

Chapter VIII

Suggestions

On the basis of the findings of the Study the researcher proposes following suggestions for the manufactures and their dealers.

8.1 The manufacturers should motivate the dealers to participate in the training programmes

The researcher had observed that all the manufacturers conduct training programmes for the dealers. The dealer's or their representative's participation level in these training programmes was also investigated. For ready reference the findings are presented here again.

- i. 87% of all the 2-wheeler dealers participated in the training programmes conducted by the manufacturers in Pune region.
- ii. 97% of all the 2-wheeler dealers located in the city participated in the training programmes in Pune region.
- iii. Only 50% of all the 2-wheeler dealers located in the district area participated in the training programmes conducted by the manufacturers in Pune region.

Table 5.22 shows the average level of participation of the dealers in the training programmes. The average (mode) level of the participation of the 2-wheeler dealers located in the city area in these training programmes was 7 and that of the dealers located in the district area was 5. It may be observed that only 50 % of the 2-whleeler dealers in the

district area participated in the training programmes and the average level of their participation was only 5 on a ten point scale.

The level of participation of the dealers in the district areas was low. 37.5 % (Three dealers out of eight dealers in the district area) had participation level of 0 on a ten-point scale. As seen in the case of 2-wheeler dealers in the district area; the 4-wheeler dealer in the district area had participation level of 0 on a ten-point scale.

The researcher investigated for any association between sales in the year 2003 and the dealer's or their representative's participation level in the training programmes conducted by the manufacturers. The sales data for the financial year 2003 being the latest data available during the period of study, the sales during the year 2003 was chosen as the variable. For this, a multivariate statistical technique i.e. Multiple Linear Regression Analysis (MLRA) method was used. The dependent variable was sales in the year 2003 (NSALES03) and independent variables were location (LOC), and vehicle type (Q_1).

The fitted model was:

$$\text{NSales03} = 8.22 - 0.55 (X_1) - 1.38 (X_2) + 0.17 (X_3)$$

Where NSales = \log_e sales 2003 (Normalised variable)

X_1 = 1 if the dealer is located in the city, or
= 2 if the dealer is located in the district

X_2 = 1 if the dealer is a 2-wheeler dealer, or
= 2 if the dealer is a 4-wheeler dealer.

X_3 = 1-10 the level of participation of the dealer on a ten point scale.

8.1.1 The test statistic

(Coefficient of Determination) $R^2 = 32.2\%$ $p = 0.00$

| Table .8.1 Details of the constructed model | | | | |
|---|-----------------------------|------------|---------------------------|---------------|
| Variables in the Model | Unstandardised Coefficients | | Standardised Coefficients | Significance. |
| | B | Std. Error | Beta | |
| (Constant) | 8.217 | .916 | | .000 |
| Location of the dealer | -.549 | .453 | -.144 | .230 |
| Vehicle type | -1.382 | .310 | -.500 | .000 |
| Level of participation in the training programmes | .170 | .059 | .340 | .005 |

Dependent Variable: NSALES03

8.1.2 Examination of the residuals

| Table 8.2 Residuals Statistic associated with the model in table 8.1 | | | | | |
|---|---------|---------|------|----------------|----|
| | Minimum | Maximum | Mean | Std. Deviation | N |
| Std. Predicted Value | -3.301 | 1.414 | .000 | 1.000 | 62 |
| Std. Residual | -2.182 | 1.980 | .000 | .975 | 62 |

Dependent Variable: NSALES03

Figure 8.1
Histogram of Normalised sales during year 2003

Histogram

Dependent Variable: NSALES03

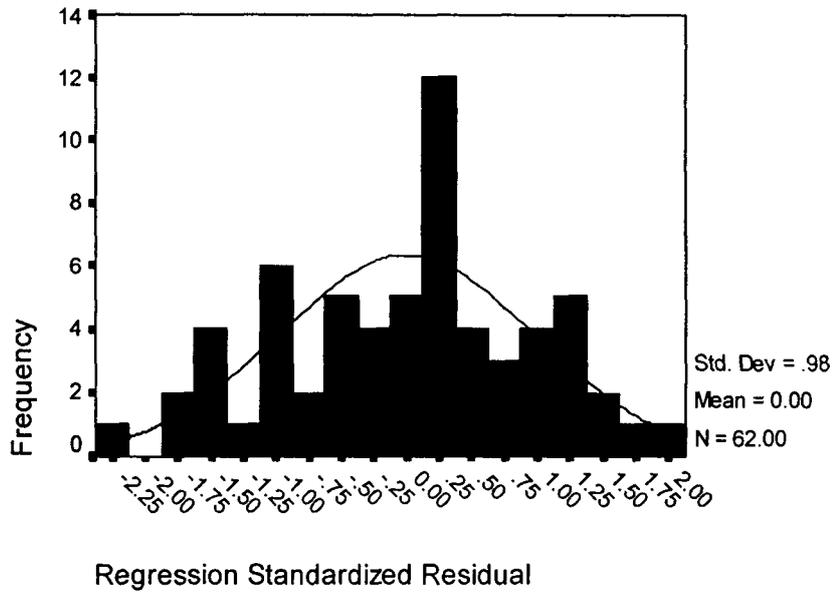
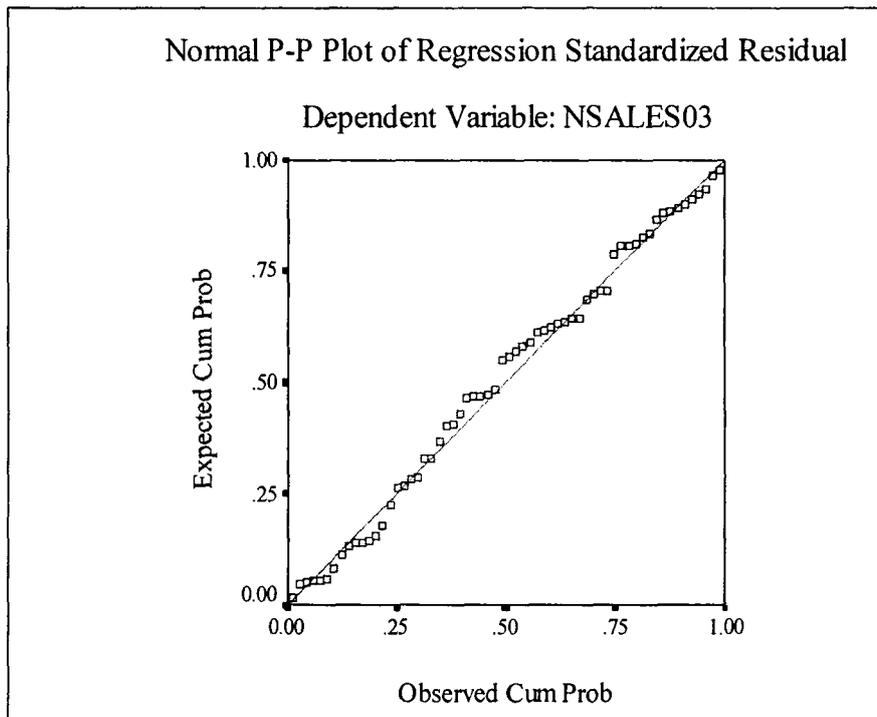


Figure 8.2
P-P plot of Regression Standardised Residuals to test its Normality



From the figures 8.1 and 8.2 it is clear that the residuals were normally distributed; therefore fitted model is an appropriate fit.

The Coefficient of Determination $R^2=0.322(32.2\%) \sim 32\%$

This implied that location of the dealer, type of vehicle the dealer dealt in and the participation level of the dealer in the training programmes explains about 32% of the total variability in sales 03. This fitted model further implied that the participation level of the dealer or their representative in the training programme independently predicted the sales in the year 2003 after controlling for the location of the dealer and the type of vehicle the dealer dealt in. The practical application of this model is, one would be able to predict the sales of a dealer if the location of the dealer, type of vehicle the dealer dealt in and his participation level in the training programmes are known.

Thus it can be concluded that the manufacturers may be benefited by motivating the dealers to participate in the training programmes. The manufacturers may lay stress on the involvement of the dealers located in the district areas so that the sales may be improved. The interaction between the dealers at the training programmes may also be of help.

The dealers too may be benefited. By knowing their participation level in the training programmes their sales may be predicted.

8.1.3 Validity of the model constructed

To test the validity of the model constructed, the researcher tried to predict the sales during the year 2005 of 2 dealers. One of which a 2-wheeler dealer and the other was a 4-wheeler. Both these dealers were located in the city area. These dealers had started their operations during the period of study and were not included in the study as these dealers had started their operations after the data was collected for the Study. The data regarding their level of participation in the training

programmes was collected. These variables were then used to predict the sales using model constructed above.

$$N_{\text{sales}} = 8.22 - 0.55 (X_1) - 1.38 (X_2) + 0.17 (X_3)$$

For the 2-wheeler dealer his participation level was 5 thus

$$N_{\text{sales}} = 8.22 - 0.55(1) - 1.38(1) + 0.17(5)$$

$$= 7.14$$

$$N_{\text{sales}} = \log_e$$

$$\therefore \text{Sales} = \text{antilog}_e 7.14$$

$$= 1261$$

The sales figure of this dealer for the period April 2004 –March 2005 were obtained. The total sale by this dealer was 1236 during the period April 2004 March 2005. It may be seen that the sales could be predicated within the permissible correctness of statistical test.

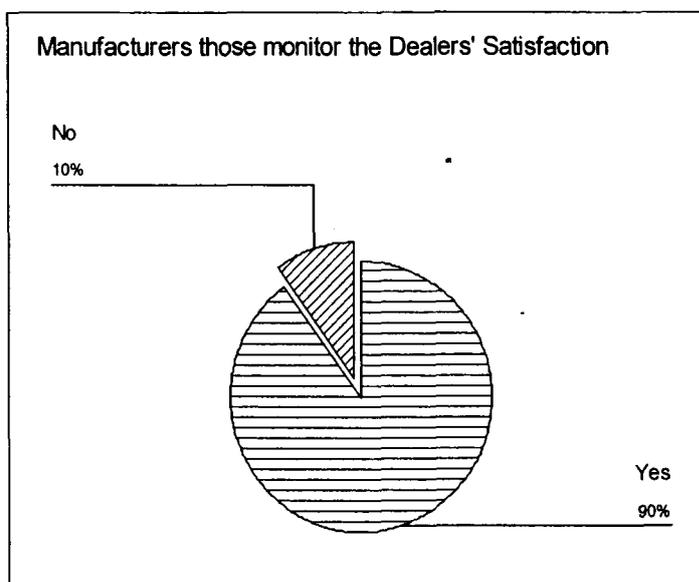
Similarly the participation level of the 4-wheeler dealer located in the city area was enquired and the data collected were used to predict the sales using above constructed model. The dealer had participation level of 10. Using this information the sales of this 4-wheeler dealer were predicated to be 742. The actual sale was 1137. The difference between the actual and the predicated sale was 394 vehicles which again was within the permissible range of statistical correctness as it may be noticed that the extreme points of the predicted value and the observed value lie around the average line as shown figure 8.2.

8.2 The satisfaction level of the dealers with the manufacturers should be monitored as it is associated with the sales

The researcher had investigated whether the manufacturers monitor the satisfaction of their dealers. The findings were presented in the chapter IV. For ready reference the findings are presented here again.

| Table 8.3 The number of manufacturers who monitor the dealers' satisfaction | |
|--|------------------------------------|
| Monitor the Dealer's Satisfaction | Number of manufacturers Percent |
| Yes | 18 (90%) |
| No | 2 (10%) |
| Total | 20 (100%) |

Figure 8.3
The number of manufacturers those monitor the dealers' satisfaction



The researcher had further found out the satisfaction level of the dealers with the manufacturers whose vehicles they sell. The findings are presented in the chapter V section 5.14.

The researcher was further interested in finding whether there was any association between the sales in the year 2003 and the satisfaction level of the dealers with the manufacturers. The sales during the year 2003 was selected as the variable because it is the latest data available during the period of the Study, and it is the year when the maximum number of dealers were present in Pune region. Multiple Linear Regression Analysis (MLRA) method was applied to find this out. The dependent variable was sales in the year 2003 (NSALES03) and the independent variables were location (LOC) of the dealer and the type of vehicle (Q_1) the dealer dealt in.

The fitted model was:

$$NSales03 = 8.53 - 1.44(X_1) - 1.48(X_2) + 0.28(X_3)$$

Where $Nsales03 = \log_e sales03$ (Normalised variable)

X_1 = 1 if the dealer is located in the city, or

= 2 if the dealer is located in the district

X_2 = 1 if the dealer is a 2-wheeler dealer, or

= 2 if the dealer is a 4-wheeler dealer.

X_3 = 1-10 the level of satisfaction of the dealer on a ten point scale.

8.2.1 Test statistic

(Coefficient of Determination) $R^2 = 39.8\% \sim 40\%$ $p = 0.00$

| Table 8.4 Details of the model constructed | | | | |
|--|-----------------------------|------------|---------------------------|--------------|
| Variables in the model | Unstandardised Coefficients | | Standardised Coefficients | Significance |
| | B | Std. Error | Beta | |
| (Constant) | 8.527 | 0.758 | | .000 |
| Location of the dealer | -1.447 | .415 | -0.378 | .001 |
| Vehicle Type | -1.465 | 0.293 | -0.530 | .000 |
| Satisfaction Level of the dealers with the manufacturers | 0.279 | 0.068 | 0.435 | .000 |

Dependent Variable: NSALES03

Table 8.4 shows the details of the model constructed.

8.2.2 Examination of the residuals

| Table 8.5 Residual statistic associated with the model constructed in table 8.4 | | | | | |
|--|---------|---------|------|----------------|----|
| | Minimum | Maximum | Mean | Std. Deviation | N |
| Std. Predicted Value | -1.901 | 1.764 | .000 | 1.000 | 62 |
| Std. Residual | -2.379 | 2.061 | .000 | .975 | 62 |

Dependent Variable: NSALES03

Table 8.5 shows the residual statistic associated with the model constructed

Figure 8.4

Histogram of the Normalised Sales during the year 2003

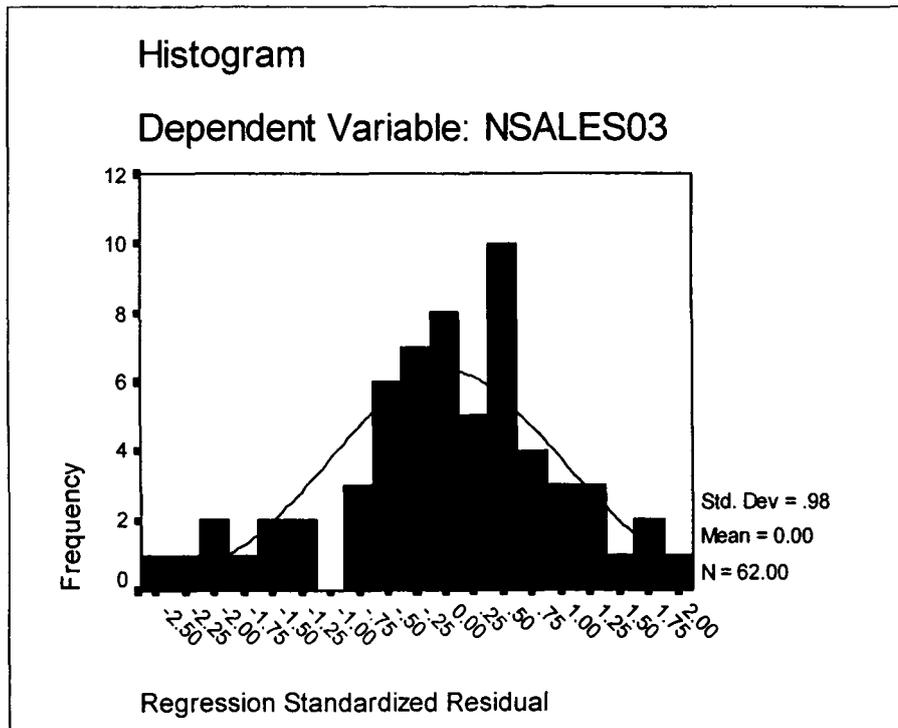
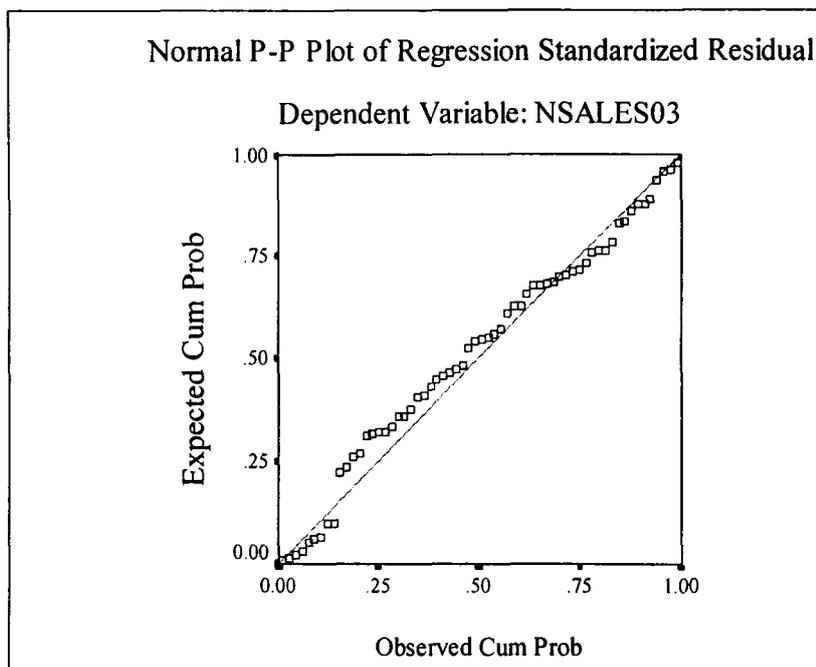


Figure 8.5

P-P plot of the regression standardised residuals



From the figures 8.4 and 8.5 it is clear that the residuals were normally distributed and therefore, fitted model is an appropriate fit.

The Coefficient of determination $R^2=0.398$ (39.8% ~ 40%) This implied that location of the dealer, type of vehicle the dealer dealt in and the satisfaction level of the dealers with the manufactures explain about 40% of the total variability in sales03.

The model fitted implied that the satisfaction level of the dealer with the manufacturer independently predicted the sales after controlling for the location of the dealer, the type of vehicle the dealer dealt in and the satisfaction level of the dealer.

By knowing the dealers satisfaction the manufacturers may be able to predict the sales using the model suggested above. This model may further be used to find how much the dealers should be satisfied in order to achieve certain level of sales

8.2.3 Validity of the model constructed

To test the validity of the model constructed above, satisfaction level of two dealers mentioned in section 8.1.3 were inquired and the sales during the period April 2004-March 2005 were predicted using the model constructed:

$$NSales03=8.53 - 1.44 (X_1) - 1.48 (X_2) + 0.28 (X_3)$$

Where $Nsales03 = \log_e sales03$ (Normalised variable)

X_1 = 1 if the dealer is located in the city, or

= 2 if the dealer is located in the district

X_2 = 1 if the dealer is a 2-wheeler dealer, or

= 2 if the dealer is a 4-wheeler dealer.

X_3 = 1-10 the level of satisfaction of the dealer on a ten point scale.

$$NSales03=8.53 - 1.44 (X_1) - 1.48 (X_2) + 0.28 (X_3)$$

For the 2-wheeler dealer located in the city area with satisfaction level was 5 thus

$$N_{\text{sales}} = 8.22 - 1.44 (1) - 1.48 (1) + 0.28 (6)$$

$$= 6.98$$

$$N_{\text{sales}} = \log_e$$

$$\therefore \text{Sales} = \text{antilog}_e 6.98$$

$$= 1075$$

And the predicted sales for the 4-wheeler dealer located in the city with satisfaction level 10 would be

$$\text{Sales} = 750$$

The actual sales of these 2-wheeler and 4-wheeler dealers were 1236 and 1137 respectively. It is clear from the figure 8.5 that the extreme predicted values lay around the average. Thus it can be concluded that the sales could be predicted using the constructed model after controlling independently for the type of vehicle the dealer dealt in, the location of the dealer and the dealer's satisfaction level.

8.3 Number of dealers of each manufacturer

The researcher had found out that there existed association between the number of dealers of each manufacturer in Pune region and the sales in the year 2003. The findings are presented in the Chapter VI section 6.3. The number of dealers required for the sales has always been a crucial decision for a marketing manager. The officials at the General Motors had thought of this way back in 1918 when they decided to restrict the number of dealers in any given territory as there would be too much competition among the dealers and the profits of the dealers would be hurt ¹. Similar situation had arisen in Pune city little time before the Study was conducted. In an interview with the researcher, one of the representatives of a manufacturer revealed that the company had as many as twelve dealers in Pune city. The company believed the more the dealers more will be the sale. This was true to some extent. At present the company has only three dealers in Pune city, rest of the dealers had to close down as they could not generate the revenue required to survive. Furthermore, it was found out that the satisfaction level of the dealers was associated with the sales in the year 2003. There is a fair chance that with increase in competition among the dealers of the same brand the satisfaction of the dealers would be affected.

In the Chapter V, section 5.16.1 and 5.16.2, it has been shown that 31% of all the 2-wheeler dealers in the city area felt that their business competitors were the dealers of the same brand of vehicles and 48% of all the 4-wheeler dealers in Pune region felt that their business competitors were the dealers of the same brand of vehicles. The number of dealers of each 2-wheeler manufacturer in Pune region was suggested to be 10 and that for the 4-wheeler manufacturers was 4 (Chapter VI section 6.3). The manufacturers may take a decision on number of dealers for Pune city based on the number of dealers suggested by the researcher.

Figure 8.6

The scattered plot of the Number of 2-wheeler dealers of each manufacturer in Pune city and the Sales in the years 2003

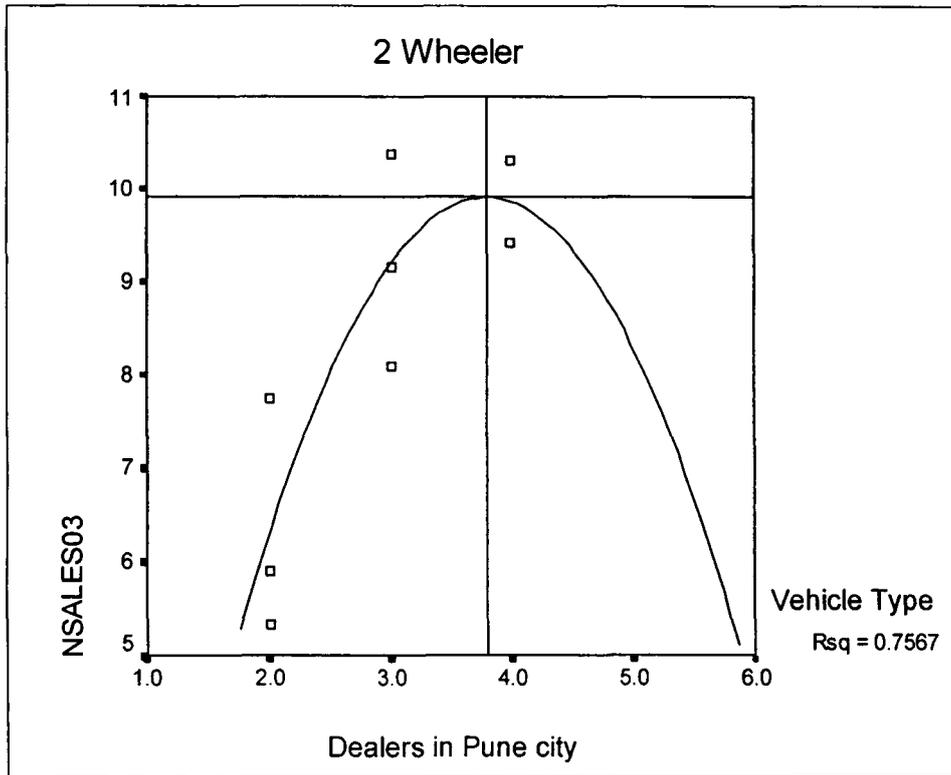


Figure 8.6 shows the scattered plot of the number of 2-wheeler dealers of each 2-wheeler manufacturer, with the sales for the year 2003. It shows an inverted 'U' shape relation between the variables. The optimal number of dealers per 2-wheeler manufacturer as suggested by the R^2 (Goodness of fit or the coefficient of determination) is 3.8 ~ 4.

8.4 Suggestions for alternative channels of distribution

The hypothesis: the automobile manufacturers seem to be planning to change their present channels of distribution was tested and validated in the chapter VII section 7.2. On the basis of the above hypothesis the researcher has suggested alternative channels of distribution that the manufacturers may take note of.

In order to find out the alternative channels of distribution the researcher had gathered the opinion of the passenger vehicle manufacturers and their dealers in Pune region. Their opinion was tested for any statistical significance using Chi Squared test.

| Table 8.6 The number of manufactures that are planning to change their present channels of distribution. | | | |
|---|----------------------------|-----------|-----------|
| Change the present channel of distribution | Manufacturers Vehicle Type | | Total |
| | 2 Wheeler | 4 Wheeler | Total |
| No | 6 (75%) | 12 (100%) | 18 (90%) |
| Yes | 2 (25%) | 0 | 2 (10%) |
| Total | 8 (100%) | 12 (100%) | 20 (100%) |

n (%) where n is the number of manufacturers and figurers in the brackets is the percent.

8.4.1 Test statistic Chi-Square Tests

| Statistical Test | Value | df | Asymp. Sig. (2-sided) |
|--------------------|-------|----|-----------------------|
| Pearson Chi-Square | 3.333 | 1 | $p=0.06$ |
| Likelihood Ratio | 4.006 | 1 | .045 |
| N of Valid Cases | 20 | | |

$p = .06 \sim 0.05$ (It is a border line significance).

Out of the eight, 2-wheeler manufacturers two (25%) are willing to change their channels of distribution. The 2-wheeler market may be seen as facing cut throat competition, the manufacturers are thinking of the possibilities of changing their channels of distribution. The 2-wheeler manufactures have made efforts to differentiate their products from the competitor's products, the price of the product is also competitive, and the promotion activities are being carried out. The manufacturers are also wooing the customers with different types of 2-wheelers. The product has shown a shift from the scooters in the earlier days to present day trend of using motorcycles and now again the manufacturers are planning to push scooters back in the market. As this may not be enough the manufacturers are now seem to be shifting their strategies to channels of distribution. These two manufacturers are taking a bold step to deviate from the conventional channels of distribution to some new channels of distribution.

The chi-square value 3.33 with $p = 0.06$, though a border line significance, it is suggestive of the things to come in the near future. The manufacturers may mull over the alternative channels of distribution.

At the time of writing although the study did not include 3-wheeler passenger and goods vehicles segment, it is interesting to note that one of the 2-wheeler and 3-wheeler vehicles manufacturer has appointed a dealer in Pune city to exclusively sell 3-wheeler vehicles deviating from hitherto channel of distribution where its dealers sold all types of vehicles produced by this manufacturer to a new channel of distribution 'Exclusive Dealers for exclusive models'. This may be seen as the changes in the channels of distribution to come.

The 4-wheeler manufacturers are not planning to change their channels of distribution. 4-wheeler the market appears to be still in the growth stage of its life cycle. The 4-wheeler manufacturers have made some changes in the exclusive channels of distribution. Some of the manufactures are allowing their dealers to service the vehicles of

different brands and also allowing their dealers to sell spare parts of other brands of vehicles.

| Table 8.7 The alternate channels of distribution that the 2-wheeler manufactures plan to change. | |
|--|-------|
| The alternate channels of distribution | Count |
| Sell through Sub dealers | 2 |
| Exclusive dealers for exclusive models | 1 |
| Sell through Brokers | 1 |
| Sell through Distributors (multi brand) | 1 |

(count shows the number of 2-wheeler manufacturers)

Table 8.7 shows number of 2-wheeler manufacturers who plan to change their present channels of distribution to alternative channels of distribution. It is observed that of the two 2-wheeler manufacturers who plan to change their channels of distribution both the manufacturers are planning to change the channel of distribution to selling through sub dealers. One of the manufacturers is planning to shift to exclusive dealers for exclusive models of vehicles, type of distribution channels. One of the manufacturers is planning to sell through the brokers. Selling through distributors (Dealers that sell vehicles of different brand under the same roof), may also be a possible alternative channels of distribution planned by these 2-wheeler manufacturer.

8.4.2 Manufacturers' opinion about the alternative channels of distribution

To suggest alternative channels of distribution opinion of the manufacturers was sought about an idea of selling different brands of

vehicle under the same roof. Table 8.4 shows the response of the manufacturers about this idea.

| Table.8.8 The opinion of the manufacturers about selling different brands of vehicles under the same roof. | | | |
|---|--------------|-----------|-------|
| Opinion about selling different brands of vehicles under the same roof | Vehicle Type | | Total |
| | 2 Wheeler | 4 Wheeler | |
| Good Idea | 3 | 2 | 5 |
| Not a practical Idea | 3 | 7 | 10 |
| Not accepted as it will deviate from conventional exclusiveness | 3 | 3 | 6 |
| It will help to enhance customer convenience | 3 | 2 | 5 |

(The respondents may have chosen more than one response)

- i. Three out of all the eight 2-wheeler manufacturers and two out of all the twelve 4-wheeler manufacturers responded that the idea of selling different brands of vehicles under the same roof was a good idea.
- ii. Three out of all the eight 2-wheeler manufacturers and eight out of all the twelve 4-wheeler manufacturers responded that the idea of selling different brands of vehicles under the same roof was not a practical idea, as the dealers would have to carry more inventories of different brands of vehicles.
- iii. Three out of all the eight 2-wheeler manufacturers and three out of all the twelve 4-wheeler manufacturers responded that the idea of selling different brands of vehicles under the same roof was not acceptable as it would deviate from the conventional exclusiveness attached to the selling of automobiles.

- iv. Three out of all the eight 2-wheeler manufacturers and two out of all the twelve 4-wheeler manufacturers responded that the idea of selling different brands of vehicles under the same roof would help enhance customer convenience. If the vehicles are sold under the same roof, the customer would be able to compare different models of vehicles manufactured by different manufacturers in single visit to a showroom. This will save on the time spent by the customers in deciding the product.

Statistical test of significance could not be carried out as the number of respondents was too meager for this purpose.

8.4.3 Dealers' opinion about alternative channels of distribution

It has been mentioned earlier that the distribution channels is an activity which is based on two mutually inclusive entities viz 'the manufacturers and the dealers'. The dealers' opinion about the alternative channels of distribution was also thought be of importance.

8.4.3.1 The opinion of the dealers was sought on the idea of selling different brands of vehicle under the same roof.

Table 8.9 shows the responses of the dealers.

| Table 8.9 | | | |
|--|--------------|-----------|-------|
| The response of the dealers to the idea of selling different brands of vehicle under the same roof as a 'Good idea'. | | | |
| Good idea | Vehicle Type | | Total |
| | 2 Wheeler | 4 Wheeler | |
| | Count | Count | |
| Yes | 16 (40%) | 17 (68%) | 33 |
| No | 24 (60%) | 8 (32%) | 32 |
| Total | 40 | 25 | 65 |

n (%) where n is the number of dealers and the figurers in the brackets are the per cent.

Sixteen (40%) out of forty 2-wheeler dealers and seventeen (68%) out of twenty five 4-wheeler dealers responded that the idea of selling different brand of vehicle under the same roof was a good idea.

Test statistic: Chi-Square test

The responses of the dealers were cross tabulated and the Chi-Square test was performed.

| | Value | df | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
|------------------------------|-------|----|-----------------------|----------------------|----------------------|
| Pearson Chi-Square | 4.826 | 1 | .028 | | |
| Continuity Correction | 3.771 | 1 | .052 | | |
| Likelihood Ratio | 4.909 | 1 | .027 | | |
| Fisher's Exact Test | | | | .041 | .026 |
| Linear-by-Linear Association | 4.752 | 1 | .029 | | |
| N of Valid Cases | 65 | | | | |

∴ Pearson Chi-square value =4.8 with $p = 0.028 < 0.05$

This implied that there is significant association between the dealers of vehicle type (Two-wheeler, Four-wheeler) and the opinion of the dealers about the idea of selling vehicles of different brands under the same roof was a good idea. Thus it may be concluded that the dealers may be willing to sell different brands of vehicles under the same roof.

8.4.3.2 Opinion of the dealers about selling different brands of vehicle under the same roof, as it is 'not a practical idea'

Eleven (27%) out of forty 2-wheeler dealers and six(24%) out of twenty five 4-wheeler dealers in Pune region felt it was not a practical idea to sell different brands of vehicles under the same roof.

| Table 8.10 The response of the dealers to the idea of selling different brands of vehicle under the same roof as 'Not a practical idea'. | | | |
|---|--------------|-----------|----------|
| Not a practical idea | Vehicle Type | | Total |
| | 2 Wheeler | 4 Wheeler | |
| Yes | 11 (27%) | 6 (24%) | 17 (26%) |
| No | 29 (72%) | 19 (76%) | 48 (74%) |
| Total | 40 | 25 | 65 |

n (%) where n is the number of dealers and the figurers in the brackets are the percent of the dealers.

Test statistic: Chi-Square test

The responses of the dealers were cross tabulated and the Chi-Square test was performed.

| | Value | df | Asymp. Sig. (2- sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
|-------------------------------------|-------|----|------------------------------|-------------------------|-------------------------|
| Pearson Chi-Square | .098 | 1 | .755 | | |
| Continuity Correction | .000 | 1 | .982 | | |
| Likelihood Ratio | .098 | 1 | .754 | | |
| Fisher's Exact Test | | | | 1.000 | .496 |
| Linear-by- Linear Association | .096 | 1 | .757 | | |
| N of Valid Cases | 65 | | | | |

The Chi-Square test showed that the association is not significant statistically.

This implied that there may not be any significant association between the dealers of passenger vehicles and their opinion that the idea of selling different brands of vehicles under the same roof is not a practical idea.

8.4.3.3 The opinion of the dealers about selling different brands of vehicle under the same roof, as 'the idea is not acceptable'

| Table 8.11 | | | |
|---|--------------|-----------|----------|
| The response of the dealers to the idea of selling different brands of vehicle under the same roof as 'Not an acceptable idea'. | | | |
| Not acceptable | Vehicle Type | | Total |
| | 2-Wheeler | 4-Wheeler | |
| Yes | 17 (42%) | 5 (20%) | 22 (34%) |
| No | 23 (57%) | 20 (80%) | 43 (66%) |
| Total | 40 | 25 | 65 |

n (%) where n is the number of dealers had the figurers in the per cent of the dealers

The percentages have been rounded to the nearest integer.

Seventeen out of forty 2-wheeler dealers and five out of twenty-five 4-wheeler dealers opined that the idea of selling different brands of vehicle under the same roof was not a practical idea.

8.4.3.3.1 Test Statistic: Chi Square test.

The responses of the dealers were cross tabulated and the Chi-Square test was performed.

| | Value | df | Asymp. Sig. (2-sided) |
|--------------------|-------|----|-----------------------|
| Pearson Chi-Square | 3.478 | 1 | .062 |
| N of Valid Cases | 65 | | |

∴ The *Pearson Chi-Square* value 3.478 with $p = 0.062 > 0.05$

Thus, it can be concluded that the 25% of 2-wheeler manufacturers are willing to change their channels of distribution. The

dealers too are willing to accept the idea of selling the different vehicles under the same roof. Manufacturers and the dealers may in time to come shift to multibranding distributorship.

In case of 4-wheeler vehicles, the market may be seen as yet to mature. The manufacturers have already permitted the dealers to service different brands of vehicles and sell spares of different brand. It may not be possible that the 4-wheeler manufacturers/ dealers change the present channels of distribution.

8.5 The increase in the sale of vehicles may be achieved by increasing the number of employees in the service department

The importance of service department was highlighted in a newspaper article ². The newer generation vehicles unlike the one in the past, require sophisticated tools and expertise for their proper maintenance. It may not be wrong to say that the mind set of the customers too is changing towards the places where they get the repairs and services done to the vehicles. The workshops too have changed their ambience. The researcher had found out (table 6.6) that the profit from the servicing of vehicles contribute to 33% and 41% of the total profit earned by the 2-wheeler and 4-wheeler dealers respectively. The importance of the service department in the functioning of an automobile industry was emphasized in an article posted on the website of 'The Federation of the Automobile Dealers' Associations of India' ³. The writer compares the functions of dealers with a 3-wheeled vehicle. Where the front wheel, (which is the steering wheel) is compared to the sales activities of the dealership and the rear two wheels are after-sales service and spares. A dealer principal on the driving seat always likes to steer this wheel to give direction to his/her business. However, many a time, the two rear wheels are ignored: the rear two wheels are the ones which take the maximum load of passengers (customers) who ultimately pay for the ride while sales give direction. On backdrop of this scenario the researcher wanted to investigate whether it was the total number of employees in the service department or the total number of employees in the sales department who contributed more to the sale of vehicles.

8.5.1 Test statistic: R square change analysis

The statistical test for determining the contribution of each of the independent variables was found out using multivariate regression analysis (R square change analysis). The dependent variable was the sales in the year 2003 (Nsales03) and the independent variables were location of the dealer, type of vehicle the dealer dealt in, the total number

of employees in the sales department of the dealer and the total number of employees in the service department. The three different models regression model after entering the independent variables were as below.

8.5.2 Model Summary

| | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics |
|-------|------|----------|-------------------|----------------------------|-------------------|
| Model | | | | | R Square Change |
| a | .473 | .224 | .198 | 1.22 | .224 |
| b | .631 | .398 | .367 | 1.08 | .174 |
| c | .634 | .402 | .360 | 1.09 | .004 |

a Predictors: (Constant), Q_1, LOC

b Predictors: (Constant), Q_1, LOC, Total Service

c Predictors: (Constant), Q_1, LOC, Total Service, Total Sales

d Dependent Variable: NSALES03

The independent variables in model *a* were vehicle type and location of the dealer, in the model *b* the variables were vehicle type, location and the number of employees in the service department, and finally in the model *c* the independent variables were vehicle type, location, the number of employees in the service department and the total number of employees in the sales department.

The change in the R^2 for these 3 models was, 22.4%, for model *a*, 17.4% for model *b* and 0.4% for model *c* respectively. The overall (for all the 3 models) coefficient of determination R^2 was about 40%.

For predicting the sales during 2003 the R^2 change model was 22.4% (with type of vehicle and location of the dealer as independent variables). R^2 change by model *b* was 17.4% (with type vehicle, location of the dealer and number of employees in the service department). The R^2 change in the model *c* was 0.4% (with type of vehicle, location.

Thus, inclusion of variable number of employees in the sales department explains only 0.4% of the information in the sales, which is very negligible statistically. Hence, it may be concluded that the total number of employees in the sales department have negligible contribution towards the sales as compared to the contribution of the variables location of the dealer, type of vehicle the dealer dealt in and the number of employees in the service department.

The manufacturers and their dealers may be able to increase the sales by increasing the number of employees in the service department as compared to the increase in the number of employees in the sales department.

To sum up, it may not wrong to say that although the suggestions made by the researcher are based on the opinions, attitudes and feelings of the dealers in Pune region, the same may be applied even to those dealers who are located outside Pune region assuming that the manufacturers follow the same set of criteria covered in the study to all their dealers.

References

- 1 Clark Sally, '*The closing deal: The Emergence Of Modern Marketing*' Roy Church and Andrew Godley (ed.), Frank Cass, 2003, p 60.
- 2 Contractor Huned, 'Sturdier bikes drive spare part stores broke' Pune, *The Times of India: Pune Times*, March 12 2003, p 6.
- 3 Relekar Ganesh, 'Emerging Challenges for Automotive Dealers in India'
http://www.fadaweb.com/emerging_challenges.htm