electric vehicles were sold during 2014-15 and 22,000 vehicles were sold in the past financial year i.e. 2015-16. Out of 22,000 vehicles sold in the past financial year the two wheelers are 20,000 and four wheelers are 2,000. The government had encouraged the manufacturing of electric vehicles by allocating 795 crore under Faster Adoption and Manufacturing of Electric Vehicles (FAME) program. In this paper the awareness about environmental-friendly cars among automobile involvement consumers is discussed.

REVIEW OF LITERATURE

The customers' satisfaction when purchasing automobiles are influenced by price perception and price fairness (Herrman, Xia, Monroe, & Huber, 2007). The Plug-In Hybrid Electric Vehicles helps to reduce greenhouse gas emissions. The education, marketing and direct experience helps consumers to understand about electric vehicles (Caperello & Kurani, 2011). According to Rinjsoever et al (2012), high involved consumers gather information from many sources like retailers and interpersonal sources from the perspective of cars.

The consumers are willing to pay more for cars with components made from renewable sources. Hence in future there can be demand for environmental-friendly vehicles (Hetterich, Bonnemeier, Pritzke, & Georgiadis, 2012). The dealer service and condition of car upon delivery have an impact on the customer satisfaction. According to Axsen and Kurani (2013) the electric vehicles which are referred as plug-in hybrid vehicles and battery electric vehicles avoid air pollution and thereby protect the environment (Axsen & Kurani, 2013). The consumer decision is also influenced by government policies but in some nations people are more concerned about environment rather than government policies or subsidies.

According to Menguc et al (2013) the involvement of consumers at product design stage helps for incremental product innovation but radical innovation has negative impact on product performance. In the recent years the disposable had increased among people in India therefore demand for cars and other luxury products is increasing constantly. Due to huge population and growing urbanization, better highways and finance option the demand for cars is growing in the

recent years (Shende, 2014). According to Koyama et al (2014) the automobiles are hardware products bundled with technology, emotions and people feelings etc. It means the behavior of automobiles gets impacted by psychographic factors like high involvement, low involvement, attitude and beliefs etc.

According to Khan and Rahman (2014) the customers purchase intention is positively influenced by experience of customers. The customers have different experiences like sense experience, feel experience, think experience, act experience and relate experience. According to Larson et al (2014) the manufactures are more considering about technology than educating the consumers about importance of electric vehicles. The policies of government should be formulated for enhancing the knowledge about electric vehicles among the consumers.

Efthymiou et al (2013) had conducted a study to know about factors influencing young drivers during the adoption of vehicle sharing systems and stated that annual income is one of the major factors. Blumenberg and Smart (2013) had conducted research about carpooling interests and they have mentioned that immigrants are more likely towards carpooling compared to non-immigrants. Englis and Phillips (2013) had stated that innovative consumers have positive attitude towards environmentally friendly products.

NEED FOR THIS STUDY

The urbanization is increasing at a faster rate in India. The parking space, pollution and scarcity of oil resources etc may become challenging issue in future. In this regard it is essential to understand the awareness about carpooling and environmental-friendly automobiles among consumers.

OBJECTIVES OF THE STUDY

1. To describe the automobile involvement behavior of consumers
2. To study awareness about electric cars and awareness among the consumers.

SCOPE OF THE STUDY

This study analyzes about the automobile involvement behavior, awareness about electric cars and carpooling awareness. Only cars are considered in this study. There might be other vehicles like bikes which also can be shared among the consumers.

RESEARCH METHODOLOGY

The sample size of this study is 140 and random sampling methodology is adopted for selecting the sample. The closed ended structured questionnaire is used for primary data collection. The first part of the questionnaire consists of eleven items which collect data through Likert type scale. The second part of the questionnaire collects information related to demo-

graphic profile of the respondent. The secondary data is collected from journals, magazines, news papers and reputed academic websites. The respondents for this study should have four wheeler driving license because automobile involvement behavior is measured. The scales for this study had been developed by adopting items from published previous research studies. The automobile involvement behavior related items are taken from Handbook of Marketing scales where many scales related to consumer behavior are available (Bearden & Netemeyer, 1999). The SPSS Version 20.0 is used for data analysis and descriptive statistics method was implemented. The geographical location of the study is Warangal in Telangana State.

DATA ANALYSIS

Nearly 38 percent of the respondents are female and 62 percent are male. Most of the respondents belong to 'student' who are 43 percent, employees are 30 percent, and respondents who belong 'business' category are 30 percent, remaining 12 percent of the respondents belong to 'others' category. Among the respondents majority of the respondents belong to '18-25 Years' age group who are 42 percent and 30 percent of the respondents belong to age group '26 – 33 Years'. Further 18 percent of the respondents belong to '34 – 41' age group and 10 percent belong to 'Above 41 Years' age group.

Among the respondents 30 percent belong to 'Employee' category and 14 percent belong to 'Business' category. The 'Student' category had 44 percent respondents and 12 percent belongs to 'others' category. It is observed from analyzing the demographic profile that most the respondents are students and young people.

RELIABILITY ANALYSIS

The Cronbach's alpha was used for testing the reliability of the measurement scale. The Cronbach's alpha vale for nine items in the scale is 0.914. According to Malhotra and Dash (2011), if the Cronbach's alpha is above 0.70 then the measurement scale is reliable.

DESCRIPTIVE STATISTICS

The mean and standard deviation of each item is calculated by using SPSS version 20 software. The respondents agreed that attractive cars are worthy of extra cost and they like to drive those cars. The following Table 1displays the mean and standard deviation (SD) for each item. It is also observed that people prefer to drive a car with strong personality because the mean is 4.2 and standard deviation is 0.73 which is moderate. It is also observed that respondents are neutral for being race drivers and the standard for the item A3 is also high which is 1.49 therefore it is understood that respondents disagree. For item A8 the mean score is 3.28 and SD is 0.85 therefore it is evident that respondents don't enjoy driving. It is also found that respondents don't like to discuss about cars.

Table 1: Descriptive statistics

Con-struct	Items	Mean	Std. De- viation	Source of Items
Auto- mobile Involvement	A1: It is worth of extra cost to drive an attractive and attention-car	4.3929	.71667	(Bearden & Netemeyer, 1999)
	A2: I prefer to drive a car with a strong personality of its own	4.2714	.73790	
	A3: I have sometimes imagined being a race driver	3.0500	1.49976	
	A4: Cars offer me relaxation and fun when life's pressures build up	3.4929	.98548	
	A5: Driving car is one way I often use to relieve daily pressure.	3.2143	.91184	
	A6: Driving along an open stretch of road seems to "recharge" me in body, mind and spirit.	3.3000	1.17345	
	A7: It is natural that young people become interested in cars.	4.0357	.85167	
	A8: Driving my car is one of the most satisfying and enjoyable things I do	3.2714	1.26288	
	A9: I enjoy discussing cars with my friends.	3.2643	1.39171	

(Source: Developed by researcher by using output from SPSS software)

From Table 2 it is found that 22.9 percent of consumers are not at all aware about electric cars. Only 5.7 percent of the respondents are extremely aware, 27.9 are moderately aware about electric cars. Further 10.7 percent of the respondents are somewhat aware and majority of the respondents' i.e. 32.9 are slightly aware about electric cars.

Table 2: Awareness about electric cars

	Frequency	Percent
Not at all aware	32	22.9
Slightly Aware	46	32.9
Somewhat aware	15	10.7
Moderately aware	39	27.9
Extremely Aware	8	5.7
Total	140	100.0

(Source: Output of SPSS)

From Table 3 it is evident that 6.4 percent of consumers are extremely aware about carpooling. Further 21.4 percent of the respondents are moderately aware about carpooling, 27.9 of the respondents are not at all aware, 12.7 percent of the respondents are slightly aware and 32.1 percent of the respondents are somewhat aware about carpooling.

Table 3: Awareness about carpooling

	Frequency	Percent
Extremely aware	9	6.4
Moderately aware	30	21.4
Not at all aware	39	27.9
Slightly aware	17	12.1
Somewhat aware	45	32.1
Total	140	100.0

(Source: Output of SPSS)

DISCUSSION

There is no significant automobile involvement among people in the present era. The automobile involvement is an important factor which helps the automobile companies to formulate marketing strategies. The awareness about electric cars is less but in the modern world the environment had become a biggest issue. Hence the usage of electric cars among the people protects the environment. The people are not extremely aware about carpooling in the present era. Even carpooling helps to reduce environmental pollution and also traffic congestion.

CONCLUSION

The automobile involvement behavior of consumers helps to know the potential market for automobile manufacturing companies. Many brands of automobile companies have opened their respective show room in Warangal in the last five years. The standard of living had enhanced and people in Warangal district are looking for luxury and durable products. The youngsters are interested are interested in cars and they are also interested about branded cars. The people in the present society are slightly aware about electric cars. Further only few people are aware about carpooling. The awareness about electric cars and carpooling helps the society to reduce air pollution in the long term.

LIMITATIONS OF THE STUDY

The time and money are the major constraints of this study. The sample size of the study is small and findings cannot be generalized. The concept of carpooling is very broad and only few factors are selected in this study. There are many others factors like consumers likeliness towards carpooling and previous experience about carpooling are not covered in this study. Since consumer behavior is dynamic the awareness among the people towards particular concepts or things may changes from time to time.

MANAGERIAL IMPLICATIONS

The marketing companies of electric cars should aggressively design their advertising strategies to motivate the consumers for adopting those electric cars. The benefits of carpooling should be communicated to public through non-profit organizations and other environmen-

tal protection organizations. The Warangal had been selected under the list of smart cities therefore potential demand for luxury products like cars may increase in future. Hence it is the right time for marketing practitioners to formulate innovative strategies to launch their products. The consumers in the modern world are aware of environmental issues. Hence electric car manufacturing companies can develop customized marketing strategy for environmental coconscious consumers.

FUTURE RESEARCH

There is lot of scope for research in the field of automobile consumer behavior. The gender and age group influence on awareness about environmental friendly products like electric cars can be studied. The impact of government initiatives on people and their behavior towards environmental products can be studied. Many other factors like social norms, personal norms and purchase intention can be analyzed among the people towards electric cars and carpooling can be researched in future.

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