Chapter VI

ANALYSIS AND INTERPRETATION OF DATA : ASSOCIATION BETWEEN SALES AND MARKETING PRACTICES

6.1 Introduction

In the present chapter the analysis and interpretation of data are undertaken with the help of regression technique. An attempt is made to explain the variance of sales in relation to the marketing practices. That is, measure the overall strength of association between sales and the full set of marketing practices. As the analysis of regression is undertaken stepwise, the contribution of each of the marketing variables to total explained variation in sales is described.

The approach used here is, to first of all ascertain the presence of relationship between the criterion (sales) and predictor variables (marketing practices), and then proceed towards prediction. The former is established by correlation and the latter by regression.

Before going on to describe and interpret the data, the symbols indicating the different variables need to be clarified to avoid any confusion. In the present chapter, the following are used :

Y : Criterion variable : Variable 1 : Sales.

X_1 : independent variable : variable 2 : marketing concept adoption in competitive and demand practices (CDP).

X_2 : independent variable : Variable 3 : marketing concept adoption in product practices (PDP).

X_3 : independent variable : Variable 4 : marketing concept adoption in new product practices (NPP).

X_4 : independent variable : Variable 5 : marketing concept adoption in pricing practices (PRP).

X_5 : independent variable : Variable 6 : marketing concept adoption in promotion practices (PMP).

a : Constant (intercept)

b_1 : regression co-efficient or beta weight for the first predictor variable X_1

b_5 : regression co-efficient or beta weight for the fifth predictor variable, X_5

The alpha reading in the regression equation is merely a constant, which determines the general level of the line. The b co-efficient gives the slope of the regression line and denotes a ratio. It tells how many units Y increases

with every increase of one unit in X. It needs to be noted here that the value of multiple R has been examined for its significance. This is done with the help of F - ratio test.

While interpreting the results, the levels of confidence arbitrarily fixed by the investigator are .01 and .05 levels of significance, and all the results are adjusted to the relevant degrees of freedom.

The analysis and interpretation of data is described in two sections. In the first section the regression technique is applied to the data pertaining to the entire sample and the significant predictor variables are drawn out. In the present study marketing variables CDP and PMP have been found to be significant and contributing to explaining the variation in sales. Therefore in the next section i.e. section two, each of the groups is taken up for analysis at a time and regression technique applied, to find out, to what extent these variables, i.e. CDP and PMP, contribute in explaining the variation in sales.

SECTION - I

6.2 Stepwise Regression applied on entire sample

(a) Correlations of all variables

As a first step correlations between all the 6 variables are worked out. (refer Table VI-1).

Table VI-1 : Correlation Matrix of all the six Variables (n = 52)

	Var. 1	Var. 2	Var. 3	Var. 4	Var. 5
Var. 2	.531*				
Var. 3	.385*	.560*			
Var. 4	.236*	.341**	.555*		
Var. 5	.301*	.348**	.342**	.175	
Var. 6	.420*	.507*	.554*	.466*	472*

* Significant at .01 level

** Significant at .05 level

Correlation expresses the degree of relationship or association between two variables. Sancheti and Kapoor have provided the student with broad categories for interpreting the results of correlation, the details of which are to be found in Table VI-2.

Table VI-2 : Interpretation of correlation results

Degree	Direction	
	Positive	Negative
Perfect	+1	-1
Very High	+.75 to + 1	- .75 to - 1
High	+ .50 to + .75	- .50 to - .75
Low	+ .25 to + .50	- .25 to - .50
Very Low	0 to + .25	0 to - .25
Absent	0	0

Of the many categories described in Table VI-2, for the purpose of the present study, the category which indicates a high degree of correlation is chosen. Accordingly, in Table VI-1, there are five readings which lie between +.50 to +.75. These correlations are :

Sales is correlated highly with marketing concept adoption in competitive and demand practices only. The correlation of .531 indicates that the level of sales increases as the entrepreneur goes in for greater scientific decisions in competitive and demand practices.

Two variables are highly correlated with competitive and demand practices, they are product practices(.560),

and, promotion practices (.507). But, the relationship between CDP and PMP is less (marginally) than the relationship between CDP and PDP.

The marketing practices related to product decisions are highly associated with new product practices and promotion practices, the strength of the former relationship is .555, while that of the latter is .554. From these figures one may say, that, the relationship of PDP with NPP is more or less the same as that of PDP and PMP.

(b) Regression of Variable 1 (Sales) on Variable 2 (CDP)

The first predictor variable turns out to be variable 2, namely, marketing concept adoption in competitive and demand practices. The results of the regression are given in Table VI-3.

Table VI-3 : Contribution of predictor variable 2 (CDP)

Variable	Multiple (R)	F Value	Significance
CDP (X_1)	.531	19.59	$P < .01$

Regression of variable 1 (Sales) on variable 2 (CDP) yields a multiple R of .531. In order to find out the significance of multiple R the F - ratio test is applied and the value of F is found to be 19.58 which is significant at .01 level. The result may be interpreted by squaring multiple R and then expressing it as a percentage.

i.e. Multiple R = .531

R^2 = .282

$R^2 \times 100$ = 28.2%

Thus, it may be stated that 28.2% of variation in variable 1 (Sales) is explained by predictor variable 2, namely, marketing concept adoption in competitive and demand practices.

The alpha reading and the beta weight are required to express the result in the form of a regression equation. The relevant details for regression line of Y on X is found in Table VI-4.

Table VI-4 : Regression of Variable 1 (Sales) on Variable 2 (CDP)

Variable	Multiple (R)	Alpha Value	Beta Value
CDP (X_1)	0.531	- 2.918	1.356

Hence the regression line of Y on X may be written as,

$$Y = a + b_1 x_1$$

Substituting,

$$Y = -2.918 + 1.356 x_1 \ldots\ldots (1)$$

(c) Regression of Variable 1 (Sales) on Variable 2 (CDP) and 6 (PMP)

Regression analysis is continued and the next variable found significant in stepwise regression is PMP. This means to say that, after CDP, it is PMP that contributes most towards the explanation of variation in sales. (Refer Table VI-5).

Table VI-5 : Contribution of Variables 2 (CDP) and 6 (PMP)

Variable	Multiple(R)	F Value	Significance
CDP and PMP (X_1 and X_5)	.546	11.12	$P < .01$

From the above Table, it is found that Multiple R reads as .546, and the F test proves it to be significant at .01 level. As the square of multiple R is .298, it may be stated that 29.8% of variation in criterion variable 1 (sales) is explained by predictor variables CDP and PMP.

By adding variable PMP the contribution has moved from 28.2% to 29.8%. That is, an addition of 1.6% is made by variable PMP.

The regression line incorporating both of these variables (i.e. CDP and PMP) may be written after ascertaining the alpha and beta values which are given in Table VI-6.

Table VI-6 : Regression of Variable 1 (Sales) on Variable 2 and 6 (CDP and PMP)

Variable	Beta Value	Alpha Value	Multiple (R)
CDP (X_1)	1.092		
		- 6.004	.546
PMP (X_5)	0.469		

Thus, the regression of Y on X is written as :

$$Y = a + b_1 X_1 + b_5 X_5$$

Substituting,

$$Y = - 6.004 + 1.092 X_1 + 0.469 X_5 \ldots (2)$$

(d) Regression of Variable 1 (Sales) on Variable 5,3 & 4 (PRP, PDP & NPP)

The next variable that came up in the stepwise regression is marketing concept adoption in pricing

practices. The multiple R after adding Variable PRP reads as .562 and when adjusted to the relevant degrees of freedom reads as .537. The adjusted multiple R of .537 (after adding variable PRP) is noted to be lower than the multiple R of .546 contributed by inclusion of variables CDP and PMP (put together). Thus, it may be concluded, that, inclusion of predictor variable PRP does not contribute towards explaining the variation in criterion variable sales. Likewise, it is found that other predictor marketing variables PDP and NPP did not contribute towards explaining the criterion variable Sales. As additional predictor variables are added R^2 cannot decrease but usually diminishing returns set in, so that, in most applications it is rare to find much increase in R^2 beyond the first several predictor variables. (In this case only two variables). The regression equation therefore ends with the addition of variable 6 (PMP).

(e) Interpretation of Regression results for the entire sample

The purpose of regression equation is to make predictions on a new sample of observations from the findings on a previous sample of observations. Therefore from the regression equation (2) one may say that for every unit increase in marketing practices relating to competitive and demand decision sales go up by 1.1 units and for every unit increase in promotion

practices, sales goes up by half a unit (.5). The multiple R of .540 indicates that 29.8% variation in sales can be explained by competitive and demand practices and promotion practices.

It will be of relevance to discuss at this juncture, as to what are the different aspects that are covered under variable CDP and PMP that make it so significant.

6.3 Discussion on Variable Two (CDP)

As Variable 2, marketing concept adoption in competitive and demand practices, is found to be a significant contributive factor to sales, a discussion on the several aspects involved in this variable is entered herein. The salient results of field survey pertaining to CDP will be discussed here.

A distinguishing characteristic of the marketing manager's job, (in this case the small entrepreneur), is his responsibility for interpreting conditions in the market place. Critical to the success of most marketing programme is a careful analysis of demand. There are 2 broad classes of products that have distinct demand characteristics - firstly, consumer goods, and secondly, industrial goods. Consumer goods are produced for sale to households or individuals, while industrial

goods are produced for sale primarily to business firms. Industrial goods include : original equipment, replacement parts, fabricating materials and raw materials. Their demand is influenced significantly by factors such as economic outlook, inventory levels, technological changes and credit. The sample of 52 units considered in this study may be divided into the following :

- manufacturers of consumer goods	: 8 units
- manufacturers of OE	: 14 units
- manufacturers of spare parts	: 22 units
- manufacturers of raw materials	: 2 units
- manufacturers indulging in fabrication	: 3 units
- manufacturers indulging in industrial services	: 3 units
	52 units

The estimation of actual and potential demand for each of these categories differs. From the above statement it is found that 8 (15.4%) of the 52 units are involved in the manufacture of consumer goods, while 44 (84.6%) units are involved in the manufacture of industrial goods.

There are two basic problems faced by manufacturing firms in analysing demand. Firstly, identifying and locating the buyer or market and secondly the quantity that will be purchased.

From the survey it is found that not all the small entrepreneurs know their target market. The revelations are as under, (Table VI-7).

Table VI-7 : Identification of the target market

Particulars	Consumer goods group (n = 8)	Industrial goods group (n = 44)
Target market identified	3 (37.5%)	15 (34.1%)

Figures in parenthesis indicate percentages to group totals.

The classification used in describing the various results of the field survey here are the two main groups - manufacturers of consumer goods and manufacturers of industrial goods.

From a sample of 8 involved in the manufacture of consumer goods only 3, i.e. 38% have been able to identify their target market. Among the industrial goods firms only 15 (34%) entrepreneurs have been able to identify their target market. Thus, 34 (65%) of the small entrepreneurs in the sample have either inadequate or incorrect conceptions about their buyers (market).

The next aspect that is being discussed is market demand. The survey tried to ascertain as to how many entrepreneurs indulge in the practice of estimating and forecasting total market demand. The relevant details are shown in Table VI-8.

Table VI-8 : Estimation and forecast of total market demand and market share

Particulars	Consumer goods group (n = 8)	Industrial goods group (n = 44)
1. Practice regarding estimation and forecast of total market demand	4 (50%)	18 (40.9%)
2. Practice regarding estimation and forecast of market share	2 (25%)	11 (25%)

Figures in parenthesis indicate percentage to group totals.

It is found that 50% of entrepreneurs of consumer goods producing firms and 41% of entrepreneurs of industrial goods producing firms follow the marketing practice of estimation of the present market demand and forecast the probable total

market demand three years hence. It must be noted that, it is not possible to make generalisations on this practice as each product is highly individualistic when it comes to demand analysis.

Often a firm's sale does not reveal how well the company is doing relative to its competitors, as, increase in a firm's sales could be due to economic conditions or improved performance in sales itself. For this reason the entrepreneur needs to keep track of his market share. If the firm's market share goes up, the firm is gaining on its competitors, if it goes down, the firm is losing relative to its competitors. The extent of this practice among the entrepreneurs is given in Table VI-8.

From table VI-8 it is found that the percentage of small industrialists who practise estimation and forecast of market share in both consumer goods and industrial goods groups is identical, that is, 25%.

There are yet two additional forces that are of concern to the management in the matter of problems associated with demand analysis. They are, firstly, the interpretation of individual buyer behaviour, and, secondly, the assessment of competitive behaviour. A few aspects of the latter have been included in the present survey.

A firm's marketing system is surrounded and affected by a host of competitors. These competitors have to be identified, monitored and outmanouvered to gain and maintain consumer loyalty. The aspects included in the questionnaire are : the small entrepreneur has to keep track of the -

- present production of competitors,
- market share of each competitor,
- promotional activities undertaken by each of the competitors,
- the quality of the product maintained by each competitor.

Table VI-9 indicates to what extent the industrialists at Makarpura industrial estate are really competitive.

Table VI-9 : Information on Competitors

Particulars	Consumer goods group (n = 8)	Industrial goods group (n = 44)
Information compiled on competitors	4 (50%)	5 (11.36%)

Figures in parenthesis indicate percentage to group totals.

The entrepreneurs involved in the manufacture of consumer goods seem to be more aware of the importance of compiling information on competitors since nearly 50% follow this marketing practice as against only 11% in the industrial goods group.

The above are some of the major aspects dealt with in this study, under the variable, marketing concept adoption in competitive and demand practices (Variable 2).

The discussion that follows, relates the marketing concept adoption in promotion practices (Variable 6).

6.4 Discussion on Variable 6 (PMP)

Promotion stands for the various activities the firm undertakes to communicate its products' merits and to persuade target customers to buy them, i.e. it encompasses all forms of communication that a firm uses in promoting its product. The primary function of promotion is to move buyers along a continnum of product knowledge to product purchase.

From the present survey a few of the results are discussed here. The first aspect covered in the discussion is the importance of communications. In

the small scale sector the capacity to spend on the 'promotion' tool is limited but all the same it is very important for the small entrepreneur to realise the need for communication, so that he may use his limited resources in the best possible promotion strategies. Communication performs the function of -

- giving information about the existence of the product,
- describing product features and how these would benefit the buyers,
- gaining confidence of the different market segments,
- establishing a reputation for the firm regarding its trust-worthiness and progressiveness,
- building confidence in its customers, etc.

The results of the survey indicate, as to how many of the entrepreneurs, realise the purposes served by communication (refer Table VI-10). Promotion is an essential tool in realising better sales which eventually lead to the goal of higher profits.

Why does a firm need to communicate with its target market? This is understood by only 13% of manufacturers of consumer goods and 30% of producers of industrial goods.

Table VI-10 : Promotional aspects

Particulars	Consumer goods group (n = 8)	Industrial goods group (n = 44)
1. Need for communication	1 (12.5%)	13 (29.5%)
2. Recognition of the utility of advertising	1 (12.5%)	5 (11.4%)
3. Evaluated the response on promotion expenditure	4 (50%)	29 (65.9%)

Figures in parenthesis indicate percentages to group totals.

There is a lot of misconception among the industrialists and often the word communication denotes 'advertising' and advertising stands for communication through the print media only (i.e. news papers and magazines). Thus the small entrepreneurs are unable to deploy their resources in the appropriate strategies.

Advertising in one of the elements of the communication mix and it serves many purposes such as building up a brand image, creating an image for the firm, apart from other aspects such as, giving information about the product and

its features. The utility of this tool is recognised by only a small section of the small entrepreneurs. Table VI-10 tells us as to what is the position in Makarpura industrial estate.

The table reveals that only 13% of entrepreneurs of consumer goods producing firms and 11% of entrepreneurs of industrial goods producing firms are capable of appreciating the utility of the promotion tool - advertising.

The aim of communication is to move the buyer along the continuumof product knowledge to product purchase. Yet in this study each response in the continuumis treated separately, to find out if there are any specific problem areas. The results are tabulated in Table VI-11.

Table VI-11 : Response sought through communication

Response sought	Consumer goods groups (n = 8)	Industrial goods groups (n = 44)
Exposure	6 (75%)	15 (34.1%)
Attention	5 (62.5%)	27 (61.4%)
Comprehension	5 (62.5%)	15 (34.1%)
Favourable Attitude	5 (62.5%)	26 (59.1%)
Weaken doubts of customers	3 (37.5%)	21 (47.7%)

Figures in parenthesis indicate percentage to group total.

It is found that wide disparity in responses sought exists between the two groups in the two stages, namely, 'exposure' and 'attention'.

(a) The entrepreneurs (75%) of consumer goods industrial units are looking for more exposure for their product while it is not the case among entrepreneurs of industrial goods group (34%).

(b) A greater percentage (63%) of producers of consumer goods were bothered about explaining their product and have the buyers comprehend their product, while the percentage among the manufacturers of industrial goods is only 34%.

Evaluation of any strategy is essential in order to obtain a feed back on the effectiveness of the same. Thus, it is desirable that entrepreneurs evaulate the response got by way of increased sales (or otherwise) on their promotion expenditure. As to how many of the entrepreneurs at Makarpura follow this marketing practice is given in Table VI-10.

It is a revelation worthy of further investigation, as it is found that nearly 64% (i.e. 33/52 x 100) entrepreneurs have reported that they carry out an exercise to find out the effect of promotion expenditure got by way of increased

sales. From the industrial goods producers group as much as 66% take the trouble to find out the extra sales they made by spending on a particular promotion strategy as against 50% among consumer goods producers.

It is the general opinion that small scale industrialists do not spend on promotion and do not have the necessary provision for it. Nevertheless during personal interviews the investigator found that enterprising industrialists do find an effective way of spending their small promotion budgets (example, like advertising in industrial directories, industrial manuals and periodicals, etc.). The discussion moves to significance of the very same contributive prediction variables 2 and 6 among the different groups of classification.

SECTION II

6.5 Regression Analysis - Contribution of Significant Variables 2 and 4 in the different groups of Classification

(a) Introduction

Compare and contrast tend to bring out better results and for the purpose of the same the sample is divided into different groups on the basis of 4 types of classification. These have already

been discussed in the chapter on methodology but for the present the groups are repeated to facilitate recall -

- market oriented group
- job work oriented group
- partnership group
- proprietary group
- ancillary SSI group
- non-ancillary SSI group
- high capital intensive group
- low capital intensive group.

In the preceding sub-section 6.2(c) it is found that the most contributive marketing variables in explaining the variation in sales are variables CDP and PMP. It is the endeavour of the investigator to find out if these two variables have the same significance when applied to the different groups. In other words, the contribution of variables 2 (CDP) and 6 (PMP) to each group of classification is being examined.

The discussion will follow the pattern of first giving simple correlations between the criterion variable and predictor variables in the respective group and then describing the extent to which predictor variables 2 and 6 (together) contribute to criterion variable Sales.

(b) Market Oriented Group (MO)

The simple correlations between sales (var. 1) and marketing practices (variables 2, 3, 4, 5 and 6) are presented in Table VI-12.

Table VI-12 : Simple Correlations in the market oriented group (n = 34)

Variable	Correlation	Significance
1 x 2	.5251	P < .01
1 x 3	.3735	P < .05
1 x 4	.2174	Not significant
1 x 5	.2702	Not significant
1 x 6	.4089	P < .01

Looking at the above table and referring to Table VI-2 in interpretation of correlation results, it may be said that a high positive correlation of .5251 exists between sales (variable 1) and marketing concept adoption in competitive and demand practices. For the results in regression, Table VI-13 may be referred.

The Multiple R of .510 brought out by the regression analysis is found to be significant at .01 level. Thus, the variation in sales is explained to the extent of 26% (R^2 x 100) by

Table VI-13 : Regression of variable 1 on variable 2 and 6 in the market oriented group

Variable	Beta Value	Alpha Value	Multiple R	F Value	P Value
PMP (X_5)	.511	- 9.993	.510	6.792	.004
CDP (X_1)	1.345				

marketing concept adoption in competitive and demand practices and promotion practices.

The regression line of Y on X for the market oriented group is written as

$$Y = a + b_1 x_1 + b_5 x_5$$

Substituting,

$$Y = - 9.993 + 1.345 x_1 + .511 x_5 \quad \ldots (3)$$

The beta co-efficient of CDP and PMP taken from regression equation 3 brings out the following with respect to MO group. Thus it may be said that for every unit increase in CDP, sales increases by 1.3 units and for every unit increase in PMP, sales increases by half a unit.

(c) Job work oriented group (JW)

The very name suggests the type of industrial units included in this group. An attempt at simple correlations between sales and marketing practices is made to see if any relationship exists between the two (refer Table VI - 14).

Table VI-14 : Simple correlations in the Job Work Oriented group (n = 18)

Variable	Correlation	Significance
1 x 2	.5302	$P < .05$
1 x 3	.2413	Not significant
1 x 4	— .0523	Not significant
1 x 5	.1972	Not significant
1 x 6	.0393	Not significant

A high positive correlation is noticed between sales (Variable 1) and marketing concept adoption in competitive and demand practices (Variable 2), which is significant at the .05 level. The analysis now moves on to regression of Variable 1 on Variable 2 and 6, in the job work oriented group. Table VI-15 may be referred for the outcome of the same.

Table VI-15 : Regression of Variable 1 on Variable 2 and 6 in the Job Work oriented group

Variable	Multiple (R)	F Value	P Value
CDP and PMP ($X_1 \times X_5$)	.434	2.962	.082

The Multiple R of .434 is found to be insignificant which means to say that marketing practices have no bearing on sales. This result reveals the way the entrepreneurs of job work oriented units function/manage their units.

(d) Partnership Group (PT)

For the partnership group also as in the earlier groups simple correlations between the criterion variable and predictor variables are calculated. These are given in Table VI-16.

Table VI-16 : Simple Correlations in the Partnership group (n = 35)

Variables	Correlation	Significance
1 x 2	.519	$P < .01$
1 x 3	.469	$P < .01$
1 x 4	.341	$P < .05$
1 x 5	.309	$P < .05$
1 x 6	.556	$P < .01$

All the correlations between sales and the five marketing practices are found to be significant, but only two high correlations are noticed.

Thus sales is highly correlated with competitive and demand practices (.519) and with promotion practices (.556). This may be interpreted as, high sales is accompanied by high scores in CDP and PMP. When these two variables namely, CDP & PMP are entered in the regression, they yielded a multiple R of .586 which is found to be significant at .01 level (refer Table VI-17). This is to say that 34.3% (R^2x100) of variation in sales (Variable 1) is explained by marketing concept adoption in competitive and demand practices and promotion practices (Variable 2 and 6).

Table VI-17 : Regression of Variable 1 on Variables 2 and 6 in the partnership group

Variable	Beta Value	Alpha Value	Multiple R	F Value	P Value
PMP (X_5)	1.071	-9.996	0.586	9.859	.0005
CDP (X_1)	0.903				

As Multiple R is found to be significant the regression equation of Variable 1 on Variable 2 and 6 for the partnership

group may be written as -

$$Y = a + b_1 x_1 \quad b_5 x_5$$

Substituting,

$$Y = -9.996 + .903 x_1 \quad 1.071 x_5 \qquad ...(4)$$

With respect to PT group, it may be said that for every unit increase in PMP, sales increases by 1.1 units and for every unit increase in CDP sales increases by .9 unit only. (refer regression equation 4).

(e) Proprietary Group (P)

The name of this group suggests that the management of industrial units in this group is a 'one-man's show' in contrast to 'more than one-man show' in the partnership group. It is of importance to find out if there is significant difference in the way these two types of organisations function. The analysis follows the same sequence as earlier. As a first step the simple correlations between sales and marketing practices are worked out. These correlations are shown in Table VI-18.

The result of this correlation exercise stands unique in the sense that not even one correlation turned out to be significant. Nevertheless the regression analysis was applied to ascertain whether the outcome would turn out to be insignificant or not. The results obtained are

Table VI-18 : Simple Correlation in the proprietary group (n = 17)

Variables	Correlation	Significance
1 x 2	0.398	Not significant
1 x 3	— 0.339	Not significant
1 x 4	— 0.298	Not significant
1 x 5	— 0.177	Not significant
1 x 6	— 0.030	Not significant

presented in Table VI-19.

Table VI-19 : Regression of Variable 1 on Variables 2 and 6 in the Proprietary Group

Variables	Multiple R	F Value	P Value
CDP & PMP (X_1 and X_5)	.412	2.642	0.106

The Regression of variable 1 on variable 2 and 6 yielded a Multiple R of .412 which is found to be insignificant at .05 level. The correlation and regression results confirm the absence of any relationship between sales and marketing practices. We may, therefore, conclude that

perhaps partnership firms are a better form of organisation in the small scale sector (than the proprietary form).

(f) Ancillary SSI Group (ASSI)

It is worthwhile to find out whether ancillary industrial units function in a like manner as non-ancillary SSI industrial units. Are their marketing norms similar to those of non-ancillary SSI units? In pursuance of the same simple correlations between sales and marketing practices were worked out. The results are given in Table VI-20.

Table VI-20 : Simple correlations in the ASSI group (n=23)

Variables	Correlation	Significance
1 x 2	.4869	$P < .01$
1 x 3	.2639	Not significant
1 x 4	.0166	Not significant
1 x 5	.1814	Not significant
1 x 6	.4566	$P < .05$

Of the five correlations given above, only two of them are significant (1 x 2, 1 x 6) but neither of them is a high correlation. Despite the same, the regression test of variable 1 on variable 2 and 6 was worked out and the outcome is recorded in Table VI-21.

Table VI-21 : Regression of variable 1 on variables 2 and 6 in the ASSI Group

Variables	Beta Value	Alpha Value	Multiple R	F Value	P Value
CDP (X_1)	.766				
		—6.129	.530	5.301	.014
PMP (X_5)	.614				

The multiple R of .530 is found to be significant at .05 level. Therefore it may be stated that, variation in sales can be explained to the extent of 28.1% (R^2 x 100) by marketing concept adoption in competitive and demand practices and promotion practices. The regression equation is written as,

$$Y = a + b_1 x_1 + b_5 x_5$$

Substituting,

$$Y = -6.129 + .766\, x_1 + .614\, x_5 \quad \ldots (5)$$

Referring to regression equation 5, the following may be said about the ASSI group. For every unit increase in CDP, sales would increase by .77 units and for every unit increase in PMP sales increases by .61 units.

(g) Non Ancillary SSI Group (NASSI)

One would expect a better performance in the marketing variables in non-ancillary SSI group than in ancillary SSI group. Table VI-22 indicates whether it is true.

Table VI-22 : Simple Correlations in the NASSI Group (n = 29)

Variables	Correlation	Significance
1 x 2	.530	P < .01
1 x 3	.436	P < .01
1 x 4	.284	Not significant
1 x 5	.337	P < .05
1 x 6	.379	P < .05

Although four relationships (1 x 2, 1 x 3, 1 x 5, 1 x 6) are found to be significant only one is found to be of high correlation namely, 1 x 2, i.e., correlation between sales and marketing concept adoption in competitive and demand practices. In the ASSI group no high correlation between sales and marketing practices were found. Perhaps rightly there is high correlation between sales and competitive and demand practices in the NASSI group as they have to put up with competition. The analysis now moves to regression and results are shown in Table VI-23.

Table VI-23 : Regression of Variable 1 on Variables 2 and 6 in NASSI group

Variables	Beta Value	Alpha Value	Multiple R	F Value	P Value
CDP (X_1)	1.445	-4.101	.476	5.113	.013
PMP (X_5)	0.132				

Regression of variable 1 on variables 2 and 6 yielded a Multiple R of .476 and is found to be significant at .05 level. The square of Multiple R expressed as a percentage i.e., 22.7% is the extent to which variation in sales is explained by marketing concept adoption in competitive and demand practices and promotion practices. The regression of Y on X is written as,

$$Y = a + b_1 x_1 + b_5 x_5$$

Substituting,

$$Y = -4.101 + 1.445 x_1 + .132 x_5 \quad .... (6)$$

Referring to regression equation 6 it may be said, that for every unit increase in CDP sales would increase by 1.45 units and for every unit increase in PMP, sales increases by .13 unit.

In the ancillary SSI group variable 2 and 6 marketing practices contributed 28.1% in explaining the variation in sales, while in the non-ancillary SSI group contribution is only 22.7%. The ASSI's contribution figure is higher than that of non - ASSI groups figure by 5.4%. This result is contrary to normal expectations as one would expect the non-ancillary SSI group to have their marketing variable perform better as they have to face with a lot of competition.

(h) High Capital Intensity group (HCI)

Most of the organised sector is capital intensive and it is generally taken for granted that these firms follow systematic and effective marketing strategies. It is the endeavour of the investigator to investigate into the performance of marketing practices in the capital intensive small scale industrial units. To beging with simple correlations between criterion variable, sales and predictor variables, marketing practices, are worked out. These are presented in Table VI - 24.

Table VI-24 : Simple correlations in the High Capital Intensive group (n = 11)

Variables	Correlation	Significance
1 x 2	.824	P < .01
1 x 3	.517	Not significant
1 x 4	.453	Not significant
1 x 5	.477	Not significant
1 x 6	.653	P < .05

Table VI-24 brings out two (1 x 2 and 1 x 6) significant relationships among the variables. Sales is highly correlated with competitive and demand practices and promotion practices. Thus high sales is accompanied by high marketing concept adoption in competitive practices. Also, high sales is accompanied by high marketing concept adoption in promotion practices. These two variables are entered into regression and the results obtained are presented in Table VI-25.

Table VI-25 : Regression of variable 1 on variables 2 and 6 in the high capital intensive group

Variables	Beta Value	Alpha Value	Multiple R	F Value	P Value
CDP (X_1)	3.135				
		-21.342	.779	8.698	.010
PMP (X_5)	.491				

From the regression table it is found that regression of sales on CDP and PMP gives rise to Multiple R of .779 which is found to be significant at .01 level. It may be stated that 60.6% of variation in sales is explained by marketing practices described in variable CDP and PMP. Making use of alpha and beta values in the above table the regression equation of Y and X may be written as,

$$Y = a + b_1 x_1 + b_5 x_5$$

Substituting,

$$Y = -21.342 + 3.135 x_1 + .491 x_5 \quad \ldots (7)$$

Regarding high capital intensive group, it may be said that for every unit increase in CDP sales increase by 3.14 units, and every unit increase in PMP sales increases by half a unit. (refer regression equation 7). It is found that (referring to beta co-efficients) the ratio of sales to CDP has been the highest among all the groups (3.14 : 1).

From the above discussion it may be concluded that entrepreneurs who head capital intensive SSI units take care to formulate effective marketing strategies in the sphere of competitive and demand practices and promotion practices which in turn bring about increased sales.

(i) Low Capital Intensive Group (LCI)

In order to establish any relationship between sales and marketing practices, the test of simple correlation was carried out. The results are expressed in Table VI-26.

Table VI-26 : Simple correlations in the low capital intensive group (n = 41)

Variables	Cofrelation	Significance
1 x 2	.4317	P < .01
1 x 3	.2779	P < .05
1 x 4	.0276	Not significant
1 x 5	.2999	P < .05
1 x 6	.3645	P < .01

The above table reveals that 4 correlations (1 x 2, 1 x 3, 1 x 5, 1 x 6) are significant but none of them were high correlation. They may be described as relationships of a low degree. Thus there is no strong relationship between sales and marketing practices. The analytic exercise is carried further and the test of regression was applied. The results are enumerated in Table VI-27.

Table VI-27 : Regression of variable 1 on variables 2 and 6 in the Low Capital Intensive Group

Variable	Beta Value	Alpha Value	Multiple R	F Value	P Value
CDP (X_1)	.416	2.032	.429	5.499	.008
PMP (X_5)	.235				

The results of regression indicate a multiple R of .429 which is significant at .01 level of confidence. This means to say that 18.4% of variation in sales (variable 1) is explained by variable 2 and 6 as against 60.6% in the high capital intensive group.

The regression of Y on X can be written as

$$Y = 2.032 + .416\ X_1 + .235\ X_5 \quad \ldots (8)$$

Thus for a unit increase in CDP, sales would increase by .42 units and for every unit increase in PMP sales would increase by .24 units.

j) Concluding Remarks in Section II

The maximum contribution of marketing variables CDP and PMP in explaining the variation in sales is found in the HCI group (61%) followed by PT group (34%). This helps us to draw a conclusion that in high capital intensive group and partnership group there is greater adherence to the marketing concept (with respect to CDP and PMP) as contribution to explaining variation in sales is a lot higher in these groups than other groups.

The ratio of sales to marketing practices in the sphere of competitive and demand decisions is best in the HCI group (3.14 : 1) followed by NASSI group (1.45 :1) and MO group (1.34 : 1).

The ratio of sales to promotion practices are better in ASSI group (0.6 : 1) followed by MO and HCI groups (0.5 : 1).

Marketing variables CDP and PMP are not significant in JW and P groups.

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