

Chapter – IV
Analysis and Interpretation of Data
Collection

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Chapter – IV

Analysis and Interpretation of Data Collection

4.1 INTRODUCTION: -

Maharashtra State is leading in Co-operative sector. The effective Retail Distribution of Consumer Goods in the Rural and Urban are done through Co-operative departmental stores. Now the co-operative stores having a adequate autonomy for marketing of consumer stores and sale promotional activities. Today rural development is the vital issue but Govt. alone cannot shoulder this responsibility so Co-operative departmental stores and NGO's are supported for the rural development through the Retail Marketing. Consumer Co-operative Departmental Stores are organized by the user member, owned by member and they are controlling management through the Board of Directors.

Bharati Co-operative Grahak Bhandar Ltd. Pune was established by Hon. Patangrao Kadam on 2nd October 1973. The Main Objective of this Co-operative Consumer Organization is to Supply of quality goods to the consumer at reasonable prices. The head office of Bharati Bazar is at Pune. In the beginning they started their business activities through the Bharati Gas Agency at Bibvewadi - Pune from 28th March 1983. In Urban area there is very big problem regarding the supply of gas but this Co-operative Organization has taken this gas supply responsibility. In the year 2012-2013 their turnover was Rs. 1085.46 lakh it is Rs. 932 lakh in 2013-14. As per the observation and primary data collection from the customer, I have found that Bharati Gas Agency is supply the gas as per regulated prices with regular supply with making any stock shortage. In supply of gas generally there is problem of shortage of stock. It is observed that in Pune. Bharati Gas Agency they have very prompt in services to customers. In survey out of 240 customers 180 have said satisfactory supply of gas regularly at regulated prices. 75% customers are satisfied with regular supply. Bharati Gas Agency has control on stock shortages. The principle of Co-operative organization is to supply the goods and services to the members.

In Retail Marketing more than 70% market is handling by the Private Kirana Stores. They are selling the consumer goods on cash as well as credit. Consumers are accepted to purchase goods from local stores. There are number problems in Retail Marketing regarding pricing quality of product, exchange facilities, packaging issues, unprocessed food products etc.

4.2 MANAGEMENT OF BHARATI BAZAR:-

Bharati Central Co-operative Grahak Bhandar Ltd, Pune as established in the year 1973. At present there are 8 branches at Pune, Sangli, Kadegaon area. There are 4038 members in 2013-14. Total Share Capital is Rs. 15,57,445. In this year new 71 members are enrolled for Bharati bazaar.

Table No – 4.1
Area of Operations

Sr. No	District	Branch	Business / Services
1	Pune	Bidviewadi (1985)	Gas Agency Local Supply
2	Pune	Gultekadi (1986)	Wholesale Stores
3	Pune	City Branch (1990)	Bharati Bazar
4	Pune	Hadapsar (2002)	Bharati Bazar
5	Sangli	Sangli City (1994)	Departmental Stores
6	Sangli	Kadegaon (1994)	Departmental Stores
7	Sangli	Kadegaon (1997)	Agri Service Centre
8	Sangli	Kadegaon (23/3/2012)	Cattle Feed Manufacturing Unit

Source – Annual Report (2013-14)

As per the above table it shows that from last 40 years Bharati Central Co-operative Grahak Bhandar Ltd, Pune. Has working for Retail Marketing at 8 different centers. In Pune City they have 3 departmental stores and one unit of gas supply agency. Bharati organization has started their 'Krushi Stores at Kadegaon. They have established their Cattle Feed Manufacturing Unit at Kadegaon MIDC from 23rd March, 2012. They have developed their brand name as "Bharati Krushidhan". In short Bharati Co-operative Organization having Retail Marketing Departmental Stores at Sangli, Pune Hadapsar as well as Gas Agency at

Pune and Krushi Seva Stores at Kadegaon.

❖ **Management:-**

Bharati Co-operative Organization has a team of 17 Directors and one Govt. representative. In Board of Directors there are 9 female members and 8 male members. President is also women Dr. Sou. Mandakini Pansare and Hon. Mrs. Vijayamala Patangarao Kadam has leading this organization very outstanding point is that this organization is a success story of Departmental stores. Bharati Bazar is a brand name developed by this organization. 'A' Grade for their financial audit it is also observed that 15 organizations has getting 'A' Grade for financial audit from that 30 years. It shows their excellent management performance.

Table No – 4.2

Share Holders of the Bharati Bazar

Sr. No	Members	2011-2012	2012-2013	2013-2014
1	Individual Members	3637	3917	3988
2	Co-operative Society	49	49	49
3	Maha. Govt.	01	01	01
Total Member =		3686	3966	4038

Source :- Annual Report (2013-2014)

Above table shows that in the year 2011-12 there were 3688 member in 2012-13 member were 3966 and in 2013-14 there were 4038 member for Bharati Bazar. This Retail Business has run by Board of Directors.

Purchase committee held 12 meeting in the year 2013-14 and 13 meeting were held by Board of Directors. All purchases and sales activities are controlled by the Management Managing director and Branch Manager are looking after the daily business activities. Success behind the Bharati Bazar is the efficient management, and performance of the staff.

4.3 ANALYSIS OF FINANCIAL MANAGEMENT:-

The major objectives of the Bharati Co-operative Organization is to give the better services to customer and not to get more profit of selling the goods through retail marketing

as per the co-operative principles and required capital is raised through share holders from Maharashtra Govt. as a contributory share capital and term and short loans through the local banks. Basic capital and working capital is essential financial need for retail marketing finance plays very important role in the business. Bharati Bazar has raised its capital from shareholders and government contribution.

Following table shows the share capital amount and Govt. Contribution.

Table No – 4.3

Capital of the Bharati Bazar

Sr. No	Capital Investment by the Members	2012-2013 Rs.	2013-2014 Rs.
1	Individual Share holders	632355	1086995
2	Government	515000	451000
3	Co-operative Societies	19450	19450
Total Investment of Rs. =		1166805	1557445

Table shows that in the year 2012-2013 there was capital of Rs. 11,66,805 and it was reached up to Rs. 15,57,445 in the year 2013-14. In the year 2012-13 there was Rs. 5,15,000 as Government shares and it was Rs. 4,51,000 in 2013-14. Bharati has make a repayment to Govt. share of Rs. 64000 in the year 2013-14.

As per the above analysis of figures of capital and working capital is raised through bank loans Bharati Bazar has also scheme of customer deposits for better facilities, is financial source is nicely used by the management for working capital purpose. This deposit scheme is known as win-win game because of benefit to the Bharati Bazar and customers are also getting more returns on their deposits as purchases from Bharati Bazar.

4.4 SALES PROMOTION and PROFITABILITY ANALYSIS :-

Bharati Bazar has giving home delivery services to their customers. From last 12 years. In the year 2013-14, it is found that 1100 customers are benefited through home delivery of goods from Bharati Bazar as free transport services. This is a regular service to customers. New marketing strategy Bharati Bazar is adopted as a supply of goods on

telephone request with the order list. In retail marketing majority sales are in the festival of Dasara and Deepawali season so Bharati Bazar has giving Deepawali Kit with 18 commodities as per the Deepawali Festival requirement at Rs. 499. Actual price as per the price list was 575 but they give it as discount rate of Rs. 499. Bharati Bazar also gives a one shopping bag free as per this scheme Bharati Bazar is a central place at pune as well as Sangli. So they have getting better marketing through co-operative principles. They are selling the goods at fair prices with low profit.

Bharati food grains festival seasonal offers and weekend offers are their unique marketing strategies. In the year 2013-14 they have doing turnover of Rs. 58,29,000 in the food grain festivals. More than 2000 customers are benefited and visited to that sales exhibition.

❖ Offer to Shareholder (Members)

Bharati Bazar giving the facilities to their member with supply of sugar at Rs. 25 per kg and sunflower oil Rs. 75 per kg in Deepawali Festival. It is observed by annual reports that from last 10 years they are not declared any dividend in cash form but they distributed commodities as sugar at low rate, oil and other items to shareholders.

Every Saturday and Sunday they giving the offers for certain items for sales promotion purpose. Their working for 6 days and every day they have for 12 hours working for retail marketing.

❖ Trend of Sales Turnover and Profitability Analysis :-

Bharati Co-operative Organisation is working with its 8 branches at Pune, Hadapsar, Bharati Gas Sangli, Kadegaon Departmental Stores and Krushi Seva Unit. As per the data collection and study through the annual reports of Bharati Bazar it is found that from last 5 years their sales turnover is reached up to Rs. 4870.62 lakhs in 2013-14. It was Rs. 3361.52 in 2011-12 and in 2010 sales was 2521.94 lakhs in the year 2010, Gross Profit was Rs. 210 lakhs and it was reached up to Rs. 364.64 in short Bharati Bazar is a successful Co-operative organization in Retail Marketing. Their major functions are supply of quality goods to the customers. Increasing sales turnover and gross profit figures show the effective marketing activities of Bharati Bazar. Following table gives the details about sales turnover, gross profit and net profit of last 3 years.

Table No – 4.4

Sales Turnover and Profit Analysis Bharati Bazar

Sr. No	Particulars	2011-12	2012-13	2013-14
1	Total Purchases	3361.52	4127.29	4336.48
2	Total Sales	3663.21	4415.87	4870.62
3	Gross Profit	282.55	288.91	364.64
4	Net Profit (Loss)	25.29	(15.58) Loss	04.81

Source: - Data Collection – Annual Report 2013-14

Above table exhibits the figures of total Purchases, Sales and Profit of Bharati Bazar for last 3 years. Rs. 3361.52 and Sales was 3663.21 lakhs where as Gross Profit was 282.55 and Net Profit earns by Bharati Bazar was Rs. 25.29 lakhs.

In the 2012-2013 total sales turnover was Rs. 4415.87 lakhs and Gross Profit was 288.91. In this year Organization suffers the loss of Rs. 15.58 lakhs. Main reason behind this loss is overburden of staff and excess operational expenses. Above table shows that in the year 2013-14, there was total sales turnover of Rs. 4870.62 where as Gross Profit Rs. 364.64 lakhs and Net Profit was Rs. 4.81 lakhs.

As per the above figures of sales Gross Profit and Net Profit, it shows that in the year 2013-14 through there is sales of Rs. 4870.62 but Gross Profit is only 364.64 it is nearly 8% where as Net Profit figure is 4.81 for the year 2013-14 which is only 2% of Gross Profit. This indicates High operating expenses and over dues of Bharati Bazar.

❖ Operating Expenses and Sales Turnover Analysis :-

In Retail Marketing there are various problems in marketing of consumer products in city market there branded shops, super markets and big malls so co-operative departments have to improve their efficiency for competition today consumers are demanded to quality product and best services. Sales turnover is one of the criteria for understanding the performance of the stores. Following table shows the sales turnover, operating expenses and profit earn by the Bharati Organisation in last 5 years.

Table No 4.5
Operating Expenses and Sales Turnover

(Amount in Lakhs)

Year	Total Sales	Gross Profit	Other Income	Total Salary	Total Expenses	Net Profit
2009-10	2521.94	210.99	18.15	96.82	218.68	10.46
2010-11	3121.71	250.69	23.34	118.89	257.28	16.75
2011-12	3663.21	282.55	34.87	140.43	292.13	25.29
2012-13	4416.99	288.90	71.55	172.65	408.27	-15.58 (Loss)
2013-14	4470.62	364.64	62.96	187.96	453.42	4.82

Source:- Bharati Bazar – Annual Report 2013-14

Above table shows the total sales, Gross Profit, Total Salary, other Operating Expenses and Net Profit earn by the Bharati Co-operative from 8 different branches of Pune and Sangli District. As per the table it shows that in 2009-10 there was sales of Rs. 2521.94 lakhs which was increased up to Rs. 4470.62 lakhs in 2013-14. Sales turnover shows the increased trend from last 5 years. In first 4 years sales shows 10% to 15% increase. In the year 2012-13 and year 2013-14 sales in increased by only 1% to 2% in volume.

Gross Profit in the year 2009-10 was Rs.210.99 and in year 2013-14 Gross Profit was reached up to Rs. 364.64 lakhs. In Bharati Organisation total operating expenses are shows increase trend. In 2009-2010 total expenses was Rs. 218.68 lakhs, in 2011-12 expenses was Rs. 292.13 and in 2013-14 operating expenses was Rs. 453.42 lakhs.

Above table indicates the amount of net profit, in 2009-10 profit was Rs. 10.46 lakhs and in the year 2012-13 organization suffering loss of Rs. 15.58 lakhs. In2013-14, there is profit of Rs. 4.82 lakhs. It shows the improvement in profitability of the Bharati Bazar in the last year.

4.5 CUSTOMER FACILITIES :-

In Retail Marketing Business operations and improvement in sales activities are mainly depends upon the consumer satisfaction and their expectations from that stores.

Consumer satisfaction is the result of the selling process and their needs. It depends upon how the organization giving the marketing facilities and benefit to customers. In Retail Marketing, Individual Consumers may have different reasons of purchasing the goods or services. High quality product with low cost or any rebate or discount offers by the organization then Customer are very satisfaction in that marketing.

Table No – 4.6
Consumer Facilities

Sr. No	Consumer Facilities	Respondents	Percentage to 240 sample
1	Credit Faculties	6	2.5
2	Debit / Credit Card	13	5.41
3	Home Delivery	48	61.66
4	Cash Rebate	68	70.00
5	Gift Scheme	105	43.75
Total		240	100%

Above table indicates the changing expectation of customers about credit facilities and payment system with debit card and E-Banking facilities which are more convenient and popular in the urban markets. This table shows that E-Banking is used by 13 (5.41) Customers 5 (2.08) customers are getting credit facilities. Mostly credit facilities are provided to Educational Institutes and other member co-operative for supply of goods. 105 (43.75) customers are benefited from gift scheme for festivals and special officers on purchases of goods.

In Retail outlets customers are expected for quality product and price should be reasonable. As per this study researcher has found that Bharati organization is the Best Option for Purchases for regular consumable goods and products. In Retail marketing consumer shopping behavior is very important which affects on business turnover of the organization. In urban area shopping pattern has changed from last 10 years. For quality consumer products customers are accepted the marketing of goods form malls and super markets as well as the branded shops. Following table shows the consumer behavior regarding their shopping pattern.

Table No – 4.7
Consumer Shopping Behavior

Sr. No	Particulars	No. of Rs.	% to sample
1	Weekly Shopping	15	6.25
2	Monthly Shopping	85	35.42
3	Regular Customer	22	09.16
4	Occasional Customer	31	12.92
5	Festival and Special Offers	87	36.25
Total =		240	100%

Source:- Primary Data Analysis

Above table shows the consumer buying behavior of shopping patterns. Table shows that 87 (36.25%) Customers are purchasing and visiting to Bharati Bazar at the time of special offers and festival seasons 85(35.42%) customers are purchasing the goods on monthly purchasing from the stores. There are 31(12.92) customers doing the shopping as occasional customers. Regular customers are only 22(9.16%) purchasing their goods. In short the buying behavior shows that more than 70% customers are purchased their own monthly basic or they are purchased in the special festival such as Deepawali – Dasara and Ed-festival.

Table No – 4.8
Consumer Satisfaction

Sr. No	Particulars	Satisfaction (%)	Unsatisfied(%)	Total
1	Quality of Product	218 (90%)	22 (09.16)	240
2	Prices of Product	190 (79%)	50 (20.83)	240
3	Discount - Rebate	220 (83%)	20 (08.33)	240
4	Variety of Product	160 (67%)	80 (33.33)	240
5	Home Services	170 (70%)	70 (29.16)	240
6	Packaging	215 (89%)	35 (14.58)	240

Source: - Data Collection Analysis

Above table shows the consumer satisfaction with various aspects of quality price and other services of Bharati Bazar. It shows that 218 (90%) consumers are satisfy with quality of products. 220(83%) customers are satisfy with getting discount are rebate on purchases. 170 (70%) customers are satisfy for getting home delivery of goods as free transportation services. 215 (89%) customers are satisfy for best quality packaging of consumable goods,

In short as per the observation and analysis of data collection. It is provided quality product to their customers at low prices. 190 (79%) customers are agreeing that they are getting quality product with low prices.

Table No 4.9
Pattern of Consumer Goods Purchases

Sr. No	Particulars	No. of Respondents	% to total Sample Size
1	Food Grains (Dal-Atta etc)	141	58.75
2	Fast Food items	70	29.16
3	Biscuits and Children's	82	34.16
4	Stationery and Note Books	56	23.33
5	Masala items	96	40.00
6	Oil – Products	115	47.16
7	Detergent Soaps – Bath Soap and Toilet items	120	50.00
8	Chader –Bed Sheet	20	8.33
9	Other Consumable Items	91	37.91
10	Cattle Field and Chemicals	40	16.66

Source – Primary Data Collection (Sample Size is 240)

Above shows the purchasing pattern of consumable goods from Bharati Bazar. It indicates that 141 (58.75%) consumer are preferred the items of food grains – Dal and Atta 120 (50%) having purchased detergent soap, bath soap and other toilet items. 115 (47.16%) consumers are purchasing preferable the oil and oil product for daily consumption 82 (34.16%) customers are purchase biscuits and children items it is observed that at Kadegaon

there is only Krushi Seva Kendra supply the agricultural inputs as fertilizers and chemicals for farming purpose. Outstanding services are also giving by the Bharati Gas Agency where they are supply of gas to their customers.

A) Consumer Analysis:-

Generally it is observed that women are main buyers of all essential commodities which are required for family. In Retail Marketing more than 65% Marketing is done by women. Women are the best judge for quality of product and pricing of goods. Co-operative departmental stores are more preferred because of low prices of commodities and better quality goods.

Table No – 4.10

Consumer Analysis of Respondents

Sr. No	Consumer	Respondents	Percentage
1	Male	55	22.91
2	Female	115	47.92
3	Students	30	12.50
4	Family Visit	40	16.67
Total		240	100%

Source – Field work

As per the above table, it shows that 115 (47.92%) consumers are female, 55 (22.91%) consumer are male, 30 (12.50) consumers are students and 40 (16.67) respondents are purchased good and visited to co-operative stores with family members.

It gives that majority marketing is doing by the female consumers. So organization has to make marketing promotional strategies for women consumers for better sales of commodities.

B) Age-wise Distribution of Respondents:-

Age group is very effective in Retail Marketing. This present study is of Bharati Bazar having the branches at Pune area, Sangli and Kadegaon.

Table No – 4.11

Age-wise Distribution of the Respondents

Sr. No	Age- Group (Year)	Respondents	Percentage
1	Below 18 (Minor)	30	12.50
2	19-30(young)	45	18.75
3	31-60	145	60.42
4	Above 60	20	8.33
Total		240	100%

Source – Data Collection Analysis

Above table shows that 145 (60.42) respondents are age group of 31 to 60 Year. 45 (18.75) respondents are in between of 19-30 years and 30 respondents are in the age group of below 18 years which are known as minor consumers in retail marketing, 30 respondents are having under the age group of above 60 years. The percentage is less than 9% in the total population of the present study. It is observed that young generation and Middle age group people are handling the consumer purchasing from co-operative stores. Middle age group family members are preferred the purchasing of consumer products from Bharati Bazar.

C) Regular Buying Habits :-

In Retail Marketing by Co-operative organization – Bharati Bazar try to sale the grocery items particularly a daily consumable commodities. Consumers are accepted to purchase their required daily goods for near and from convent stores. Distance of stores is very important in retail marketing but sometimes consumer do purposing with central place of city. If consumer are from long distance he may preferred the co-operative Bazar because of low prices and best quality of the goods. It is also observed that Bharati Bazar has giving facilities for home delivery facilities with purchasing of materials more Rs. 2000 at a time

Table No – 4.12

Regular Buying from Bharati Bazar

Sr. No	Buying Pattern	Respondents	Percentage
1	Monthly Buying	132	55.00
2	Seasonal Exhibitions	50	20.84
3	Occasional Purpose	30	12.5

4	One time in year	28	11.66
Total		240	100%

Source – Field Work Data Analysis

Above table shows that 132 consumers are purposing their daily consumable products regularly in every month. 50 consumers are accepted to purchase their goods in festivals and exhibition for getting more discount facilities and to get quality product. 30 consumers are purchasing the required retail commodities occasionally. They are not regular customer of Bharati Bazar. 28 consumers are purchased their goods and visited once in the year.

It shows that nearly 22% consumers are occasionally of one time visited to Bharati Bazar. Main observation from the above table is that sales promotional strategy and marketing plan is required to important in sales turnover of Bharati Bazar.

It is also observed that there are no credit facilities for customers. Bharati Bazar having credit facilities to their own educational institute only it is observed that more than 70% consumers are buying regularly from the Bharati Bazar Co-operative Stores are succeeded in building the image of the stores in the mind of consumers. Regular buying pattern of consumer are affected on total annual turnover of the Bharati Bazar.

Table No – 4.13
Reasons for Buying from Co-operative Stores.

Sr. No	Particulars	Respondents	Percentage
1	Low Pricing	90	37.5
2	Best Quality of Goods	45	18.75
3	Home Delivery Facilities	25	10.41
4	Correct Weight	30	12.5
5	Central Location	24	10
6	Discount Facilities and Rebate	26	10.84
Total		240	100%

Source – Primary Data Collection

This is an analysis of various reasons behind the purchasing of material from the Co-operative stores. Bharati Bazar. Above table indicates that 90 respondents are purchased their required material from this store because of low prices charged by co-operative stores. This is a main reason for co-operative marketing 45 respondents are purchased because of the best quality products they supplying in retail marketing 30 respondents says that correct weight of

co-operative stores 26 respondents nearly more than 10% because of they have getting discounts and weekly offers as well as festival offers such as exhibition and sale period benefits of low prices. 25 respondents are getting facilities of home delivery of facilities with free of cost. This scheme is very attractive in Pune city Bazar. In short consumers are purchasing the goods and materials form Co-operative stores because of fair prices and discount facilities of stores. These stores are run for giving better services and facilities to the member on co-operative basis.

4.6 HYPOTHESIS TESTING :-

H₁- Credit facilities and E-Banking Services are not accepted by Co-operative Departmental Stores.

H₂- Sales has affected significantly on profitability of the Departmental Stores.

H₃- Sales Promotional Strategies affected on more efficiency, sales and Profitability of the stores.

H₁ : Credit facilities and E-Banking Services are not accepted by Co-operative Departmental Stores.

Z - Test

Total sample size is 240. So the large sample test i.e Z test is used

Total customers are about 4000. On an average about 2000 customers are visiting Monthly. It is expected that 10% credit / Debit facilities are used by customers i.e. population mean = $\mu = 40$. From the table no.4.6

Consumer Facilities	Observed respondents (X)	(X - \bar{X}) ²
Credit facilities	6	1764
Debit/credit card	13	1225
Home Delivery	48	0
Cash Rebate	68	400
Gift Scheme	105	3249
	240	6638

The sample mean $\bar{X} = 240/5 = 48$

The hypothesis H₁ can be restated as there is no significant difference in the sample mean and population mean. The test statistic for Z test is

$$Z = \frac{x - \mu}{S.E.(X)} \quad S = \sqrt{\sum \frac{(X - \bar{X})^2}{n}} = 36.43$$

$$S.E. = \frac{S}{\sqrt{n}} = 16.33, \quad \text{The test statistic is } |Z| = \frac{48 - 40}{16.33} = 0.489$$

Level of significance = 0.05, critical value of Z at 5% level of significance = 1.96 from table

Since calculated value of |Z| is less than table value (0.489 < 1.96)

Null hypothesis is accepted

Therefore Credit facilities and E-Banking Services are not accepted by Co-operative Departmental Stores.

H₂ - Sales has affected significantly on profitability of the Departmental Stores.

Hypothesis – Testing – (t-Test)

Hypothesis is Correlation between sales and profitability of departmental stores is Significant.

Test of Significance Concerning correlation coefficient. (t-test) for small samples (5-years data).

t-test of significance of correlation is used. The test statistic is

$$t = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2} \sim t_{(n-2)}$$

r = The Sample Correlation Coefficient.

Form table No. 4.5

The Correlation Coefficient between **Total Sales** and **Net Profit** is calculated

Correlation Coefficient between total sales and net profit is r = - 0.45

The Value of the **test statistic t** is

$$t = \frac{-0.45}{\sqrt{1-0.45^2}} \times \sqrt{5-2}$$

$$|t| = 0.8727$$

Calculated value of **t** = 0.8727

Tabulated Value of **t** with (n-2) = 3 degrees of freedom is **3.182**.

The table value is observed from the statistical table.

Since Calculated value of t is less than tabulated value of t

Therefore Accept the hypothesis

i.e. Correlation between marketing turnover and profitability of departmental stores is Significant.

H₃- Sales Promotional Strategies are affected on more efficiency, sales and Profitability of the stores.

t-Test -

The researcher used t-Test to test if marketing strategy is really effective in promoting sales. Here data is used as average monthly sales in the period of five years (2002-2007) and after marketing strategy used the data is taken as average monthly sales in year (2008-2013)

Data used from Table No 3.4

Let $x_1, x_2 \dots x_n$ be the sales of the same products for certain period and Let $y_1, y_2 \dots y_n$ be the corresponding sales of the same products for same time period. Here the samples are not independent.

So paired t-Test is applied the test statistic for paired t-test is

$$t = \frac{d}{\frac{s}{\sqrt{n}}}$$

follows t- distribution with (n-1) degrees of freedom

$$s^2 = \frac{\Sigma (d-d)^2}{n-1}$$

$$d = x - y$$

Here the null hypothesis is

$$H_0 : \mu_x = \mu_y$$

i. e the average sales before marketing strategy and after marketing strategy are same or there is no significant change in sales after the special promotional campaign.

Alternative hypothesis is

$$H_1 : \mu_x < \mu_y \text{ (left tailed)}$$

i.e. special marketing strategies increases the sales

under H_0 the test statistic is

$$t = \frac{d}{S/\sqrt{n}} \text{ follows t- distribution with 5 degrees of freedom}$$

t - table

Sr. No.	1	2	3	4	5	6
Average Monthly Sales in year 2002-2007 (X)	115	119	135	134	134	158
Average Monthly Sales in year 2008-2013 (Y)	169	210	260	305	368	373
d = x-y	-54	-91	-125	-171	-234	-215
d ²	2916	8281	15625	29241	54756	46225

Monthly sales are obtained as dividing by 12 to yearly sales .

i.e. for the year 2002 yearly sale is 1377.42 and monthly sale is 114.785. Approximately it is taken as 115.

Mean of $d = -148.33$ calculated $t = -5.136$

The tabulated value of t for 5 % level of significance for single tailed test is 2.202 .

The table value is observed from the statistical table.

Since $|t| = 5.136$ which is greater than 2.202 therefore it is significant hence H_0 is rejected at 5% level of significance

So we conclude that the special marketing strategies have been effective in increasing the sales.

4.7 REFERENCES:-

- 1) Goyal S.K. – “Consumer Co-operative Movement In India”, Meenakshi Prakashan, Meerut, Delhi and Kanpur, 1972.
- 2) International Co-operative Alliance – “Readings In Consumer Co-operation”, New Delhi, 1972.
- 3) Khan J. A. – Research Methodology APH Publishing, Corporation New Deohi (2007)
- 4) Kulandaiswary V. and Winfered A. Johan- Management of Consumers’ Co-operatives, Rainbow Publication, Coimbatore, Tamil Nadu (1988).
- 5) Kulkarni P. B. – Distortions in Co-operation, Himalaya Publishing House, Bombay.
- 6) Dr. V.B. Kodag - Recent Trends in Commerce and Management Book Published by ABS Publication Varnashi (2013)
- 7) S. C. Kothari - Research Methodology Book Published by Himalaya Publication Mumbai.
- 8) Dr. Prakash Herekar – Research Methodology Mehata Publication Kolhapur.