

A STUDY ON THE TECHNOLOGICAL DEVELOPMENTS IN AUTOMOBILE SECTOR WITH SPECIAL REFERENCE TO SMALL CAR CUSTOMERS IN MADURAI REGION

N. Selvaraj¹, P. Murugesan² and V. Alagupandi³

¹Department of Commerce, Saraswathi Narayanan College, India

²Department of Management Studies, Madurai Kamaraj University College, India

³Department of Management Studies, Institute of Cooperative Management, India

Abstract

Unless there is good environment for starting Automobile industries, it is not possible to survive in the industry. The State Government of Tamil Nadu, encourages these industries to start the units, by offering as many as concessions, like providing land in cheaper cost, providing infrastructural facilities namely electricity, water and roads. Except the variable "Broad wheel base", all the other nine variables were highly perceived by the male and female customers. The significant difference of perception was found in only one variable that is "Broad Wheel Base". Hence, it is concluded that, the male and female customers like the car fitted with latest technologically, newly developed accessories and systems, since they think alike in respect of all the nine variables. The significant difference of perception among the two types of customers belong to joint and nuclear families with regard to the variables namely, since fully automatic, Eco friendly and drivability in traffic is good. It is concluded that, both the above two types of customers, prefer a car developed with latest technology. The present day customers are more aware of the latest technological developments in automobile sector. So every customer gives more important that his car should have provided with the latest technologies. In line of the above, they have preferred the car with latest technology, having power steering, air bags, ABS break system and eco-friendly with less emission of CO₂ (Euro IV model), drivability in traffic was also considered by them. The Total Productivity Maintenance (TPM) will give effective programme in terms of increased plant efficiency and productivity. It is a competitive strategy aimed at enhancing the productivity of men, machine, method and to maintain the level consistently involving the people at level and functions of management. Failure Mode and Effect Analysis (FMEA) should be done.

Keywords:

Automobile, Manufacturing, Perception, Technological and Customer

1. INTRODUCTION

Unless there is good environment for starting Automobile industries, it is not possible to survive in the industry. The State Government of Tamil Nadu, encourages these industries to start the units, by offering as many as concessions, like providing land in cheaper cost, providing infrastructural facilities namely electricity, water and roads [1]. In addition there are more Engineering Colleges, Polytechnics colleges and I.T.I's in Tamil Nadu. Hence availability of skilled employees really attracted the Automobile manufacturers to start their units in Tamil Nadu. The literacy level in Tamil Nadu stands third in India and majority of them occupy good positions, which enhances the attitude of people to own a car. The customers, who have acquainted with latest technological developments and want to have effortless operation of a car, will go in for the highly technological product. Such customers also never bother about the other factors of the product.

1.1 SIGNIFICANCE OF THE STUDY

A review of literature reveals that there are more studies on customer satisfaction besides certain factors influencing consumer's buying behaviour. But it may change due to the influence of various economic, cultural and environmental factors. It is vital to find out the determinants of the behaviour and intention of the customer in purchasing a small car. Also their expectations and delivery of services in the areas of tangibles, individualized attention, performance, assurance and empathy or courtesy. As these dimension are prime importance for any car manufacturing company, they generate interest in knowing the factors which give rise to customer satisfaction. This study may help the car manufacturers to understand their position in service quality, manufacturing and marketing systems. So the manufacturers can boldly enter into the venture of small car production by involving suitable strategies commensurate with the expectations of customers and give them satisfaction.

1.2 PERIOD OF THE STUDY

The survey was conducted by the researcher during the period from August 2018 to March 2019 after having fully understood the concepts and systems in marketing the small cars. The referred period of the survey was to the calendar year.

2. METHODOLOGY

The methodology followed in this study has been detailed below: Since the study is based heavily on primary data, the customer of small cars are identified by contacting respective Regional Transport offices, the petrol bunks, friends, relatives and service stations. The total customers are the global population and from them, sample customers were identified.

2.1 STATISTICAL TOOLS USED

The following statistical tools were employed. They are:

1. Frequency Analysis - Descriptive statistics
2. Percentage Analysis
3. *t* test
4. One way ANOVA
5. Factor Analysis
6. Discriminant Analysis

2.2 DESCRIPTIVE STATISTICS

The descriptive statistics include the measures of central tendency and dispersion. The mean and standard deviation for all

the factor under the ten dimensions were calculated and studied [2]. The nature of distribution of the factors, which give satisfaction to customer taken in the study, could be assessed from the mean and standard deviation of the different groups among the profile variable [3].

Advances in Technology have spearheaded in all the areas in manufacturing sector. It is seen that, every minute or seconds technological changes are being introduced to improve the performance of the car as well as to satisfy the customers [4]. The Table.1 shows the variable which satisfy the customers in Technology and their level of agreement on the attributes.

Table.1. Technological Choice

Variables	Level of agreement			Total
	Agree	Undecided	Disagree	
Since it has latest technology	385 (77.0)	105 (21.0)	10 (2.0)	500 (100.00)
Since fully automatic	373 (74.6)	90 (18.0)	37 (7.6)	500 (100.00)
Since having power steering	427 (85.4)	66 (13.2)	7 (1.4)	500 (100.00)
Since having good pick up	407 (81.4)	86 (11.2)	7 (1.4)	500 (100.00)
Since having air bags	309 (61.8)	165 (31.0)	26 (5.2)	500 (100.00)
Since having ABS (Break System) and air bags	335 (67.0)	142 (28.4)	23 (4.6)	500 (100.00)
Less emission of CO ₂ i.e., Euro IV Model	329 (65.8)	107 (21.4)	64 (12.0)	500 (100.00)
Eco friendly	367 (73.4)	100 (20.0)	33 (6.6)	500 (100.00)
Pick up and drivability in traffic is good	319 (63.8)	157 (31.4)	24 (4.8)	500 (100.00)
Broad wheel base	234 (46.8)	181 (36.2)	85 (17.0)	500 (100.00)

Source: Primary data

Customers are more aware of modern technological developments. These developments were from the result of Research and Design Departments [7]. They work out on the feedback of the customers to satisfy their requirements. In this way most of the customers like the car with latest technology with fully automatic systems, having power steering, good pick up, fitted with air bags for safety, modern ABS Break system, less CO₂ emission, eco-friendly engines and good drivability in traffics [6].

The dimension ‘Technology’ is supported by ten variables, since customers may satisfy in their purchase if any one or more variable (s) fulfilled their expectations. In this regard, the perception of male and female customers were tested with 2 tailed *t* test and the result has been tabled in the Table.2.

Table.2. Technology - perception of male and female compared

Variables	Gender				‘t’	Sig. Level
	Male N=458		Female N=42			
	Mean	SD	Mean	SD		
Since it has latest technology	4.1266	0.819	4.0714	0.838	0.41	0.684
Since fully automatic	3.9694	0.992	4.2143	1.001	-1.52	0.135
Since having power steering	4.3515	0.789	4.3571	0.727	-0.05	0.962
Since having good pick up	4.1900	0.769	4.2381	0.821	-0.37	0.716
Since having air bags	3.7838	0.880	4.0238	1.093	-1.38	0.174
Since having ABS (Break System) and air bags	3.9454	0.890	3.7619	1.055	1.09	0.280
Less emission of CO ₂ i.e., Euro-IV Model	3.8013	1.084	4.0000	1.082	-1.14	0.260
Eco friendly	3.8821	0.852	3.9762	0.841	-0.69	0.491
Drivability in traffic is good	3.7904	0.810	3.6905	1.278	0.50	0.621
Broad wheel base	3.3624	1.060	3.8571	1.072	-2.86*	0.006

* Significant at 5% level

Except the variable “Broad wheel base” all the other nine variables were highly perceived by the male and female customers. The significant difference of perception was found in only one variable that is “Broad Wheel Base” (-2.86), since the *t* value is more than the tabled *t* value of 1.98.

Hence, it is concluded that, the male and female customers like the cars fitted with latest technologically, newly developed accessories and systems, since they think alike in respect of all the nine variables (from Sl.No.1-9).

The hypothesis, “there is no difference of perception among male and female customers with regard to the variables under the dimension ‘Technology’” is mostly accepted and partially rejected since only one variable has the significant difference in perception out of the ten.

Every day, new technologies are being invented to provide the requirements in the existing system. So customers are very much associable to the technological development through the process of implementation of business process re-engineering concept. The companies are taking very sincere efforts to satisfy the customers through various ways. To know the customers satisfaction, an introduction of the technological developments in the products already bought, their experience in the using of the cars and their expected perception on the further development of car with technology, the customers were asked to rate the Ten variables identified as supporter of the Technology. Their perceptions were measured through 5 point rating scale. Perception of different age group of customers were fitted with one way ANOVA and the result obtained has been presented in the following Table.3.

Table.3. Technology - perceived by different age group of customers

Variables	Mean Square (Age in years)				F Statistics	F Probability
	Below 30 Gr. I	31-40 Gr. II	41-50 Gr. III	Above 50 Gr. IV		
Since it his latest technology	4.1333	4.1080	3.9223	4.5263	6.9223*	0.0001
Since fully automatic	4.000	3.8920	3.9709	4.4386	4.8038*	0.0026
Since having power steering	4.3444	4.3480	4.2039	4.6491	4.0405*	0.0074
Since having good pick up	4.1444	4.1640	4.3204	4.1754	1.788	0.3172
Since having air bags	3.7333	3.7320	3.9806	3.9123	2.3300	0.0736
Since having ABS (Break System) and air bags	3.8556	3.8760	4.0388	4.0877	1.5793	0.1935
Less emission of CO ₂ i.e., Euro-IV Model	4.1778	3.6560	3.6117	4.3333	11.3698*	0.0000
Eco friendly	3.9333	3.9400	3.7379	3.8772	1.4730	0.2210
Drivability in traffic is good	3.4889	3.7680	3.8544	4.1754	8.0963*	0.000
Broad wheel base	3.1444	3.4960	3.4078	3.4035	2.4058	0.0662

* Significant at 5% level

The results in the above Table.3 clearly gives how the customers perceived the technological improvements adopted in the cars and how they satisfied with the cars having advanced technologies. From the mean scores of the variables, it is understood, that the Group-I customers, satisfied with the technological factors, the car has latest technology (4.1333), since fully automatic (4.0000), since having power steering (4.3444), since having good pick-up (4.1444), Less emission of CO₂ i.e., Euro-IV Model (4.1778) and Eco friendly (3.9333). The satisfying factors considered by Group-II customers are, since it has latest technology (4.1080), power steering (4.3480), and good pick up (4.1640). Group-III customers considered the factors, power steering (4.2089). The satisfying technological factors of Group-IV customers are latest technology (4.1263), Fully Automatic (4.4386), Power steering (4.6491), Good pick up (4.1754), ABS Break System (4.0879), Less Emission of CO₂ (4.3333) and drivability in Traffic is good (4.1754). The four groups of customers significantly differed in their perception with regard to various satisfying factors namely, latest technology (6.9223), fully automatic (4.8038), having power steering (4.0405), less emission of CO₂ (11.3698) and good drivability in traffic (8.0963), since the *t* values of the respective factors are significant at 5% level.

The technological development all over the world, changed not only the products system but also the life style of the people or the customers. Hence every customer likes to enjoy and experience the technology. The ten technological factors given below, attract the customers to choose the car. It is to examine what factor or factors are contributing more to the satisfaction of customer with regard to technology. All the companies are equally competing to introduce the latest innovations in the automobile technology in their cars to convince and satisfy the customer to buy their products. It is to be identified, the satisfying technological factors of the three groups of customers, categorised according to their educational qualifications with the help of the perceived mean scores on the each factor rated by the three groups. The statistical tool one way ANOVA was employed to compute the mean scores and *F* statistics. The result has been furnished in Table.4.

Table.4. Satisfying Factors of Technology

Variables	Mean Square (Education)			F Statistics	F Probability
	Up to +2	UG	PG		
Since it his latest technology	4.3810	4.0395	4.1565	3.4869*	0.0313
Since fully automatic	4.3333	3.9561	3.9609	2.7567	0.0645
Since having power steering	4.4048	4.2719	4.4217	2.2096	0.1108
Since having good pick up	4.5238	4.0702	4.2565	7.7015*	0.0005
Since having air bags	4.2143	3.7237	3.8087	5.3594*	0.0050
Since having ABS (Break System) and air bags	4.1190	3.8553	3.9696	1.9214	0.1475
Less emission of CO ₂ i.e., Euro-IV Model	4.0476	3.8596	3.7348	1.7937	0.1674
Eco friendly	4.1429	3.8246	3.9087	2.6033	0.0750
Drivability in traffic is good	4.2619	3.6842	3.7913	8.3027*	0.0003
Broad wheel base	3.6667	3.3158	3.4435	2.2110	0.1107

* S - Significant at 5% level

It is understood from the result furnished in Table.4 the Group I customer, who have qualified up to +2 rated the following as satisfying factors. They are, the car has latest technology since fully automatic, since having power steering, since having good pick up, since having air bags, ABS Break System, less emission of CO₂, Eco friendly and drivability in traffic is good. The mean scores of the respective factors or 4.3810, 4.3333, 4.4048, 4.5238, 4.2143, 4.1190, 4.0476 and 4.1429. The group II customers satisfied with the factors, latest technology, fully automatic, having power steering, and good pick up, since their mean scores are 4.0395, 3.9561, 4.2719 and 4.0702 respectively. The factors, it has latest technology (4.1565), fully automatic (3.9609), having

power steering (4.4217), having good pick up (4.2565), having ABS break system (3.4696) and eco-friendly (3.9087) were considered as satisfying factors by Group II customers.

Regarding the significant difference of perception among the three groups of customers, the factors, latest technology (3.4869), good pick up (7.7015), and having air bags (5.3594) and pick up and drivability in traffic is good (8.3027) are found to be significantly differed, since their *F* statistic are significant at 5% level.

The six groups of customers belong to various occupations; have rated the ten factors on technology given in 5 point scale. From the rated perception of the above customers, mean scores and *F* statistics were derived through test of one way ANOVA. The higher the mean score, the factor has been taken as highly satisfied. The calculated result has been shown in Table.5.

Table.5. Technology perceived by customers belong to different occupations

Variables	Mean Square (occupation)						F Statistic	F Probability
	1	2	.3	4	5	6		
Since it his latest technology	4.1753	4.2069	4.0645	4.0538	4.1304	4.1667	0.3429	0.8868
Since fully automatic	4.1031	3.8966	3.9355	4.0323	3.9758	3.5000	0.9647	0.4389
Since having power steering	4.3814	4.1379	4.5645	4.3441	4.3333	3.9167	2.166*	0.0567
Since having good pick up	4.1443	4.0690	4.2097	4.3011	4.1932	4.0000	0.7431	0.5915
Since having air bags	3.8144	3.8621	3.8710	3.8387	3.7391	4.0833	0.5660	0.7261
Since having ABS (Break System) and air bags	3.9897	3.6207	4.0323	3.8602	3.4227	4.3353	1.5186	0.1823
Less emission of CO ₂ i.e., Euro-IV Model	4.0619	4.1724	3.9032	3.5914	3.7150	4.0833	3.071*	0.0097
Eco friendly	3.9381	3.8621	3.9032	3.9247	3.8502	3.9167	0.1937	0.9649
Drivability in traffic is good	3.6804	3.6207	3.7097	3.7742	3.8744	3.8333	1.0562	0.3839
Broad wheel base	3.1443	3.1034	3.5968	3.6774	3.4010	3.1667	3.4220*	0.0048

*S - Significant at 5% level

The factors, since it has latest technology (4.1753), fully automatic (4.1031), having power steering (4.3814), having good pick-up (4.1443), having ABS brakes (3.9897) and less emission of CO₂ (4.8619) were perceived as satisfactory in purchasing the car, by the customers doing business. The company executives, Government staff, Academicians professionals and ex-service staff. Also, perceived the same factors as perceived by the businessmen. The factor fully automatic was perceived as satisfactory by 5 groups of customers except the customers belong to the ex-service since the mean senses are 4.1031, 3.8966, 3.9355, 4.0323 and 3.9758. The customers of 5 types of occupation except company executives perceived the factor ABS Break system as satisfied one. The 5 types of customers, except academicians, choice is has emission of CO₂, since the mean scores are 4.0619, 4.1724, 5.9032, 3.7156 and 4.0833. The factor derivability in traffic was perceived as satisfactory by Government Staff, Professionals and Ex-service staff since the mean scores are 3.7097, 3.8744 and 3.8333 respectively. There is a significant difference of perception among the six types of customers belong to various occupation in respect of the factor broad wheel base, since the *F* statistics is statically significant at 5% level.

The perception of the customers belong to the two types of family namely joint and nuclear was fitted with the *t* test to know, whether there is any significant in perception in respect of the variables supporting the dimension Technology. The result of *t* test has been presented in Table.6.

Table.6. Technology perceived by the customers belong to joint and nuclear family

Variables	Nature of family				‘t’	Sig. Level
	Joint N=123		Nuclear N=377			
	Mean	SD	Mean	SD		
Since it has latest technology	4.1626	0.881	4.1088	0.800	0.60	0.548
Since fully automatic	4.1870	0.971	3.9257	1.010	2.67*	0.008
Since having power steering	4.3577	0.780	4.3501	0.785	0.09	0.926
Since having good pick up	4.1220	0.864	4.2175	0.740	-1.10	0.272
Since having air bags	3.7886	0.994	3.8090	0.869	-0.20	0.839
Since having ABS (Break System) and air bags	4.0163	0.896	3.9019	0.907	1.23	0.222
Less emission of	3.8049	1.106	3.8223	1.078	-0.15	0.879

CO ₂ i.e., Euro-IV Model						
Eco friendly	3.7398	0.931	3.9390	0.818	-2.12*	0.035
Drivability in traffic is good	3.9512	0.886	3.7268	0.842	2.47*	0.014
Broad wheel base	3.3740	1.059	3.4138	1.074	-0.36	0.719

The tabled result in the Table.6 shows that the significant difference of perception among the above two types of customers with regard to the variables namely, since fully automatic, Eco friendly and drivability in traffic is good, to which the *t* values are 2.67, -2.12 and 2.47 respectively. These *t* values are more than the tabled *t* value and hence the significance found with regard to the variables.

Therefore, the hypothesis, “there is no difference of perception among the customers belong to the Joint and Nuclear family in respect of the dimension ‘Technology’” was partially rejected with regard to the three supporting variables and it is accepted with regard to other seven variables.

It is concluded that, both the above two types of customers, prefer a car developed with latest technology. The perception of customers belong to the two categories of family size, were compared with the help of 2 tail *t* test and the result has been furnished in Table.7.

Table.7. Technology - perception of the customers belong to the family size of below three and above three members - compared

Variables	Family Size				‘t’	Sig. level
	Below 3 N=118		Above 3 N=382			
	Mean	SD	Mean	SD		
Since it has latest technology	4.0424	0.821	4.1466	0.819	-1.21	0.229
Since fully automatic	3.9322	1.027	4.0079	0.984	-0.71	0.481
Since having power steering	4.3220	0.727	4.3613	0.801	-0.50	0.618
Since having good pick up	4.1102	0.749	4.2199	0.780	-1.38	0.170
Since having air bags	3.7203	0.923	3.8298	0.893	-1.13	0.258
Since having ABS (Break System) and air bags	3.8390	0.915	3.9581	0.901	-1.24	0.216
Less emission of CO ₂ i.e., Euro-IV Model	3.8898	1.146	3.7958	1.065	0.49	0.429

Eco friendly	3.9153	0.863	3.8822	0.848	0.37	0.715
Drivability in traffic is good	3.6864	0.903	3.8115	0.842	-1.34	0.183
Broad wheel base	3.1441	1.207	3.4843	1.011	-2.78*	0.006

It is inferred from Table.7, significant difference of perception was found among the customers belong to the family size of below three and above three members in respect of the variables “Broad wheel base” under the dimension ‘Technology’. The *t* value is -2.78, which is significant at 5% level. There is no significant difference in perception found in respect of other nine variables.

Therefore, the hypothesis, “there is no difference of perception among the customers of the two types belong to the family size of below three and above three members” is accepted except on one variable which shows significant difference.

It is inferred that the customers, while taking decisions on buying a car, have clearly give more consideration for technological advancement in the car, where the broad wheel base considered to be an important one.

If a car is fully loaded with advanced technology, and the customers, who seek the same, may get more satisfaction in owning the car. Accordingly the ten factors relevant to the technological advances in automobiles may act as satisfying factors of the customers, some may satisfied with one factor, and some may need more than one. As such, the perception of the four income groups of customers were asked to rate the ten factors given in 5 point scale. The mean scores of the perception of the customers were computed with the help of test of one way Anova and the result has been detailed in Table.8.

Table.8. Technology perceived by Different Income Group of Customers

Variables	Mean Square (Income)				F Statistics	F Probability
	15000 to 30000	31000 to 50000	51000 to 70000	71000 and Above		
Since it has latest technology	4.1440	3.9457	4.4821	4.5294	8.2375*	0.0000
Since fully automatic	3.8971	3.9293	4.5536	4.1176	7.2969*	0.0001
Since having power steering	4.2510	4.4076	4.5714	4.4706	3.2959*	0.0203
Since having good pick up	4.1070	4.2717	4.4286	3.8235	4.7726*	0.0027
Since having air bags	3.7613	3.8207	3.7679	4.3529	2.3570	0.0710

Since having ABS (Break System) and air bags	3.872 4	3.989 1	3.910 7	4.176 5	1.0189	0.3839
Less emission of CO ₂ i.e., Euro-IV Model	3.839 5	3.641 3	4.017 9	4.764 7	6.8500*	0.0002
Eco friendly	3.983 5	3.793 5	3.803 6	3.882 4	1.9744	0.1169
Drivability in traffic is good	3.749 0	3.701 1	4.232 1	3.647 1	6.1287*	0.0004
Broad wheel base	3.452 7	3.385 9	3.267 9	3.352 9	0.4996	0.6827

On examination of Table.8, it is noticed that, the four groups of customers' choice of the satisfying factors are the nine factors from (1-9) except the factor broad wheel base. All the nine factors have been highly perceived by the four groups of customers.

Except the four factors, having air bags, having ABS Break system, Eco friendly and Broad wheel base, the *F* statistics of all the other six factors (1-4, 7, 9), are found to be statistically significant at 5% level. Hence the significant difference in perception among the four groups of customers with regard to the dimension Technology were found in the above factors.

Table.9. Technology

Statement of Factors	Factor 1	Factor 2	Factor 3	Factor 4
Since having good pick up	.73122	.22520	-0.0364	-.0032
Since having power Steering	.68106	-.14939	- 0.2125	-.45611
Pick up dis- availability in Traffic in good	.60833	-.14939	.29368	-.09347
Lesson emission in CO ₂ IV model	.03735	.87385	-.09064	-.02990
Eco friendly	.00552	.86924	.13104	-.06092
Since it has latest Technology	.036972	.61638	.22297	.09267
Since having air bags	.01767	.55117	.27067	- 42785
Broad wheel Base	.08278	.00323	.86854	-.07593
Since burly automatic	.18502	.21060	.60468	-.19080
Since having ABS Break System	.27113	-.05797	.45664	.35451
Eigen Valve	2.68162	1.23546	1.18497	1.00544
Percentage of variance	26.8	12.4	11.8	10.1
Cumulative percentage	26.8	39.2	51.0	61.1

The ten factors under the dimension technology were rotated to group them. On the basis of high loadings, the factors having

the value above 0.5 were taken for consideration. Three factors F1, F2, F3 were extracted from the ten as discussed below. The tenth variable "since having ABS break system, has been deleted from any of the three group of factor, since having minimum loadings.

The three factors since having good pick up (.73122), since having power steering (.68106) and pick up and disavailability in traffic is good (.60833) have high loadings on the Factor I (F1) there were more relevant to disavailability. Hence this Factor I (F1) is referred as Drivability.

Factor II (F2): The four factors, less emission of CO₂ (.87385) Eco friendly (.86924) since it has latest Technology (.61638) and since having Air bags (.55117) have high loadings on the Factor II (F2). These were more related to the technology of safeguarding the environment. Therefore this Factor II (F2) is referred as Environment.

Factor III (F3): In this matrix, the factors Broad Wheel Base (.86854) and since fully automatic (.60468) high loadings on the Factor III (F3). Since they are mostly concerned with safety, hence the factor can be referred as safety systems.

Table.10. Brand Discriminants - Technology

Variables	Co-efficients		
	Maruti	Hyundai	Tata
Since it has latest technology	1.2646	1.8502	1.2274
Since fully automatic	0.5074	0.1395	0.6965
Since having power steering	3.8694	3.2478	3.6618
Since having good pick up	3.8716	4.3740	4.5777
Since having air bags	0.3876	0.8561	0.0754
Since having ABS (Break System) and air bags	2.4337	2.3335	2.6723
Less emission of CO ₂ i.e., Euro IV Model	2.0717	1.5436	2.2428
Eco friendly	2.3089	2.7077	2.7402
Pick up and drivability in traffic is good	1.7005	1.9588	1.6861
Broad wheel base	2.0006	2.3226	1.8126

The Maruti car with power steering, having good pick up discriminate from Hyundai and Tata. The car with ABS break system, less emission of CO₂ and eco-friendly are the discriminants of Tata from Maruti and Hyundai. The broad wheel base is the discriminant of Hyundai cars.

3. CONCLUSION

Except the variable "Broad wheel base", all the other nine variables were highly perceived by the male and female customers. The significant difference of perception was found in only one variable that is "Broad Wheel Base". Hence, it is concluded that, the male and female customers like the car fitted with latest technologically, newly developed accessories and systems, since they think alike in respect of all the nine variables.

From the mean scores of the variables, it is understood, that the Group-I customers who are below 30 years of age, satisfied with the technological factors, the car has latest technology, since

fully automatic, since having power steering, since having good pick-up, Less emission of CO₂ i.e., Euro-IV Model and Eco friendly. The satisfying factors considered by the customers of 31-40 years of age are, since it has latest technology, power steering, and good pick up. The Group-III customers of 41-50 years of age considered the factors, power steering. The satisfying technological factors of Group-IV customers those having the age of more than 50 years are latest technology, Fully Automatic, Power steering, Good pick up, ABS Break System, Less Emission of CO₂ and drivability in Traffic is good. The four groups of customers significantly differed in their perception with regard to various satisfying factors namely, latest technology, fully automatic, having power steering, less emission of CO₂ and good drivability in traffic.

It is understood from the result furnished in Table.5.48 the Group I customer, who have qualified up to +2 rated the following as satisfying factors. They are, the car has latest technology since fully automatic, since having power steering, since having good pick up, since having air bags, ABS Break System, less emission of CO₂, Eco friendly and drivability in traffic is good. The group II customers that is undergraduates satisfied with the factors, latest technology, fully automatic, having power steering, and good pick up. The factors, it has latest technology, fully automatic, having power steering, having good pick up, having ABS break system and eco-friendly were considered as satisfying factors by post-graduates.

The factors, since it has latest technology, fully automatic, having power steering, having good pick-up, having ABS brakes and less emission of CO₂ are perceived as satisfactory in purchasing the car, by the customers doing business. The company executives, Government staff, Academicians professionals and ex-service staff. Also, perceived the same factors as perceived by the businessmen. The factor fully automatic was perceived as satisfactory by 5 groups of customers except the customers belong to the ex-service staff. The customers of 5 types of occupation except company executives perceived the factor ABS Break system as satisfied one. The 5 types of customers, except academicians, choice is has emission of CO₂. The factor drivability in traffic was perceived as satisfactory by Government Staff, Professionals and Ex-service staff. There is a significant difference of perception among the six types of customers belong to various occupation in respect of the factor broad wheel base.

The significant difference of perception among the two types of customers belong to joint and nuclear families with regard to the variables namely, since fully automatic, Eco friendly and drivability in traffic is good. It is concluded that, both the above two types of customers, prefer a car developed with latest technology.

Significant difference of perception was found among the customers belong to the family size of below three and above three members in respect of the variables "Broad wheel base" under the dimension 'Technology'. The customers, while taking decisions on buying a car, have clearly give more consideration for technological advancement in the car, where the broad wheel base considered to be an important one.

The present day customers are more aware of the latest technological developments in automobile sector. So every customer gives more important that his car should have provided with the latest technologies. In line of the above, they have preferred the car with latest technology, having power steering, air bags, ABS break system and eco-friendly with less emission of CO₂ (Euro IV model), drivability in traffic was also considered by them.

4. SUGGESTIONS

The TPM will give effective programme in terms of increased plant efficiency and productivity. It is a competitive strategy aimed at enhancing the productivity of men, machine, method and to maintain the level consistently involving the people at level and functions of management and FMEA should be done.

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