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Determinants of Automobile Purchasing Behavior: Special Reference with Manmunai South Eruvil Pattu Divisional Secretariat Division Batticaloa

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Abstract

Nowadays the automobile industry is the most gainful industry in the world. Increase in disposable income in both rural and urban sector and accessibility of easy finance system are the main cause for higher demand of automobiles. The objective of this study is to investigate the determinants of automobile purchasing behavior in Manmunai South Eruvil Pattu Divisional Secretariat division in Batticaloa district, Sri Lanka and considered the demographic factors, economic factors and other factors as independent variables and purchasing behavior is the dependent variable. Using a structured questionnaire, the data was collected from 126 respondents among the population of 210 automobile users of this division. The data of the survey was analyzed using descriptive statistics, correlation and regression analyses with the help of SPSS.

The research study reveals that the independent and dependent variables of this study are high level of satisfaction among the respondents. Further this analysis found that the strong positive relationship between the demographic factors and other factors with purchasing behavior, and the no significance relationship between the economic factors and purchasing behavior.

Keywords: Demographic factors, Economic factors, other factors and Purchasing Behavior

Introduction

The automobile has a leading position in emerging economies because of the recent technological developments and significant changes in social life Ali et al (2015). This industry has an extensive infrastructure and its products have relatively high demand for various purposes including transportation, production and defense. Transport sector is backbone of the country since it contributes to shape the growth and development of the World. This sector is vital for the movement of people and goods and play an important role in integrating the country, smoothing economic growth, and eventually reducing poverty. Vehicles are used for transportation purposes by the people to move from one place to another. Human survival and societal interaction depend on the ability to move people and goods. Efficient mobility systems are essential facilitators of economic development. Due to the economic development the need of transport has arisen to a considerable limit in today's

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world. The increased of transport need has increased the demand for the automobiles as well. Popularization of automobiles has been increasing and has generated important social changes; in terms of improved quality of life and greater efficiency of consumer journeys (Lois & Lopez 2009). Sri Lanka is a developing country and also using automobiles for many purposes. People who live in Batticaloa District also using automobiles for the business, transportation and to fulfill their needs and get a status.

Consumer buying behavior is a blend of Economic, technological, political, cultural, demographic and natural factors as well as Customer's own characteristics which is reflected by his attitude, motivation, perception, personality, knowledge and lifestyle Vikram (2014). Vehicle is an essential goods now a days and life without vehicle is just beyond imagination. Also it is not only an indicator of national economy; but an individual's progress graph that can be measured on the grounds of the automobiles used by him for day to day work and also for pleasures and treasures of happiness, prestige and style as well (Shriram, 2012).

With the boom of the automobile industry, due to globalization and liberalization, automobile manufacturers introduced much innovative and technological advancement in their products. Customers have started thinking to change over to the new models of automobiles, with related ease, comfortable and safety than before, to convenient their changing life patterns (JagathyRaj, 2012). Buying behavior is major position in marketing and has evolved over the years. It is important to understand consumer buying behavior as it plays a vital role in creating an impact on purchase of products. The human wants are unlimited and always expect more and more. Automobiles reproductions are no exclusion to this behavior.

After thirty years of civil war, the people can take part in the work peacefully and independently, so people have curiosity to purchase automobile for their business purposes, luxury purposes and for other needs etc. Many factors influence the choice of consumer automobile (Gupta, 2013). Now the market is predominantly consumer driver and shifting for product-based marketing to need based marketing. So, it is important to study the consumer perceptions and behavior of the Automobile owners which will give the feedback on how marketing strategies can be worked. So, in order to explain consumers' purchasing preferences automobile, it is important to understand their perceptions towards automobile and then those determinant factors that influence their perceptions. Therefore, this study tries to investigate the factors which influencing the purchasing behavior of the automobile's

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consumers in South Eruvil Pattu D.S. division in Batticaloa district. To find the answer for research question the following objectives are formulated.

- To examine the level of demographic factors, economic factors and others factors in automobile purchasing behavior in the study area.
- To investigate the significant relationship between demographic factors, economic factors and others factors in automobile purchasing behavior in Manmunai South Eruvil Pattu Divisional Secretariat.
- To explore the impact of demographic factors, economic factors and others factors on purchasing behavior of automobile Manmunai South Eruvil Pattu Divisional Secretariat division.

Literature Review

Manish Kumar Srivastava and Tiwari (2004), studied the consumer behavior for A3 segment vehicles such as Honda City and SX4 in a particular region Jaipur. They collected data from 100 respondents 50 each from Honda City and Maruti SX4. Respondents were from various backgrounds like Gender, Occupation, Income class and customer purchase parameters such as Price, Safety, Comfort, Power & Pickup, Mileage, Max Speed, Styling, After Sales Service, Brand Name and Spare Parts Cost are considered for study. The main finding of the study is A3 segment car Customer give much importance to Safety, Brand Name and seating and driving comfort.

Vidyavathi (2012) investigated on various aspects that the manufactures should concentrate on to attract the prospective buyers. The demand for the small Automobile segment is increasing because of the growing number of nuclear families as well as parking problems. Further fuel economy and driving comfort are the most important parameters followed by availability of spares and their price.

Dargay (2001), suggested that a significant rise of the income level also increases consumers' car ownership. He found positive relationship between income and purchasing of automobile. The studies (Matas & Raymond, 2008) underlined that car ownership increases with a decline of income elasticity and households from rural areas were less sensitive to lower income than their counterparts living in urban areas.

Rao and Kumar (2012), discovered from their research many customers are satisfied with dealer service, safety, availability of spare parts and customer's relationship. Comfort and safety are the most significant factors which influence the purchase of Sedan car by the

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customers in the United States market. Safety, value for money, and riding comfort are the most important factors that influence the purchasing decision of the Chinese consumers towards passenger cars (Bai & Dongyan, 2008).

Sangho Choo and Patricia Mokhtarian (2004) investigated the relationship between individuals' vehicle type choices, and to develop a disaggregate choice model of vehicle type based on demographic variables. They used 1998 mail-out/mail-back survey of 1904 residents in the San Francisco Bay Area. The dependent variable (the vehicle type of the respondent drives most often) is classified into nine categories: small, compact, mid-sized, large, luxury, sports, minivan/van, pickup, and sport utility vehicle. They considered travel attitude, personality, lifestyle, mobility, and demographic variables individually, using one-way analysis of variance and chi-squared tests. Then, a multinomial logit model for vehicle type choice was estimated. The final model (which possessed the IIA property) confirmed that the variables analyzed significantly affect an individual's vehicle type choice. These results provide useful background not only to vehicle manufacturers, but also to decision makers and planners of transportation policy related to vehicle ownership, traffic congestion, and energy consumption.

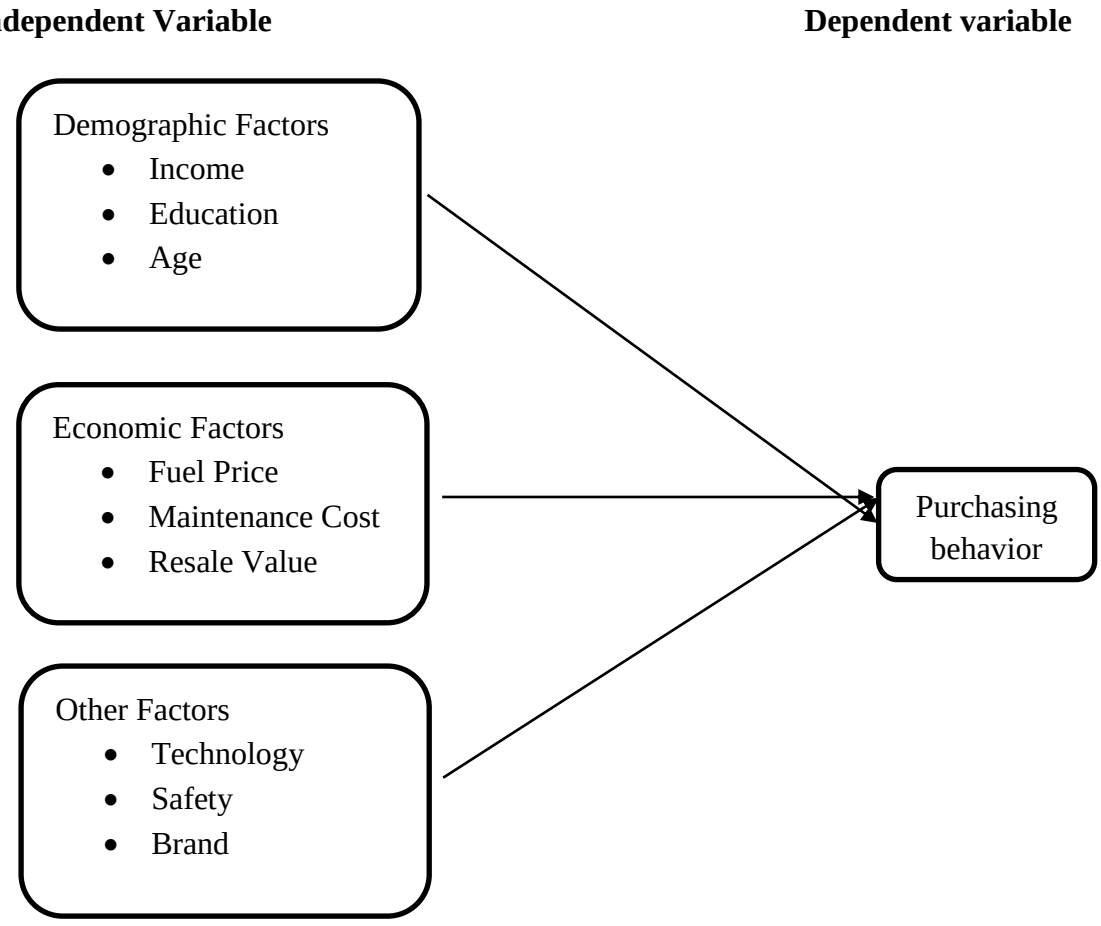
Olgun et al (2014) reveal the effects of economic policies, as one of the macro environmental factors that affect the marketing, on the sale of automobiles using eight different data sets, which include totally 72 months belonged to 2005-2010 years. They used multiple regression and neural network method. The variables like as euro exchange, the vehicle loans rate presented by the banks and tax deduction made by the government for the automobile sector has affected the sale of automobiles; besides, the inflation rate, automobile and oil prices, income of the consumers and advertising expenditures of the businesses have no effects on the sales. In addition, that multiple regression and neural network analysis was compared with each other. Finally, neural network has better performance in the selling prediction than regression model. It is an original study that measures the effects of the macro environmental factors on the sales of automobile enterprises in Turkey.

Bhat et al (2009) investigate the factors affecting the intention to purchase a light commercial vehicle that may be influential in a developing country. For this purpose, a self-administered survey was conducted on 408 people living in Erzurum city, North-Eastern Turkey. The data of the survey was analyzed using binary logistic regression model due to the discrete and

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categorical nature of the dependent variable. Results revealed that gender, age, monthly income, household size, type of driving license, type of fuel, a significant increase in the monthly income, and costs of having SRC-K licenses were significant determinants of consumers' light commercial vehicle demand. Whilst consumers' automotive demand has been extensively studied, little research has been concentrated on light commercial vehicle demand. In this respect, the outcome of this study may provide valuable insights for the existing consumer demand literature in terms of light commercial vehicle purchase.

Figure 1 Conceptual Frame of the Study



(Source: Vikram Shende, 2014; T. Rajasekar 2015; with some modification)

Methodology

This study is conducted with the help of both primary and secondary data, Primary data were collected through questionnaire. Secondary data were collected through books, websites, published articles, magazines, and journals both descriptive and analytical. The purpose of the study is to investigate the influencing factors of automobiles and its impact on the buying

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behavior of consumers towards automobiles. By adopting convenience sampling methods, respondents were selected from South Eruvil Pattu D.S. division in the Batticaloa district. A well -structured questionnaire was used to collect the relevant data among 126 respondents in this research area with 30 questions. The questionnaire consists of two important parts. The first part covers the demographic profile of the respondents. The second part of the questionnaire includes the research information of influencing factors and perception of the consumers towards different automobiles in this study area. The collected data were analyzed by using the Statistical Package for the Social Science (SPSS) software package version 20. The applied statistical analysis are Inferential Statistics, correlation and Regression Analysis. The following model indicates the regression.

$Y = \beta_0 + \beta_1 D + \beta_2 E_+ \beta_3 O + \varepsilon$

Where Y = purchasing behavior of automobiles

D = Demographic factors

E = Economic factors

O = Other factors

β_0 = Intercept

$\beta_1, \beta_2, \beta_3$ = Coefficients

ε = Error Term

Analysis and Interpretation of data

This section includes the analysis the reliability of the variables, analysis of personal information and analysis of research information through the univariate, bivariate and multivariate analysis methods.

Analysis of Reliability

Table 1 Reliability Analysis for Overall Variables and Dimensions

Variables	**Cronbach's Alpha value**	**No. of questions**
Demographic Factors	**0.866**	**8-16**
Income	0.846	8-10
Education	0.724	11-13
Age	0.778	14-16

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Economic Factors	**0.854**	**17-24**
Fuel Price	0.714	17-19
Maintenance Cost	0.725	20-22
Resale value	0.730	23-24
Other Factors	**0.926**	25-34
Technology	0.767	25-27
Safety	0.882	28-31
Brand	0.790	32-34
Purchasing behavior	**0.848**	**35-37**

(Source: Survey Data)

Following the above table this study shows the overall reliability analysis of Cronbach's Alpha Coefficient for the income is 0.846, education is 0.724, age is 0.778, fuel price is 0.714, maintenance cost is 0.725, resale Value is 0.730, technology is 0.767, safety is 0.882, the brand is 0.790. When the Cronbach's Alpha Coefficient value is above 0.70 is considered as good reliable instruments. In this study, Cronbach's Alpha Coefficient values are 0.846, 0.724, 0.778, 0.714, 0.725, 0.730, 0.767, 0.882, and 0.790. So, this indicates that all items considered in this study are to be acceptable.

Research Information

This section shows the analysis and interpretation of data used for the study. All the detail related to the topic factors influencing the consumers towards buying automobiles in South Eruvil Pattu D.S. division in Batticaloa district as discussed here. The univariate analysis and bivariate analysis are used to find the answer research objectives.

Table 2, Overall Values of demographic factors, economic factors and other factors in automobile purchasing in Manmunai South Eruvil Pattu Divisional Secretariat Division

Variables	**Mean**	**Std. Deviation**
Demographic factors		**0.73396**
Income	3.7646	0.99873
Education	3.7540	0.83924
Age	3.9021	0.80891
Economic Factors	**3.7169**	**0.73781**
Fuel Price	3.6085	0.85487

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Maintenance cost	3.8042	0.84145
Resale value	3.7381	0.89379
Other factors	**3.9738**	**0.79161**
Technology	3.9206	0.84162
Safety	4.0139	0.87539
Brand	3.9868	0.87473

(Source: Survey Data)

Table 2 shows the values of demographic factors, economic factors and other factors in automobile purchasing in Manmunai South Eruvil Pattu Divisional Secretariat division. All the independent variables such as demographic factors, economic factors and other factors are the mean value of 3.8069, 3.7169 and 3.9738 respectively and indicates high satisfaction.

Table 3 Overall Values of Purchasing Behavior in automobile Manmunai South Eruvil Pattu Divisional Secretariat division

Variables	**Mean**	**Std. Deviation**
I would purchase an automobile that is visually appealing to me.	3.83	0.961
I would purchase an automobile that fulfills my usage requirement.	3.92	1.032
I would purchase an automobile based on my financial status.	4.06	1.014
Purchasing behavior	**3.9365**	**0.87809**

(Source: Survey Data)

According to the above table 3 purchasing behavior is measured with three indicators. These indicators have the mean values of 3.83, 3.92 and 4.06 respectively. And also, overall values of purchasing behavior in automobile s high satisfaction in this study area.

Table 4 Correlation between independent variables (demographic factors, Economic factors and other factors) and dependent variables (purchasing behavior in Manmunai South Eruvil Pattu Divisional Secretariat Divisio

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Variables		**Demographic factors**	**Economic factors**	**Other factors**
Automobile Purchasing Behavior	Pearson Correlation	0.793**	.655**	.837**
	Sig. (2-tailed)	.000	.000	.000
	Sum of Squares and Cross-products	63.862	53.069	72.716
	Covariance	.511	.425	.582
	N = 126			

**. Correlation is significant at the 0.01 level (2-tailed)

(Source: Survey Data)

This table 6 indicates the correlation between independent variables (demographic factors, Economic factors and other factors) and dependent variables (purchasing behavior) in Manmunai South Eruvil Pattu Divisional Secretariat Division. As per rejection of null hypothesis p=0.000 (p<0.05), and Pearson Correlation (R) 0.793, demographic factors are for the purchasing behavior of automobiles in this stud area. Therefore, it is concluded a significant and strong positive relationship between demographic factors and the purchasing behavior of automobiles. Likewise, economics factors p=0.000 (p<0.05), and Pearson Correlation (r) 0.655 economics factors are associated with the purchasing behavior of automobiles in this stud area. Therefore, it is concluded a significant and strong positive relationship between economic factors and the purchasing behavior of automobiles. Regarding other factors p=0.000 (p<0.05), and Pearson Correlation (r) 0.837 economics factors are associated with the purchasing behavior of automobiles in this stud area. It is concluded a significant and strong positive relationship between other factors and the purchasing behavior of automobiles. Ultimately, there is a significant and strong positive relationship between independent variables such as demographic factors, economic factors and other factors and dependent variables such as purchasing behavior in Manmunai South Eruvil Pattu Divisional Secretariat Division.

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The following table 5 shows the impact of demographic factors, economic factors and other factors in automobile purchasing behavior Manmunai South Ervuil Pattu Divisional Secretariat.

Table 5 Multiple Linear Regression for demographic, economic and other factors on purchasing behavior of automobiles

R	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Change Statistics**		
				R Square Change	**F Change**	**Sig. F Change**
.878	.771	.766	.42515	.771	137.073	.000

Predictors: (Constant), Demographic, Economic and other factors

(Source: Survey Data)

Based on Table 5 the R square statistics is 0.771 it means demographic factors, economic factors, and other factors are 77.1% impact on automobile user's purchasing behavior.

Coefficients demographic, economic and other factors on purchasing behavior of automobiles

Model	Unstandardized coefficients		Standardized coefficients	T value	Sig. value
	B	Std. Error	Beta		
(Constant)	-.243	.218		-1.119	0.265
Demographic factors	.487	.86	.407	5.658	0.000
Economic factors	-.45	.81	-.37	-.550	.583
Other factors	.627	0.75	0.565	8.392	0.000

(Source: Survey Data)

$Y = \beta_0 + \beta_1 D + \beta_2 E_+ \beta_3 O + \varepsilon$

The equation of sample regression that is estimated by purchasing behavior of automobiles (Y); Y= -0.243+ 0.487D - 0.45E+ 0.627O was found

Table 5 & 6 reveals the multiple regression used to access the ability of three control measures (demographic, economic and other factors) that predicts purchasing behavior of automobiles. R value (0.878) indicates the amount of variability explained by independent variables of demographic, economic and other factors and 12 percent of variance in the

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dependent variable of purchasing behavior explain by some other unknown variables. Adjusted R^2 indicates whether there any insignificant factor. It should always be less than or equal to R^2. Here R^2 (0.771) and adjusted R^2 (0.766) are close to each other. This indicates a good model.

Based on findings of regression analysis, demographic factors and other factors have positive significance impact on the automobile user's purchasing behavior. Further the results of multiple regression analysis indicate that, there is a no significant impact of economic variables and automobile purchasing behavior in Manmunai South Eruvil Pattu Divisional Secretariat.

Suggestions and Conclusion

Based on results obtained regarding the relationship between the study variables, demographic factors have strong positive relationship with purchasing behavior revealing that there is a significant relationship between demographic factors and automobile purchasing behavior. While economic factors have no significant relationship with purchasing behavior. And also, other factors have a strong positive relationship with purchasing behavior. Finding of this objective demographic factors, and other factors are significantly determining the purchasing behavior but not economic factors.

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