CHAPTER: 5:

DATA ANALYSIS AND INTERPRETATION

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5.1 Introduction:

The most important task of any research is data analysis and proper interpretation. Without appropriate interpretation primary and secondary data were useless. The main objective of this chapter is to analyze the collected data from the various sources of information and convert them into some meaning full result. This chapter divided into two part, first part concern with the result of secondary data set and remaining part concern with the result of primary data set which has been collected through the structured questionnaire. Various observations are made after evaluating different data set. The data sets were analyzed through the various statistical software like E-views, SPSS-18 and many more.

Depend on the number of variables different types of parametric and non parametric tests (Frequency, Mean, Central tendency, Dispersion, etc) were performed with the help of statistical software. The broad findings and conclusion are drawn based on the result of these various testes.

5.2 Demographics factors of the respondents:

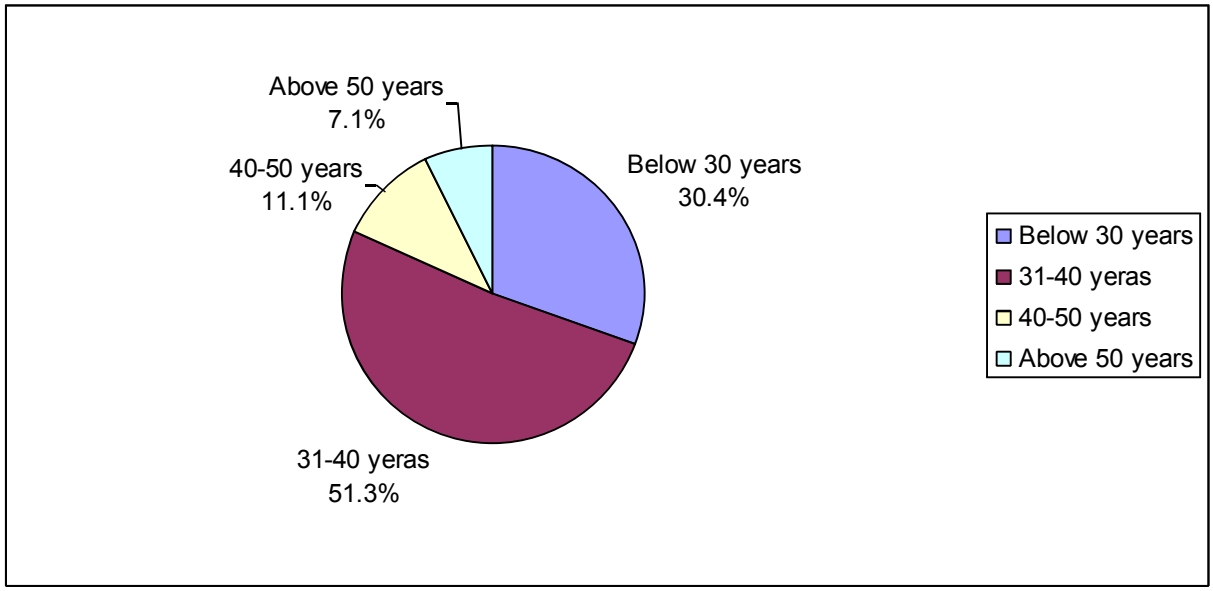
Respondents are classified based on their age. The data are shown in table (5.1) and chart (5.1). Majority of the respondents belongs to the categories of 31-40 years and below 30 years age groups as 231 and 137 numbers of respondents respectively. It shows, that most of the respondents purchase or willing to purchase any mutual fund scheme maximum at the age of 40 years.

Less numbers of respondents wants to purchase the mutual fund scheme at the age of 50 years and above.

(Table: 5.1 Frequency for age classification of the respondents)

Age (Years)	Frequency	Percentage (%)
Below 30 years	137	30.4
31-40 years	231	51.3
40-50 years	50	11.1
Above 50 years	32	7.1
Total	450	100.0

(Chart: 5.1 Frequency in terms of (%) for age classification of the respondents)



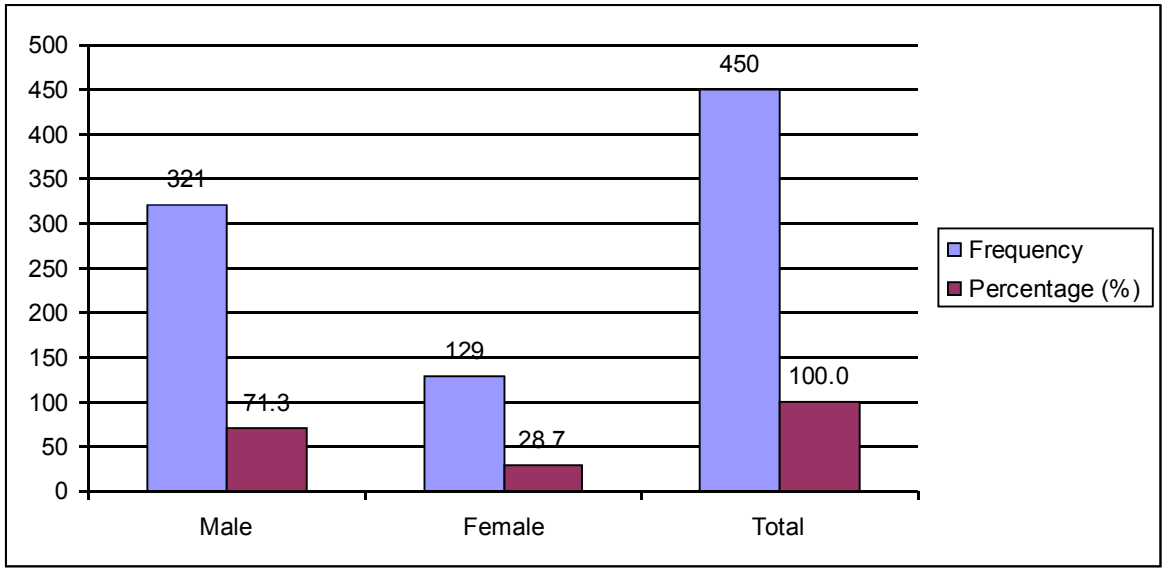
Gender wise classification of the respondents is shown in Table (5.2) and Chart (5.2). Out of 450 respondents from the various regions 71.3% (321) respondents are male and 28.7% (129) respondents are female. The mean value of the

gander class is 1.29. The result shows, that male respondent are purchases the mutual funds as compare to female respondent.

(Table: 5.2 Frequency for Gander classification of the respondents)

Gander	Frequency	Percentage (%)
Male	321	71.3
Female	129	28.7
Total	450	100.0

(Chart: 5.2 Frequency in terms of (%) for gander classification of the respondents)

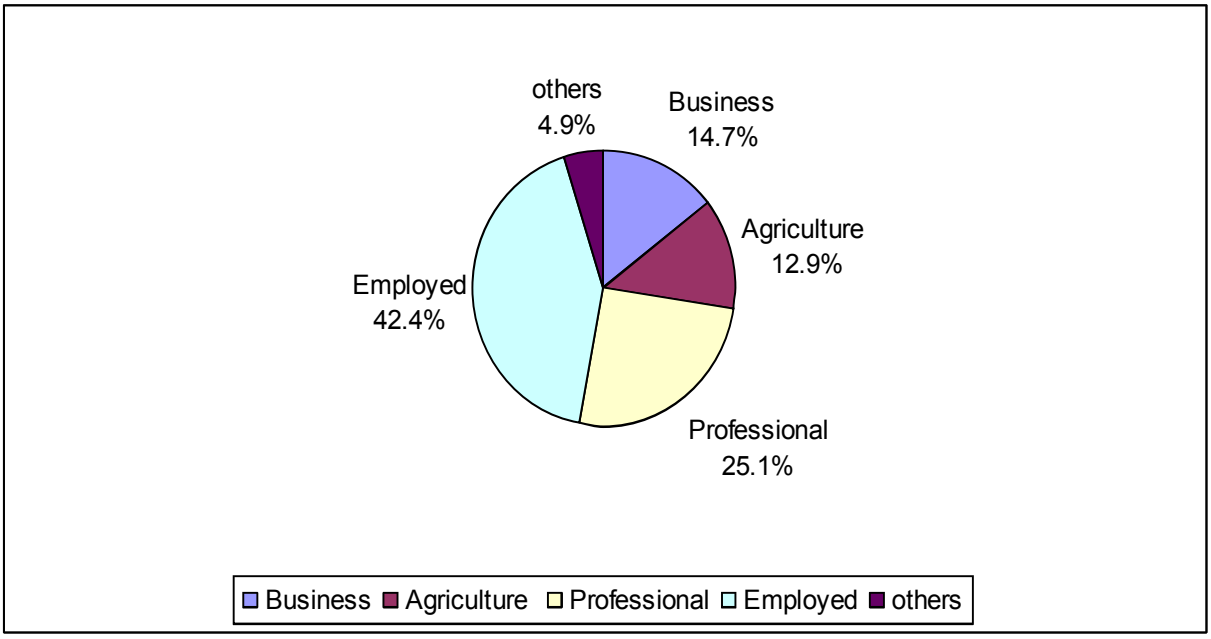


Another classification based on their occupation of the respondents are given in Table (5.3) and Chart (5.3). Majority of the respondents are belongs to the employed and professional categories with 42.4% and 25.1% respectively. The mean value of the occupation class is 3.10. It shows that employed and professional respondents are purchases the mutual funds as compare to other class of occupations (Business and agriculture).

(Table: 5.3 Frequency for occupation classification of the respondents)

Occupation	Frequency	Percentage (%)
Business	66	14.7
Agriculture	58	12.9
Professional	113	25.1
Employed	191	42.4
Others	22	4.9
Total	450	100.0

(Chart: 5.3 Frequency in terms of (%) with respect to occupation classification of the respondents)



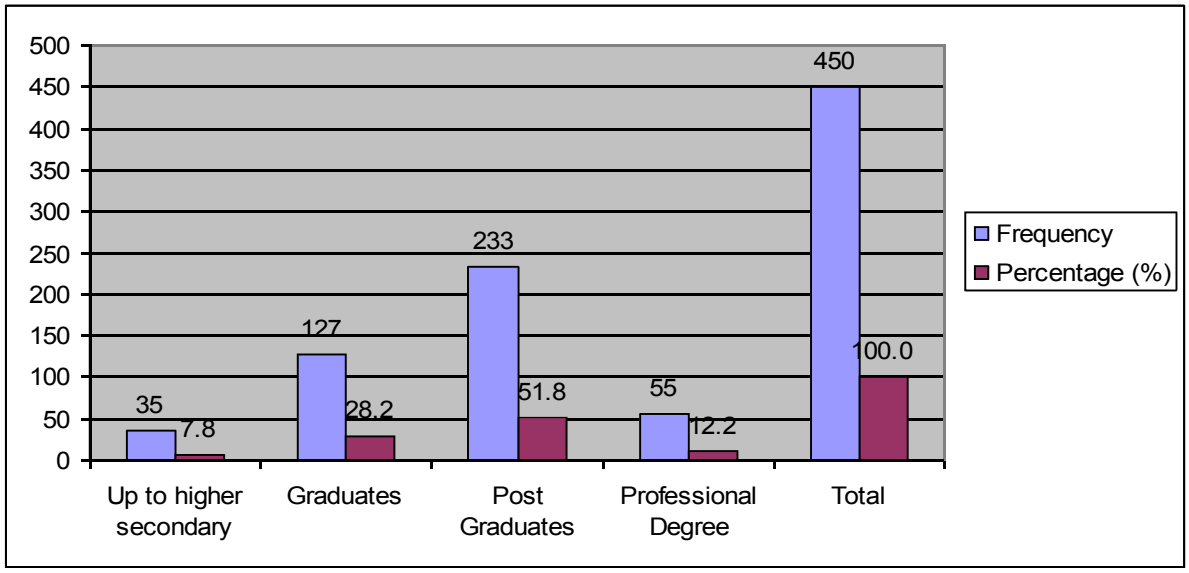
The next classification based on the education qualification of the respondents in Table (5.4) and Chart (5.4). Most of the respondents have at least graduates and post graduates degree with the 28.2% (127) and 51.8% (233) respectively. The mean value of the education class is 2.68. Very less number of respondents are under graduates, while 12.2% (55) respondents have a professional degree. It

means graduates and post graduates respondents are invested their financial resources in the mutual fund.

(Table: 5.4 Frequency for education class)

Education	Frequency	Percentage (%)
Up to higher secondary	35	7.8
Graduates	127	28.2
Post Graduates	233	51.8
Professional Degree	55	12.2
Total	450	100.0

(Chart: 5.4 Frequency in terms of (%) for education class)

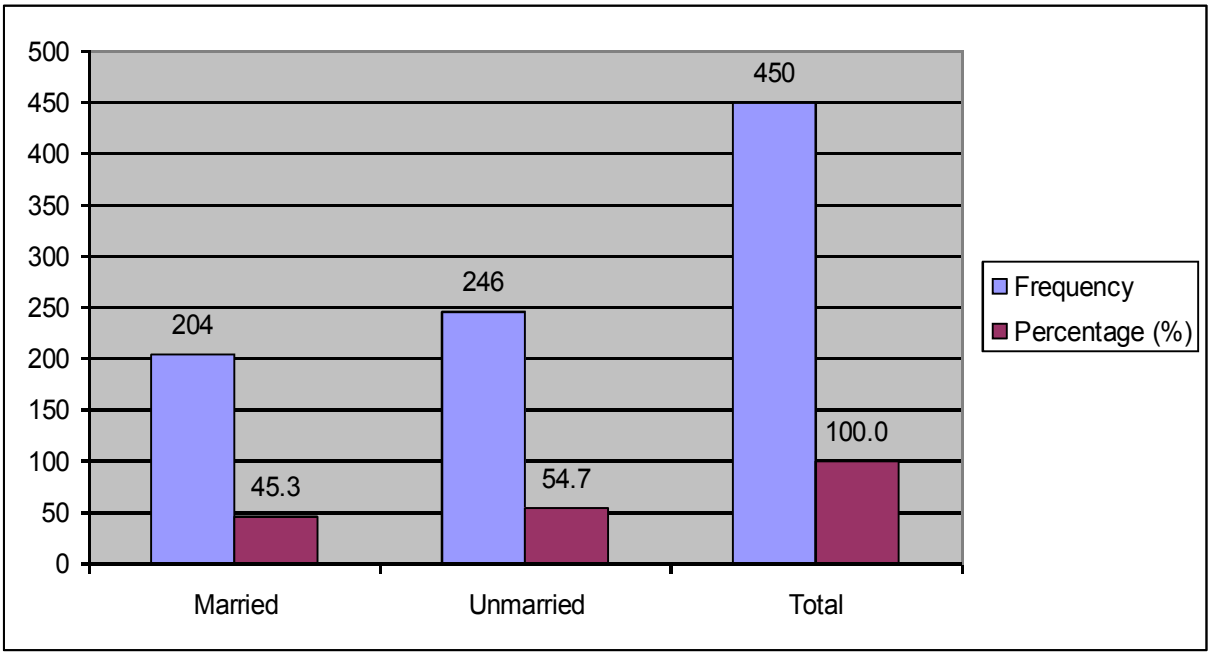


Further classification of the respondents related to the martial status depict in Table (5.5) and Chart (5.5). Out of 450 respondents 54.7% (246) respondents are unmarried and remaining 45.3% (204) respondents are married. The mean value of the martial class is 1.55. As compare to married individuals, unmarried individuals are invested their money in mutual funds.

(Table 5.5 Frequency for martial status class)

Martial Status	Frequency	Percentage (%)
Married	204	45.3
Unmarried	246	54.7
Total	450	100.0

(Chart: 5.5 Frequency in terms of (%) for martial status class)

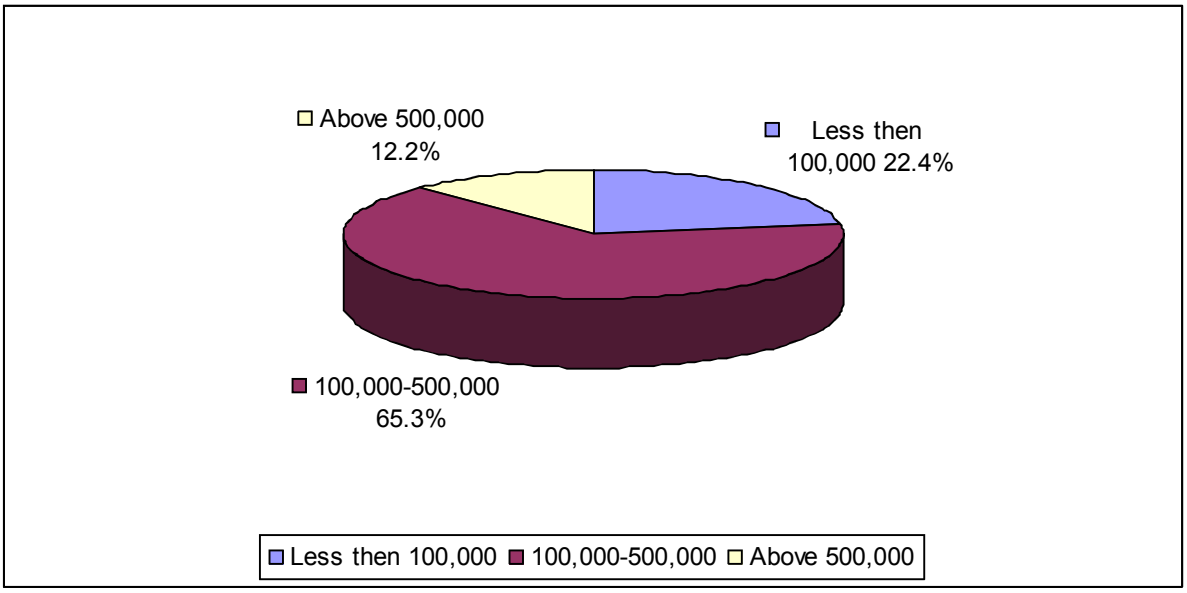


The next classification related annual incomes of the respondents are given below in table (5.6) and chart (5.6). Out of 450 respondents 65.3% (i.e.294) respondents are generated the income between Rs. 100,000 to 500,000 PA. It means most the respondents belong to the middle income group, who have purchases any mutual fund scheme. The mean value of the income class is 1.90.

(Table: 5.6 Frequency for various income groups)

Annual Income (Rs.)	Frequency	Percent (%)
Less then 100,000	101	22.4
100,000-500,000	294	65.3
above 500,000	55	12.2
Total	450	100.0

(Chart: 5.6 Frequency in terms of (%) for various income groups)

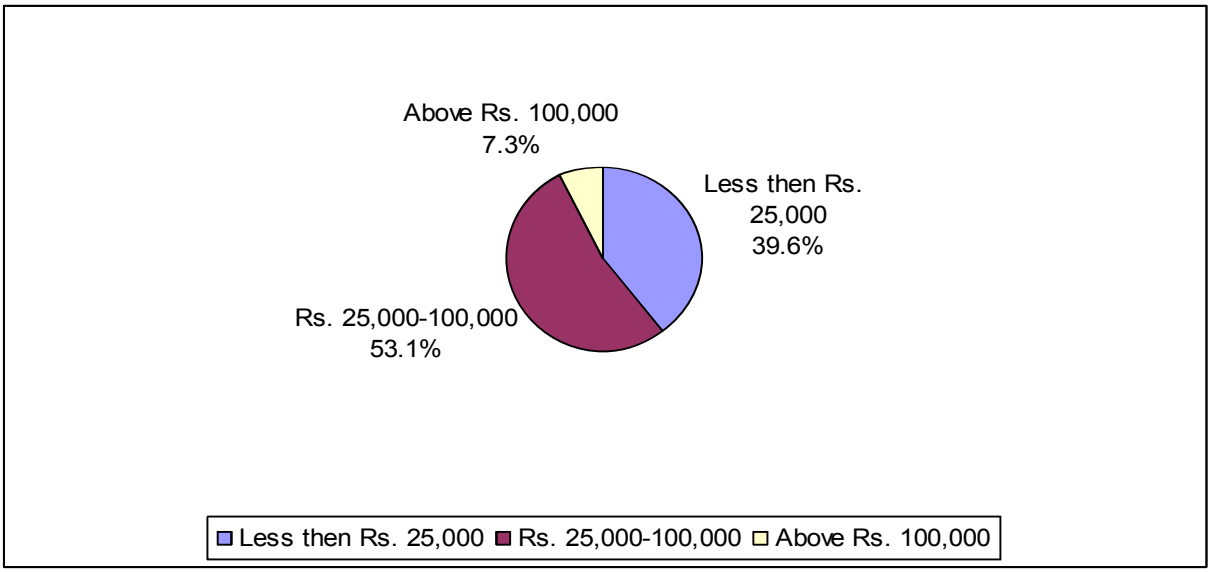


The last demographic category is annual saving shown in table (5.7) and Chart (5.7). 53.1% (i.e. 239) respondents annually saved Rs. 25,000 to 100,000, while 39.6% (i.e.178) respondents saved less then Rs. 25,000 PA., and remaining 7.3% (i.e.33) respondents saved more then Rs.100,000 during the financial year. The mean value of the annual saving class is 1.68. It means, Rs. 25,000 – 100,000 annually saving income groups are purchases any mutual fund scheme.

(Table: 5.7 Frequency for different annual saving groups)

Annual Saving (Rs.)	Frequency	Percentage (%)
Less then Rs. 25,000	178	39.6
Rs. 25,000-100,000	239	53.1
Above Rs. 100,000	33	7.3
Total	450	100.0

(Chart: 5.7 Frequency in terms of (%) for different annual saving groups)



5.3 Mutual fund investors risk Class (Frequency Distribution Analysis):

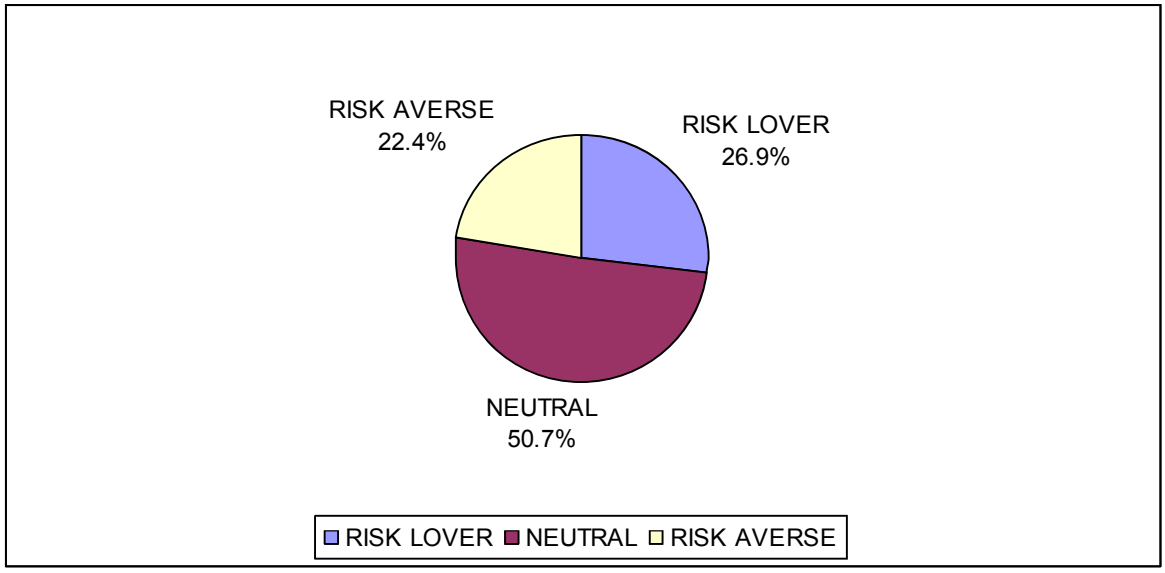
Investors risk class for mutual fund is given below in Table (5.8) and Chart (5.8). Out of 450 respondents 228 (i.e.50.7%) respondents are belongs to the risk neutral investor class, where as 121 (i.e.26.9%) are risk lover investors and 101 (i.e.22.4%) are risk averse investors respectively. The mean value of the

investors risk class is 1.96. It means half of the respondent's dose not want to bear any kind of risk and does not demand maximum percentage of returns.

(Table: 5.8 Frequency for inventor's risk class)

Investor's Risk Class	Frequency	Percentage (%)
RISK LOVER	121	26.9
NEUTRAL	228	50.7
RISK AVERSE	101	22.4
Total	450	100.0

(Chart: 5.8 Frequency in terms of (%) for inventor's risk class)



5.4 Frequency and mean score for most influencing factors:

The important question asked based on the investment needs of an individual investors, this question identified the most influencing factor from the different set

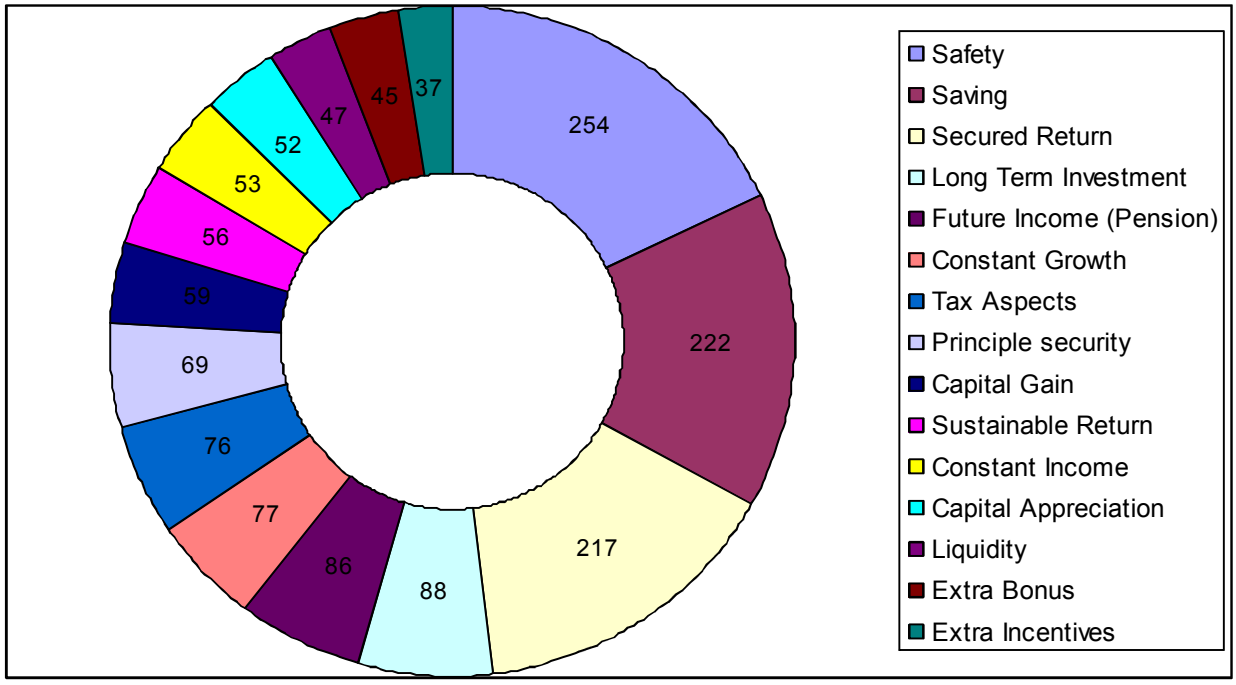
of their investment needs. The data regarding this are as given in Table: (5.9) and Chart: (5.9).

(Table: 5.9 Frequency for most influencing factors based on the investment needs)

Most Influencing Factor Based on Investment Needs*	
Influencing Factors	**Frequency**
Safety	254
Saving	222
Secured Return	217
Long Term Investment	88
Future Income (Pension)	86
Constant Growth	77
Tax Aspects	76
Principle security	69
Capital Gain	59
Sustainable Return	56
Constant Income	53
Capital Appreciation	52
Liquidity	47
Extra Bonus	45
Extra Incentives	37

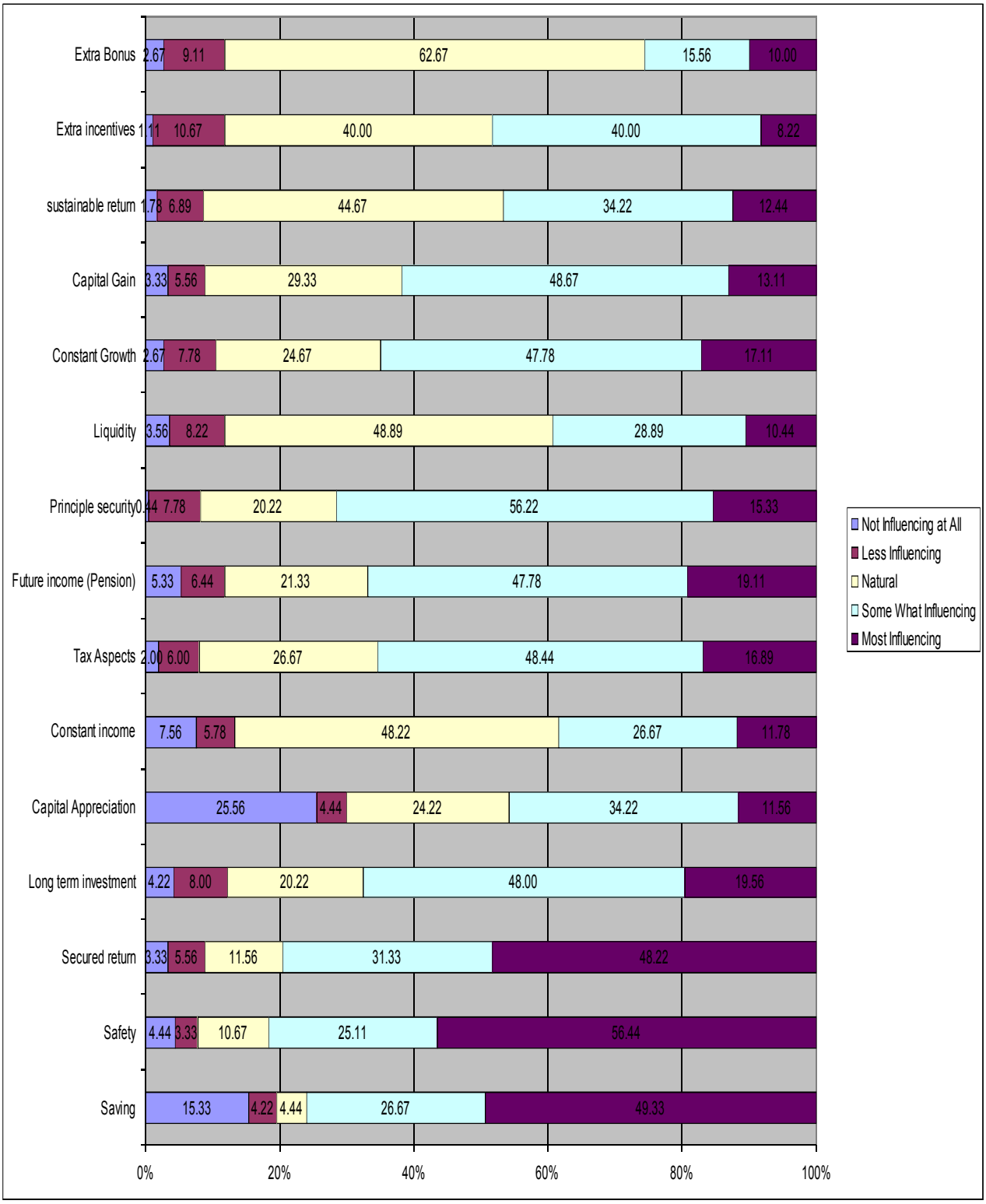
* (Multiple choices available with 5 point lekert scale)

(Chart: 5.9 Frequency for most influencing factors based on the investment needs)



From the above Table:(5.9), it is clearly depicted that safety is the most influencing factor for the mutual fund investors (i.e.254 Respondents), followed by saving (i.e.222 respondents) and secured return (i.e.217 Respondents). For the 88 number of respondents long term investment is the influencing factor. Future income, constant income, tax aspects, principal security, capital gain, sustainable return, constant income, capital appreciation, liquidity and extra bonus are the most influencing factors for less number of mutual fund investors, where only 37 mutual fund respondents given the first preference to the extra incentives. It means based on the frequency distribution analysis the most important factors are safety, saving and secured return.

(Chart: 5.10 Frequency value in terms of (%) for influencing factors)



(Table: 5.10 Calculated Frequency value with likert scale for influencing factors)

Influencing Factors	1-Not Influencing at all	(%)	2-Less Influencing	(%)	3-Natural	(%)	4-Some What Influencing	(%)	5-Most Influencing	(%)
Saving	69	15.33	19	4.22	20	4.44	120	26.67	222	49.33
Safety	20	4.44	15	3.33	48	10.67	113	25.11	254	56.44
Secured return	15	3.33	25	5.56	52	11.56	141	31.33	217	48.22
Long term investment	19	4.22	36	8.00	91	20.22	216	48.00	88	19.56
Capital Appreciation	115	25.56	20	4.44	109	24.22	154	34.22	52	11.56
Constant income	34	7.56	26	5.78	217	48.22	120	26.67	53	11.78
Tax Aspects	9	2.00	27	6.00	120	26.67	218	48.44	76	16.89
Future income (Pension)	24	5.33	29	6.44	96	21.33	215	47.78	86	19.11
Principle security	2	0.44	35	7.78	91	20.22	253	56.22	69	15.33
Liquidity	16	3.56	37	8.22	220	48.89	130	28.89	47	10.44
Constant Growth	12	2.67	35	7.78	111	24.67	215	47.78	77	17.11
Capital Gain	15	3.33	25	5.56	132	29.33	219	48.67	59	13.11
sustainable return	8	1.78	31	6.89	201	44.67	154	34.22	56	12.44
Extra incentives	5	1.11	48	10.67	180	40.00	180	40.00	37	8.22
Extra Bonus	12	2.67	41	9.11	282	62.67	70	15.56	45	10.00

To know the influencing factors of the mutual fund investors towards their investment five point likert scale was used. The range of the five point likert scale is ranging from 1-Not Influencing at all to 5 – Most Influencing. Total fifteen various factors were selected on which investors influencing level was measured. The data regarding the influencing factors, both number of investors and percentage of investors are given in the Table: (5.10). The same data are also represented through the chart: (5.10). For most influencing option (5 – Most Influencing), highest response was for the factor safety followed by saving and secured return. Opposite to that highest response for not influencing at all, was for the factor capital appreciation.

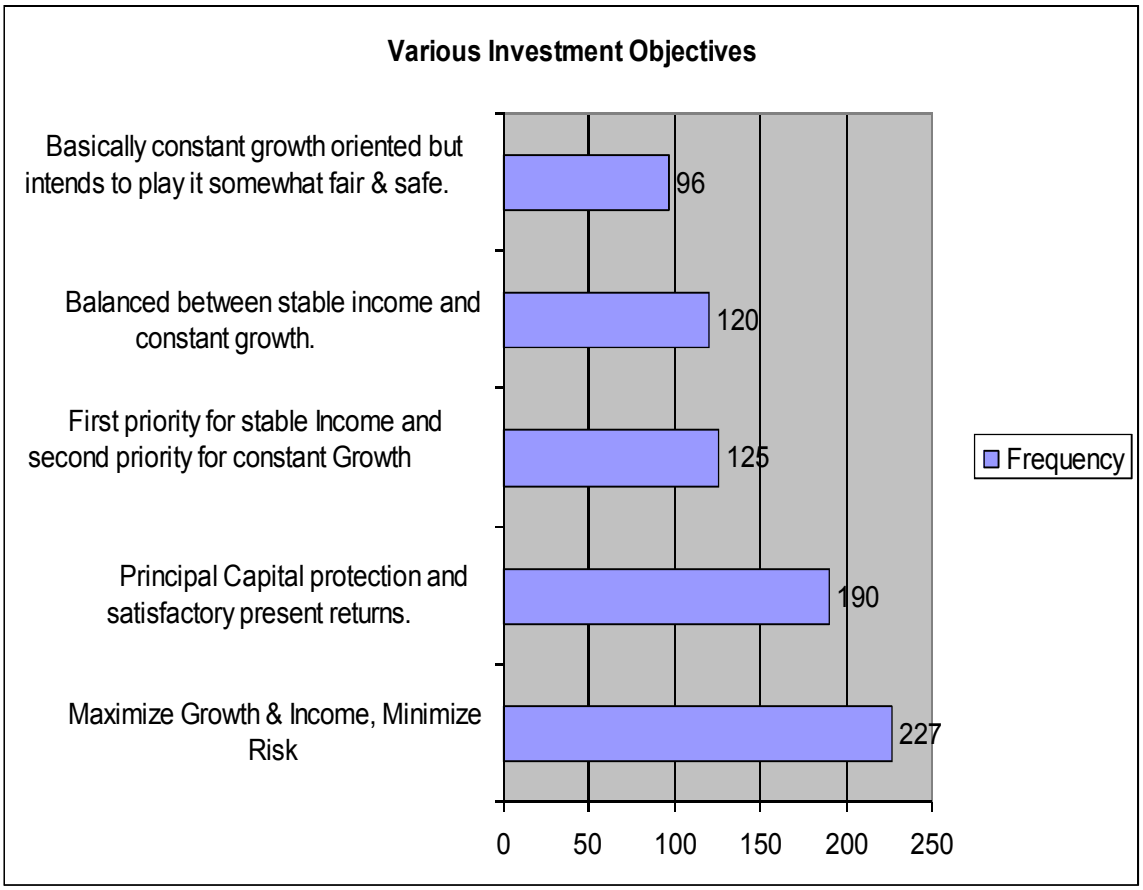
5.5 Investment Objectives (Frequency distribution analysis):

The question asked related to the basic investment objectives of mutual fund investors. It also identifies more then one investment objectives of respondents. The data are given in the following table (5.11) and chart (5.11).

(Table: 5.11 Frequency for various investment objectives)

Various Investment Objectives	**Frequency**
Maximize Growth & Income, Minimize Risk	227
Principal Capital protection and satisfactory present returns.	190
First priority for stable Income and second priority for constant Growth	125
Balanced between stable income and constant growth.	120
Basically constant growth oriented but intends to play it somewhat fair & safe.	96

(Table: 5.11 Frequency for various investment objectives [number of respondents])



From the above data shown in table (5.11), it has been clearly depicted that 227 number of respondents have investment objective with maximum growth & income, minimize return followed by Principal Capital protection and satisfactory present returns with 190 number of respondents, First priority for stable Income and second priority for constant Growth with 125 number of respondents, Balanced between stable income and constant growth with 120 number of respondents and Basically constant growth oriented but intends to play it somewhat fair & safe with only 96 number of respondents respectively.

5.6 Investment held in the various investment vehicles (Ranking method):

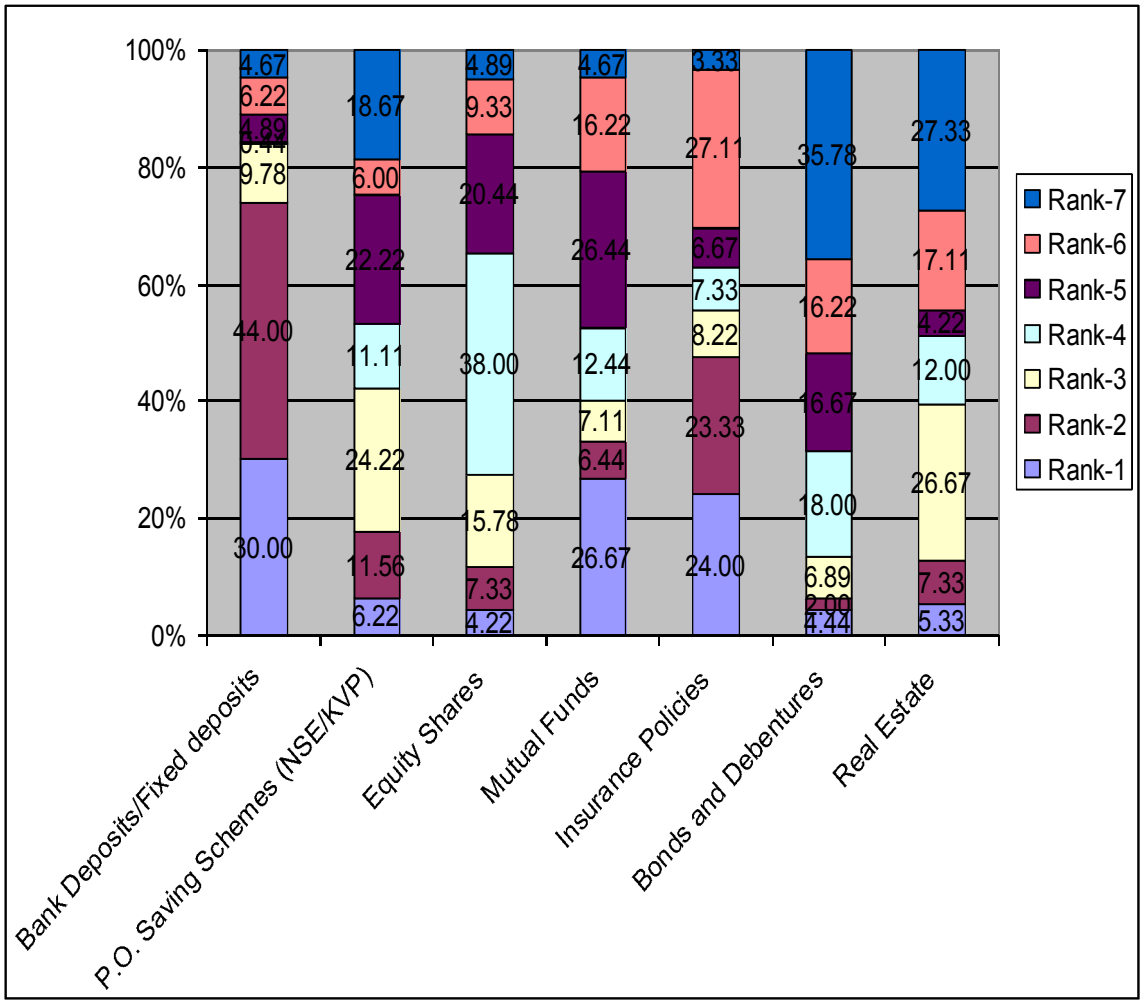
All the investors were asked to give the ranks towards their present investment or saving held in the various investment vehicles.

(Table: 5.12 Rank given by the investors for their present investment or saving held in various investment vehicles)

Investment/ Saving held by the respondent in various investment vehicles	**Rank**													
	1	**(%)**	**2**	**(%)**	**3**	**(%)**	**4**	**(%)**	**5**	**(%)**	**6**	**(%)**	**7**	**(%)**
Bank Deposits/Fixed deposits	135	30.00	198	44.00	44	9.78	2	0.44	22	4.89	28	6.22	21	4.67
P.O. Saving Schemes (NSE/KVP)	28	6.22	52	11.56	109	24.22	50	11.11	100	22.22	27	6.00	84	18.6
Equity Shares	19	4.22	33	7.33	71	15.78	171	38.00	92	20.44	42	9.33	22	4.89
Mutual Funds	120	26.67	29	6.44	32	7.11	56	12.44	119	26.44	73	16.22	21	4.67
Insurance Policies	108	24.00	105	23.33	37	8.22	33	7.33	30	6.67	122	27.11	15	3.33
Bonds and Debentures	20	4.44	9	2.00	31	6.89	81	18.00	75	16.67	73	16.22	161	35.7
Real Estate	24	5.33	33	7.33	120	26.67	54	12.00	19	4.22	77	17.11	123	27.3

The ranking given by the investors are shown in table: (5.12) and chart (5.12). From the table (5.12), the result found that 135 investors i.e. 30% investors gave first rank to Bank deposits/Fixed deposits second most preferred investment vehicle is mutual fund with 120 investors i.e. 26.67% followed by insurance policies with 108 investors i.e. 24%. Most of the investors held least amount of financial resources in the equity shares, bonds and debentures with 4.22% and 4.44% respectively. Graphical representations of this data in terms of percentage value are shown in Chart: (5.12).

(Chart: 5.12: Rank given by the investors in terms percentage of respondents)



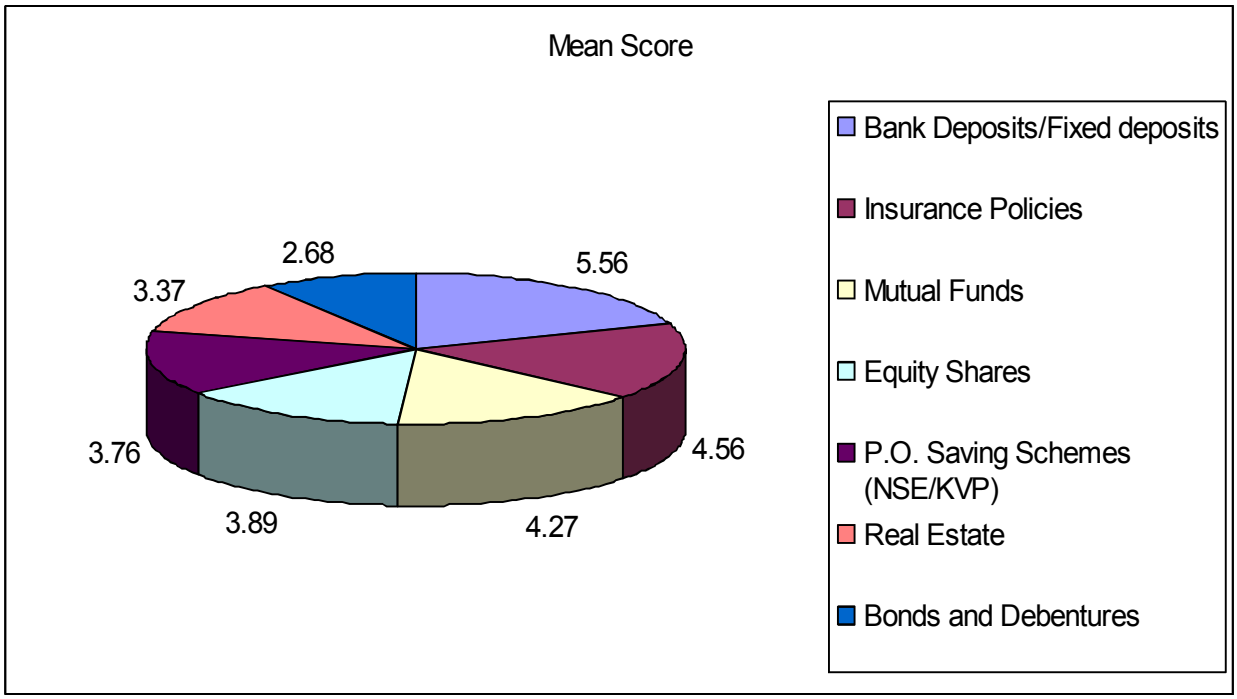
Total score for each investment vehicle is calculated based on the ranks given by the investors or respondents to each vehicle. Seven points are given to first rank; six points are given to second rank and the same way one point to last rank. Based on these points, mean score are calculated by adding the rank points and divided by the total number of investors or respondents. The following table (5.13) and chart (5.13) shows the mean score value.

The result found that, Bank deposits/ fixed deposits has the highest score i.e. 5.56 followed by insurance policies and mutual funds with 4.56 and 4.27 respectively. Bonds and Debentures, real estate has a very low mean score value with respect to the investment held by the investors or respondents in various investment vehicles.

(Table: 5.13 Mean score value of the investors for their present investment or saving held in various investment vehicles)

Investment/Saving	**Mean Score**
Bank Deposits/Fixed deposits	5.56
Insurance Policies	4.56
Mutual Funds	4.27
Equity Shares	3.89
P.O. Saving Schemes (NSE/KVP)	3.76
Real Estate	3.37
Bonds and Debentures	2.68

(Chart: 5.13 Mean score value of the investors for their present investment or saving held in various investment vehicles)



5.7 Safety level of the various investment avenues:

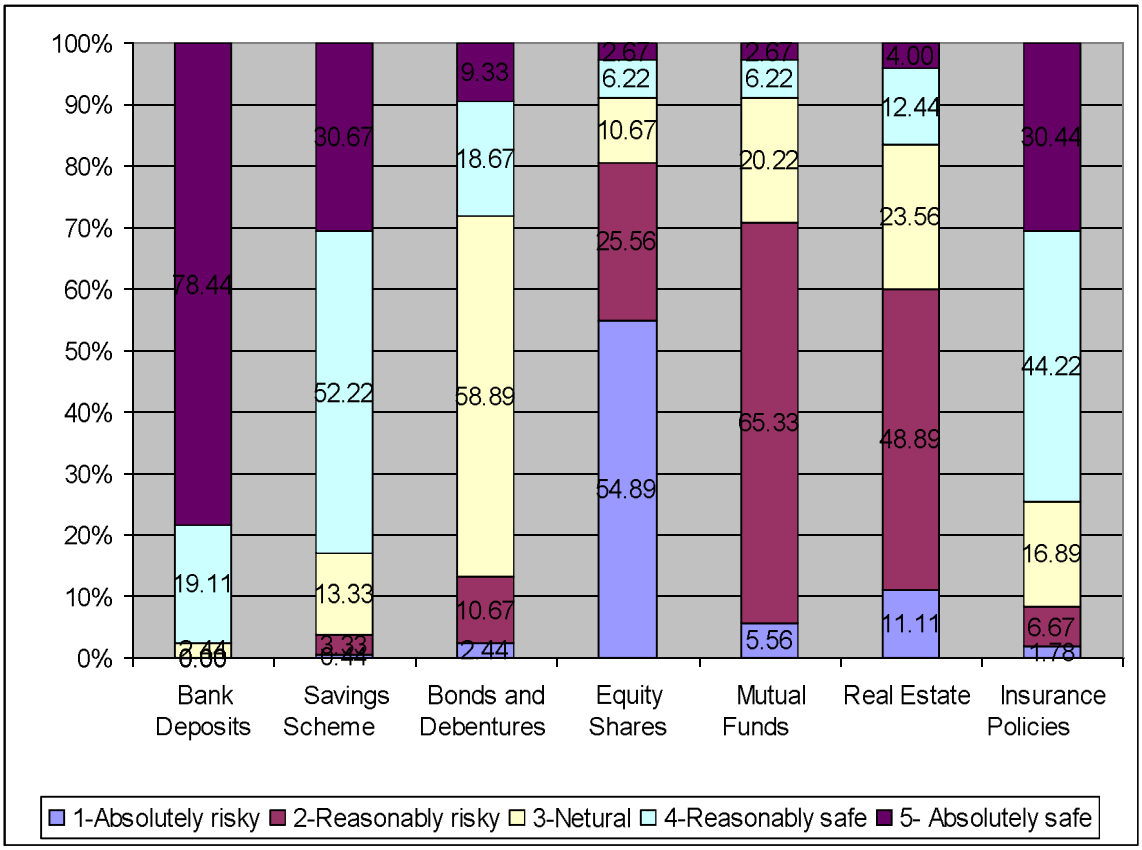
The question was asked to the investors or respondents toward the safety level of various investment vehicles. The below table (5.14) and Chart (5.14) indicates the result of the safety level of various investment vehicles. It clearly depicted that 353 respondent's i.e. 78.44% believe that bank deposits are the absolutely safe investment avenue with the highest mean score 4.76. Saving schemes are the second most safe investment avenue with 138 respondents i.e. 30.67% with mean score 4.09. Insurance policies and bond & debentures are acquired mean value 3.95 and 3.22 respectively. The interesting result found form the same respondents that mutual fund is the reasonably risky investment vehicles among the various investment avenues with the mean score value 2.35. Only 12

numbers of respondents i.e. 2.65% are believe that mutual fund is absolutely safe investment.

(Table: 5.14 Frequency and Mean score given by the respondents towards safety level of the various investment vehicles)

Various Investment Vehicles	**1-Absolutely risky**	**2-Reasonably risky**	**3-Netural**	**4-Reasonably safe**	**5-Absolutely safe**	**Mean Score**
Bank Deposits	0	0	11	86	353	4.76
(%)	0.00	0.00	2.44	19.11	78.44	
Savings Scheme	2	15	60	235	138	4.09
(%)	0.44	3.33	13.33	52.22	30.67	
Bonds and Debentures	11	48	265	84	42	3.22
(%)	2.44	10.67	58.89	18.67	9.33	
Equity Shares	247	115	48	28	12	1.76
(%)	54.89	25.56	10.67	6.22	2.67	
Mutual Funds	25	294	91	28	12	2.35
(%)	5.56	65.33	20.22	6.22	2.67	
Real Estate	50	220	106	56	18	2.49
(%)	11.11	48.89	23.56	12.44	4.00	
Insurance Policies	8	30	76	199	137	3.95
(%)	1.78	6.67	16.89	44.22	30.44	

(Chart: 5.14 Frequency given by the respondents towards safety level of the various investment vehicles in terms of percentage)



5.8 Time Horizon for mutual fund investment:

The next part of the analysis concern with the approach toward the mutual funds by individual investors or respondents. The first important aspect is how long respondents held their investment in the various mutual fund schemes.

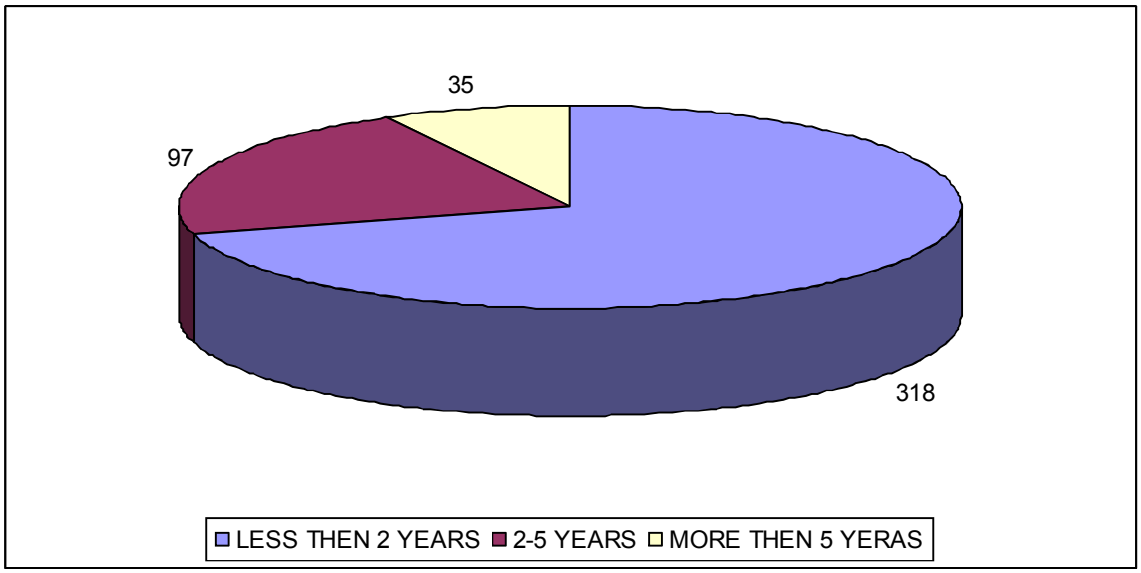
(Table: 5.15 Mean score, SD and Variance of the respondents with respect to time horizon)

N	Valid	450
	Missing	0
Mean		1.37
Std. Deviation		.624
Variance		.390

(Table : 5.16 Frequency of the respondents with respect to time horizon)

TIME HORIZON	Frequency	Percent	Valid Percent	Cumulative Percent
LESS than 2 years	318	70.7	70.7	70.7
2-5 Years	97	21.6	21.6	92.2
More then 5 years	35	7.8	7.8	100.0
Total	450	100.0	100.0	

(Chart :5.15 Frequency of the respondents with respect to time horizon)



Form the above data shown in the table (5.15) and Table (5.16), most of the respondents are held their investment in the mutual fund less then two years with 318 respondents i.e. 70.7%. Only 35 respondents i.e. 7.8% are held their present investment for more then five years. The mean score, standard deviation and variance for the same investors are 1.37, 0.624 and 0.390 respectively. The

result found from the same investors that maximum number of investors held their present investment towards various mutual fund schemes for less then two years.

5.9 Impact of purposes towards buying the mutual fund:

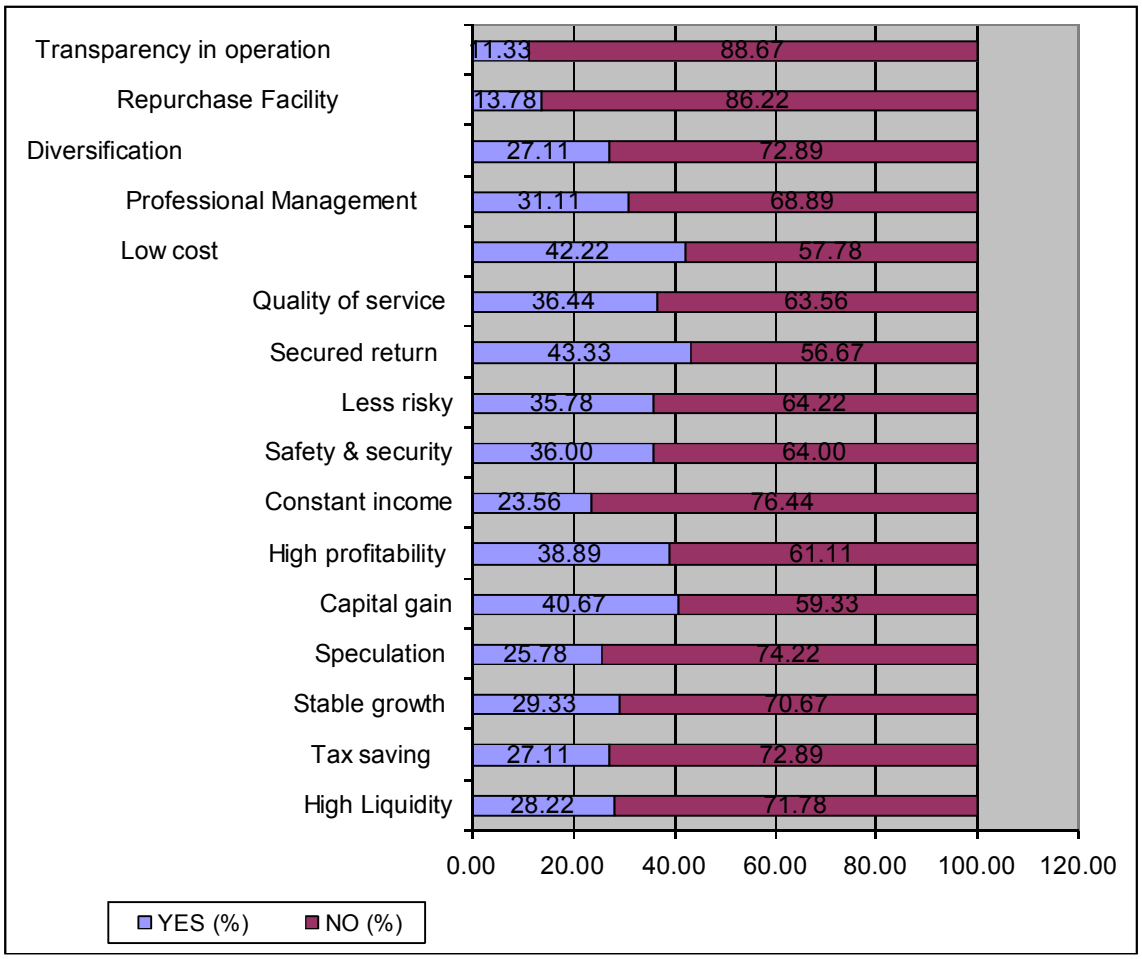
The analysis related to the specific approach towards the mutual fund investment by the investors or respondents. Respondents were asked reasons or purposes to buy any mutual fund scheme.

(Table: 5.17 Frequency and Mean score value Basic Objectives/Motives/Purposes of buying the mutual fund by the investors)

Objectives of buying the Mutual funds	**Frequency**		**Frequency**		**Mean score**
	Yes	**(%)**	**No**	**(%)**	
High Liquidity	127	28.22	323	71.78	0.28
Tax saving	122	27.11	328	72.89	0.27
Stable growth	132	29.33	318	70.67	0.29
Speculation	116	25.78	334	74.22	0.26
Capital gain	183	40.67	267	59.33	0.41
High profitability	175	38.89	275	61.11	0.39
Constant income	106	23.56	344	76.44	0.24
Safety & security	162	36.00	288	64.00	0.36
Less risky	161	35.78	289	64.22	0.36
Secured return	195	43.33	255	56.67	0.43
Quality of service	164	36.44	286	63.56	0.36
Low cost	190	42.22	260	57.78	0.42
Professional Management	140	31.11	310	68.89	0.31
Diversification	122	27.11	328	72.89	0.27
Repurchase Facility	62	13.78	388	86.22	0.14
Transparency in operation	51	11.33	399	88.67	0.11

From the sixteen various reason or purposes respondents give their responses as per their investment needs. The data regarding this matter are given in above table: (5.17) and the graphical representation for the same data given below chart ().

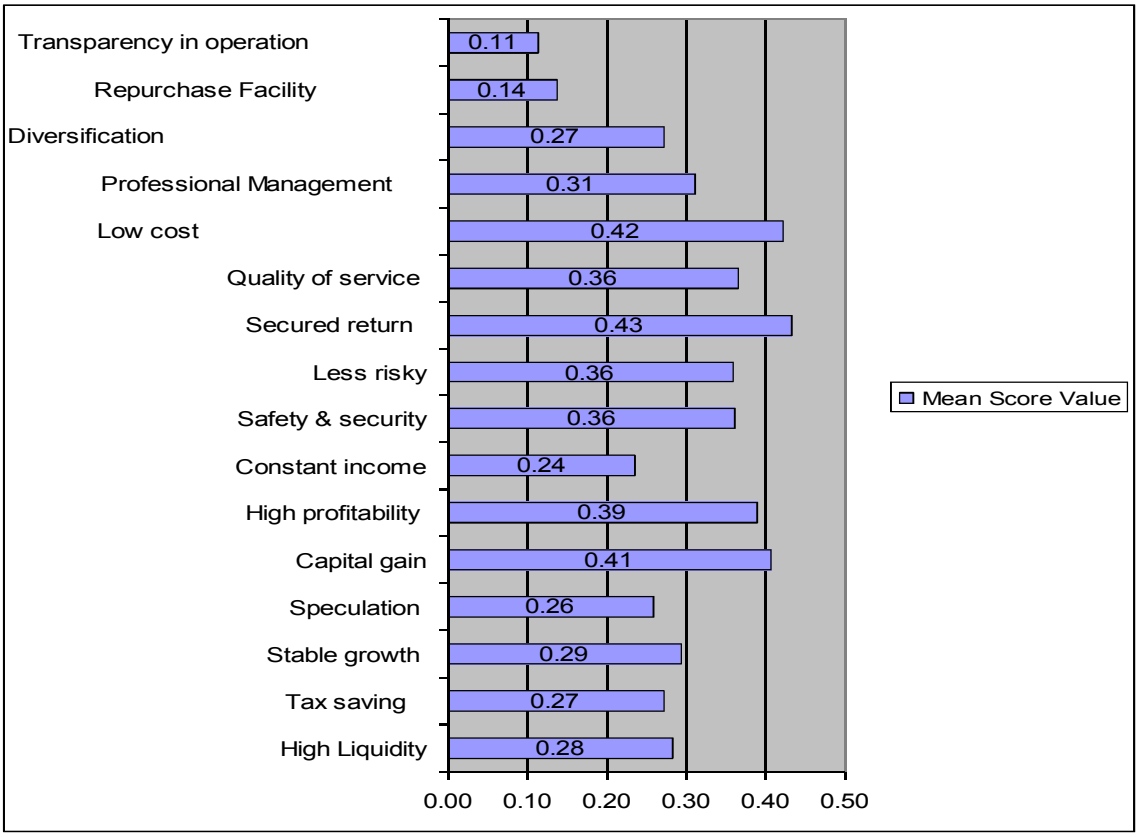
(Chart: 5.16 Frequency in terms of percentage Basic related to Objectives/Motives/Purposes of buying the mutual fund by the investors)



The result found from the above subject matter that 195 respondents i.e. 43.33% purchase mutual funds for the purpose of secured return, followed by the low cost and capital gain with 42.22% and 40.67% respectively. High profitability acquired 38.89% responses from the respondents followed by safety & security

and less risky with 36.00% and 35.78% respectively. Moderate level of the responses has been received form the respondents like professional management i.e. 31.11%, diversification i.e. 27.11%, high liquidity i.e. 28.33%, tax saving i.e. 27.11%, stable growth 29.33%. Very less numbers of respondent's are attracted towards repurchase facilities and transparency in operation with the lowest percentage 13.78% and 11.33% respectively.

(Chart: 5.17 Mean score value Basic Objectives/Motives/Purposes of buying the mutual fund)



Form the above Chart: (5.17), the result found that the highest mean value has been acquired by secured return 043, followed by capital gain and low cost with 0.41 and 0.42 respectively. It means most of the respondents are purchase the mutual fund for the purpose of secured return, low cost and capital gain. The

other interesting result found that tax saving aspect acquired only 0.27 mean score value.

5.10 Impact of the various classes of mutual funds (Ranking method):

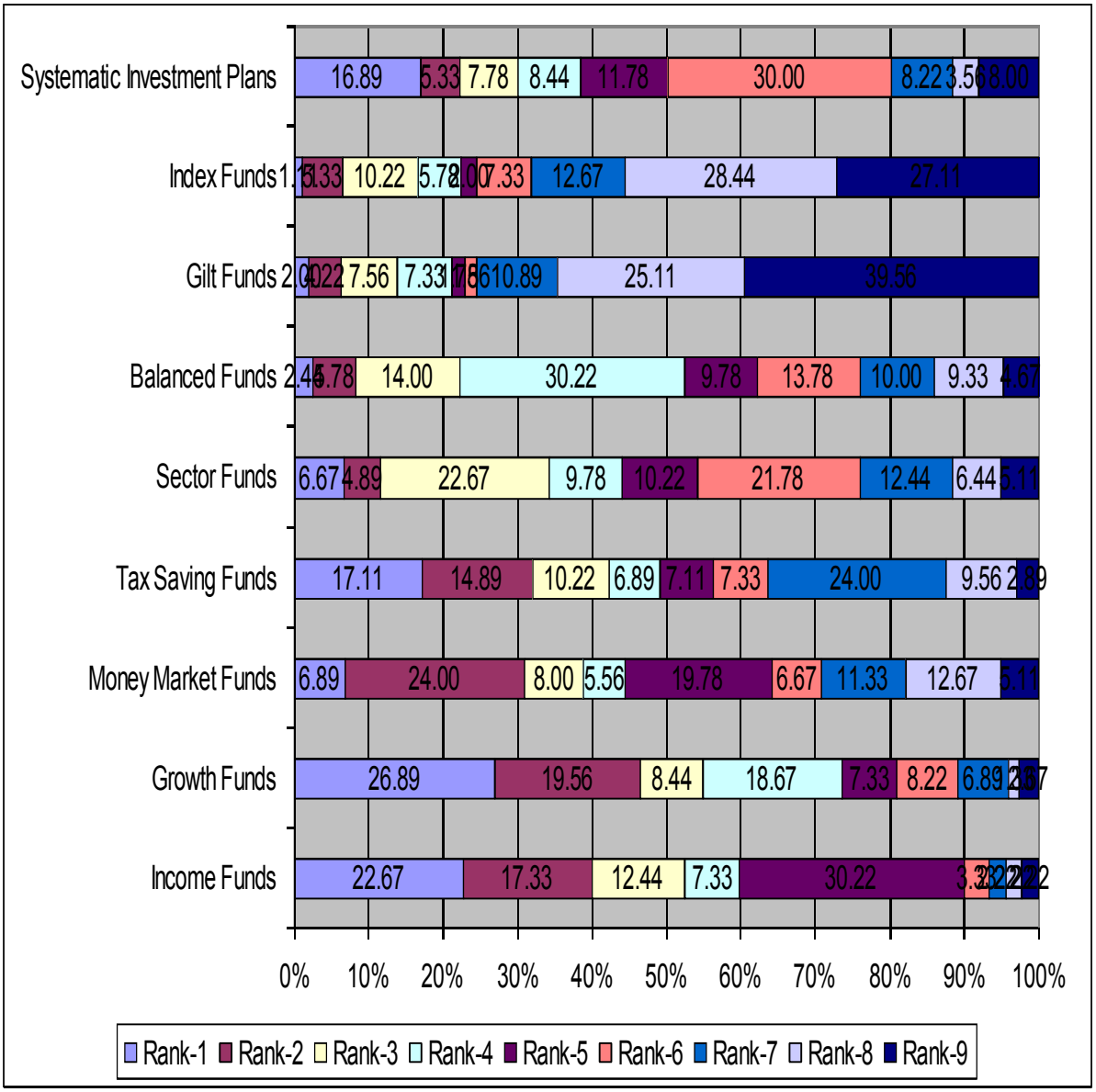
All the respondents were asked to give the ranks towards their preferences in the various mutual funds. The frequency distributions were calculated with the help of ranking method and mean score value. Form the table (5.18), the result found that 121 respondent's i.e.26.89% gives the first preference to the growth funds followed by the income funds with the 102 number of respondents i.e. 22.67%. The third preference given by the respondents to the Tax saving fund with 77 number of respondents i.e.17.11%.

(Table: 5.18 Preferences given by respondents for various mutual funds through the ranking method)

Types of Funds	**Rank-1**	**Rank-2**	**Rank-3**	**Rank-4**	**Rank-5**	**Rank-6**	**Rank-7**	**Rank-8**	**Rank-9**
Income Funds	102	78	56	33	136	15	10	10	10
(%)	**22.67**	**17.33**	**12.44**	**7.33**	**30.22**	**3.33**	**2.22**	**2.22**	**2.22**
Growth Funds	121	88	38	84	33	37	31	6	12
(%)	**26.89**	**19.56**	**8.44**	**18.67**	**7.33**	**8.22**	**6.89**	**1.33**	**2.67**
Money Market Funds	31	108	36	25	89	30	51	57	23
(%)	**6.89**	**24.00**	**8.00**	**5.56**	**19.78**	**6.67**	**11.33**	**12.67**	**5.11**
Tax Saving Funds	77	67	46	31	32	33	108	43	13
(%)	**17.11**	**14.89**	**10.22**	**6.89**	**7.11**	**7.33**	**24.00**	**9.56**	**2.89**
Sector Funds	30	22	102	44	46	98	56	29	23
(%)	**6.67**	**4.89**	**22.67**	**9.78**	**10.22**	**21.78**	**12.44**	**6.44**	**5.11**
Balanced Funds	11	26	63	136	44	62	45	42	21
(%)	**2.44**	**5.78**	**14.00**	**30.22**	**9.78**	**13.78**	**10.00**	**9.33**	**4.67**
Gilt Funds	9	19	34	33	8	7	49	113	178
(%)	**2.00**	**4.22**	**7.56**	**7.33**	**1.78**	**1.56**	**10.89**	**25.11**	**39.56**
Index Funds	5	24	46	26	9	33	57	128	122
(%)	**1.11**	**5.33**	**10.22**	**5.78**	**2.00**	**7.33**	**12.67**	**28.44**	**27.11**
Systematic Investment Plans	76	24	35	38	53	135	37	16	36
(%)	**16.89**	**5.33**	**7.78**	**8.44**	**11.78**	**30.00**	**8.22**	**3.56**	**8.00**

From the table (5.18) it also seems that gilt fund was the least preferred mutual funds followed by the index funds with the lowest number of respondents. Graphical representations for the same data in frequency percentage value depicted in the chart: (5.18).

(Chart: 5.18 Frequency in terms of percentage with respect to preferences given by respondents for various mutual funds)

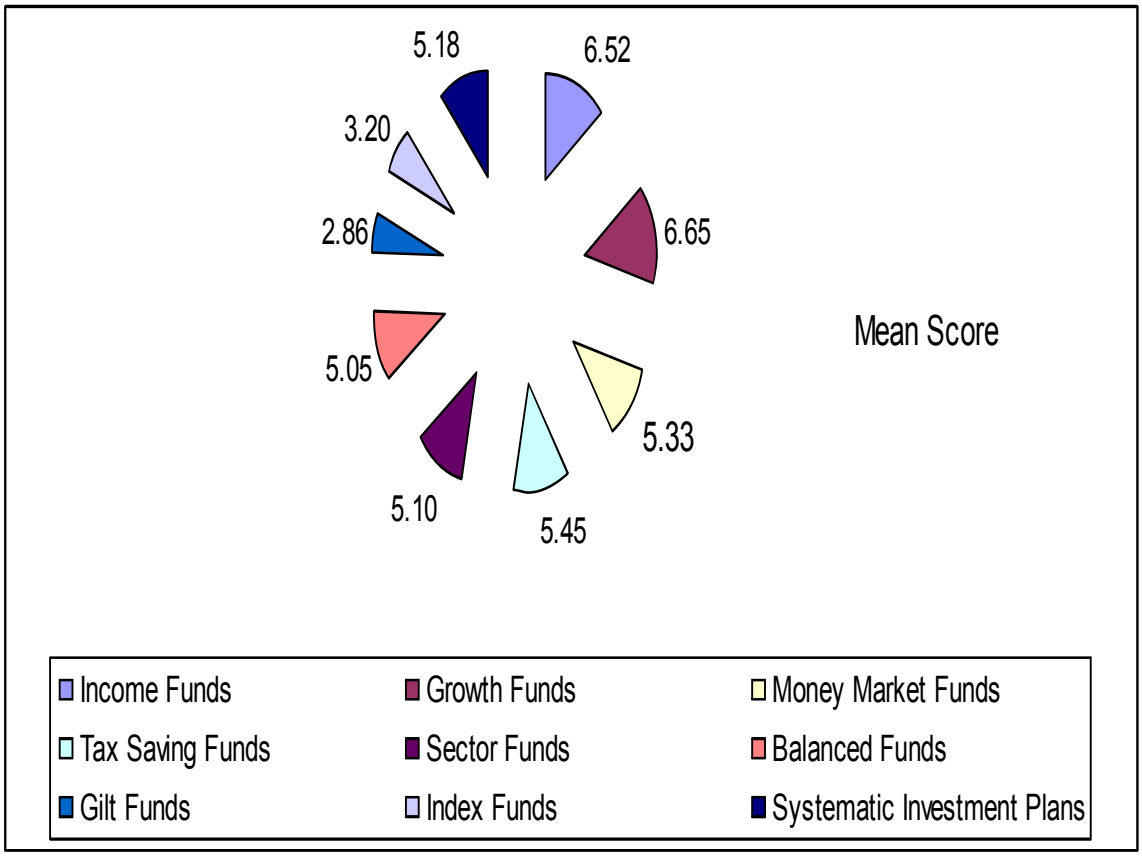


Following table (5.19) and chart (5.19) shows the mean score value for the preferences given by the respondents for the various mutual funds. From the table it is found that, respondents give the first rank to the growth fund with the highest mean score value 6.65. The second rank gives to the income fund i.e. 6.52, followed by the tax saving fund and money market fund with the mean score value 5.45.and 5.33 respectively. Respondents give last rank to the gilt fund and index fund with the lowest mean score value 2.86 and 3.20 respectively. The other interesting result found from the same area that, systematic investment plan has acquired 5.18 mean score value. It means SIP is also attractive mutual fund scheme among the respondents.

(Table: 5.19 Mean score value with respect to preferences given by respondents for various mutual funds)

Types of Funds	**Mean Score**
Income Funds	6.52
Growth Funds	6.65
Money Market Funds	5.33
Tax Saving Funds	5.45
Sector Funds	5.10
Balanced Funds	5.05
Gilt Funds	2.86
Index Funds	3.20
Systematic Investment Plans	5.18

(Chart: 5.19 Mean score value with respect to preferences given by respondents for various mutual funds)



The above chart (5.19) shows the graphical representation of the mean score value calculated through the ranking method.

5.11 Most preferred mutual fund scheme:

The question was asked regarding the most preferred mutual fund scheme according to the risk-return combination. The following table (5.20) shows the mean value 28.27 for the most preferred mutual fund schemes from the selected mutual fund sets by the respondents. Standard deviation and variance for same subject matter are 12.846 and 165.018 respectively.

(Table: 5.20 Mean value, standard deviation and Variance for the most preferred mutual funds scheme)

N	Valid	450
	Missing	0
Mean		28.27
Std. Deviation		12.846
Variance		165.018

From the table (5.21), the result found that, according to risk return combination for financial years 2010, 2011 & 2012; respondents give the first preference to the Reliance Pharma Fund with 122 i.e. 27.1% responses received form the respondents. Reliance Pharma Fund have minimum risk and maximum return during the three consecutive financial years, followed by the Mirae Asset India opportunities fund with 1.31% average risk and 45.98% average return. 37 respondents i.e. 8.2% give the second rank to the Mirae Assets India opportunities fund. ICICI Pru Focused Bluechip equity fund and Franklin India Bluechip Fund both were received the same number of responses 34 i.e. 7.6%, here also both schemes have minimum level of average risk and maximum level of average return. Fourth preference give to the IDFC premier equity fund plan-A with 32 number of respondents i.e. 7.1%. Birla Sun life MNC Fund-B has been acquired fifth preference with 24 respondents i.e. 5.3% among the 51 various mutual fund schemes.

(Table: 5.21 Frequency for most preferred mutual fund schemes as per Risk-Return Combination)

Average Risk-Return For FY 2010,FY 2011 & FY 2012					
Code No:	Scheme : Scheme Name:	Risk	Return (%)	Frequency	(%)
1.	AXIS Long Term Equity Fund	0.9966	11.89	0	0
2.	Baroda Pioneer Liquid Fund	0.0166	6.8	0	0
3.	Birla Sun Life Cash Plus	0.0166	6.91	0	0
4.	Birla Sun Life Frontline Equity Fund – Plan A	1.33	33.72	8	1.8
5.	Birla Sun Life India GenNext Fund	1.16	32.1	4	0.9
6.	Birla Sun Life MNC Fund – B	0.9	44.79	24	5.3
7.	Birla Sun Life Savings Fund	0.0166	7.11	1	0.2
8.	-Birla Sun Life Top 100 Fund	1.27	18.35	0	0
9.	Canara Robeco Equity - Tax Saver	1.15	43.35	21	4.7
10.	DSP BR India T.I.G.E.R. Fund	1.32	23.95	0	0
11.	DSP BR Micro-Cap Fund	2.36	3.65	0	0
12.	Franklin Build India Fund	0.95	-0.6066	0	0
13.	Franklin India Bluechip Fund	1.1766	34.7833	34	7.6
14.	GS Nifty BeES	1.4566	26.2533	10	2.2
15.	HDFC Cash Mgmt - Treasury Advantage	0.0166	6.6633	4	0.9
16.	HDFC Mid-Cap Opportunities Fund	1.0866	11.28	6	1.3
17.	HDFC Monthly Income Plan - LTP	0.3033	15.9333	5	1.1
18.	HDFC Short Term Opportunities Fund	0.0133	3.1866	6	1.3
19.	ICICI Pru Balanced Fund	0.80667	25.3167	19	4.2
20.	ICICI Pru Equity & Deriv -Volatility advantage	0.7466	22.84	0	0
21.	ICICI Pru Flexible Income Plan	0.0166	7.1033	0	0
22.	ICICI Pru Focused Bluechip Equity Fund	1.2733	35.5563	34	7.6
23.	ICICI Pru Liquid Plan	0.01667	6.8966	0	0
24.	ICICI Pru MIP 25	0.32667	13	0	0
25.	IDFC Cash Fund - Plan C	0.01667	6.8233	0	0
26.	IDFC Dynamic Bond Fund - B	0.1566	7.2233	0	0

27.	IDFC G Sec Fund - Invst Plan - A	0.2066	6.33	0	0
28.	IDFC G Sec Fund - Invst Plan - B	0.20667	10.01	2	0.4
29.	IDFC G Sec Fund - PF	0.2066	7.2433	0	0
30.	IDFC Premier Equity Fund - Plan A	1.1667	45.32	32	7.1
31.	JM Short Term Fund	0.0267	11.77	5	1.1
32.	Kotak Nifty ETF	1.06	1.03	18	4
33.	LIC NOMURA MF Income Plus Fund	0.0133	6.6866	3	0.7
34.	LIC NOMURA MF Savings Plus Fund	0.01667	6.6433	3	0.7
35.	Mirae Asset India Opportunities Fund	1.31	45.98	37	8.2
36.	Peerless Short Term Fund	0.0933	3.43	0	0
37.	Reliance Equity Opportunities Fund	1.2433	50.61	1	0.2
38.	Reliance Pharma Fund	0.98	58.9433	122	27.1
39.	Religare Credit Opportunities Fund	0.01667	5.08	0	0
40.	SBI Dynamic Bond Fund	0.1	7.77	3	0.7
41.	SBI Magnum Income Fund	0.12667	6.7433	0	0
42.	SBI Magnum MIP Floater	0.17	8.0033	0	0
43.	Sundaram Flexible - STP - IP	0.0267	7.14	0	0
44.	UTI-Equity Fund	1.133	32.99	16	3.6
45.	UTI-India LifeStyle Fund	1.15	30.21	0	0
46.	UTI-Liquid - Cash Plan - Inst	0.014677	6.79	0	0
47.	UTI-Liquid - Cash Plan	0.0133	6.2733	0	0
48.	UTI-MNC Fund	0.8766	39.1033	20	4.4
49.	UTI-Opportunities Fund	1.2433	36.2567	11	2.4
50.	UTI-Treasury Advantage Fund - Inst	0.01667	7.1233	0	0
51.	UTI-Treasury Advantage Fund	0.0166	6.5867	1	0.2

Form the following table (5.22) and chart (5.20) is given below, it was found that; out of 51 selected set of various mutual funds schemes respondents gives responses to only 28 mutual fund schemes. Respondents not give any

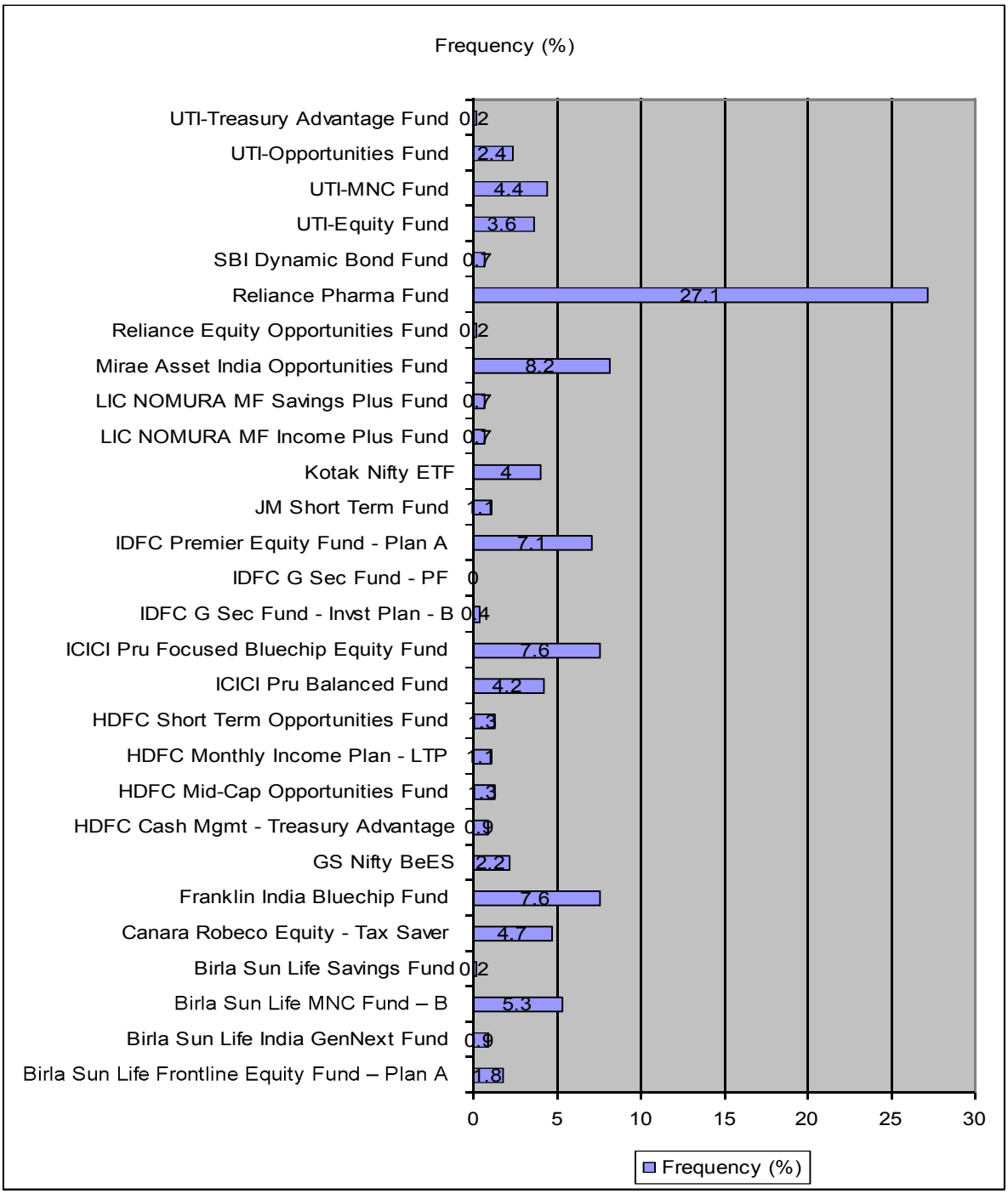
responses towards the remaining 23 mutual fund schemes. The other interesting result found that, 28 mutual fund schemes have a tremendous risk-return combination.

(Table: 5.22 Frequency for most preferred mutual fund scheme selected by the respondents)

Average Risk-Return For 2010, 2011 & 2012						
Sr. No:	**Code No:**	**Scheme : Scheme**	**Risk**	**Return (%)**	**Frequency**	**(%)**
1	4.	Birla Sun Life Frontline Equity Fund – Plan A	1.33	33.72	8	1.8
2	5.	Birla Sun Life India GenNext Fund	1.16	32.1	4	0.9
3	6.	Birla Sun Life MNC Fund – B	0.9	44.79	24	5.3
4	7.	Birla Sun Life Savings Fund	0.0166	7.11	1	0.2
5	9.	Canara Robeco Equity - Tax Saver	1.15	43.35	21	4.7
6	13.	Franklin India Bluechip Fund	1.1766	34.7833	34	7.6
7	14.	GS Nifty BeES	1.4566	26.2533	10	2.2
8	15.	HDFC Cash Mgmt - Treasury Advantage	0.0166	6.6633	4	0.9
9	16.	HDFC Mid-Cap Opportunities Fund	1.0866	11.28	6	1.3
10	17.	HDFC Monthly Income Plan – LTP	0.3033	15.9333	5	1.1
11	18.	HDFC Short Term Opportunities Fund	0.0133	3.1866	6	1.3
12	19.	ICICI Pru Balanced Fund	0.80667	25.3167	19	4.2
13	22.	ICICI Pru Focused Bluechip Equity Fund	1.2733	35.5563	34	7.6
14	28.	IDFC G Sec Fund - Invst Plan – B	0.20667	10.01	2	0.4
15	29.	IDFC G Sec Fund - PF	0.2066	7.2433	0	0
16	30.	IDFC Premier Equity Fund - Plan A	1.1667	45.32	32	7.1
17	31.	JM Short Term Fund	0.0267	11.77	5	1.1
18	32.	Kotak Nifty ETF	1.06	1.03	18	4
19	33.	LIC NOMURA MF Income Plus Fund	0.0133	6.6866	3	0.7
20	34.	LIC NOMURA MF Savings Plus Fund	0.01667	6.6433	3	0.7
21	35.	Mirae Asset India Opportunities Fund	1.31	45.98	37	8.2
22	37.	Reliance Equity Opportunities Fund	1.2433	50.61	1	0.2
23	**38.**	**Reliance Pharma Fund**	**0.98**	**58.9433**	**122**	**27.1**
24	40.	SBI Dynamic Bond Fund	0.1	7.77	3	0.7
25	44.	UTI-Equity Fund	1.133	32.99	16	3.6
26	48.	UTI-MNC Fund	0.8766	39.1033	20	4.4
27	49.	UTI-Opportunities Fund	1.2433	36.2567	11	2.4
28	51.	UTI-Treasury Advantage Fund	0.0166	6.5867	1	0.2

The following chart (5.20) depicted the Frequency in terms of percentage for most preferred mutual fund scheme selected by the respondents data represented in graphical form.

(Chart: 5.20 Frequency in terms of percentage for most preferred mutual fund scheme selected by the respondents)



5.12 Important sources of information for mutual fund schemes:

The question was asked to the respondents regarding main sources of information for any mutual fund schemes. All the respondents give the responses towards the nine different information sources. The data for the same subject matter are given in table (5.23) and chart (5.21)

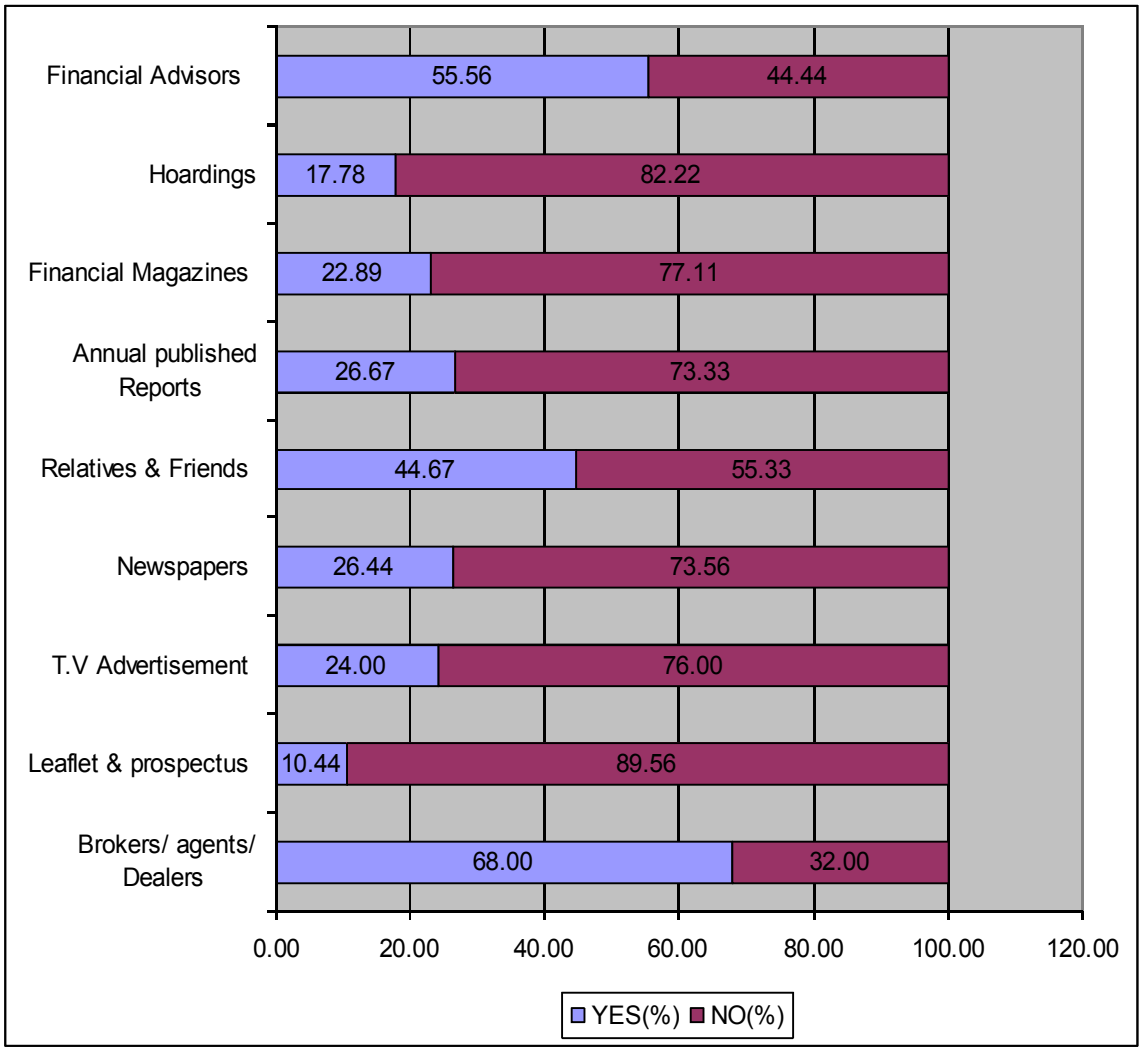
(Table:5.23 Frequency for important sources of information for mutual fund schemes)

Information Sources	Frequency		Frequency	
	Yes	(%)	No	(%)
Brokers/ agents/ Dealers	306	68.00	144	32.00
Leaflet & prospectus	47	10.44	403	89.56
T.V Advertisement	108	24.00	342	76.00
Newspapers	119	26.44	331	73.56
Relatives & Friends	201	44.67	249	55.33
Annual published Reports	120	26.67	330	73.33
Financial Magazines	103	22.89	347	77.11
Hoardings	80	17.78	370	82.22
Financial Advisor's	250	55.56	200	44.44

It can be seen form the above table (5.23), that 306 respondents i.e. 68%, responded that brokers/agents/dealers were the important source information, second important source of information given by the 250 respondents i.e. 55.56% was financial advisors. Other important sources of information were relatives & friends and annual published report as responded by 201 i.e. 44.67% and 120

i.e.26.67% respondents respectively. Only 47 respondents i.e. 10.44% considered the leaflets and prospects as important source of information.

(Chart: (5.21) Frequency in terms of percentage for important sources of information for mutual fund schemes)



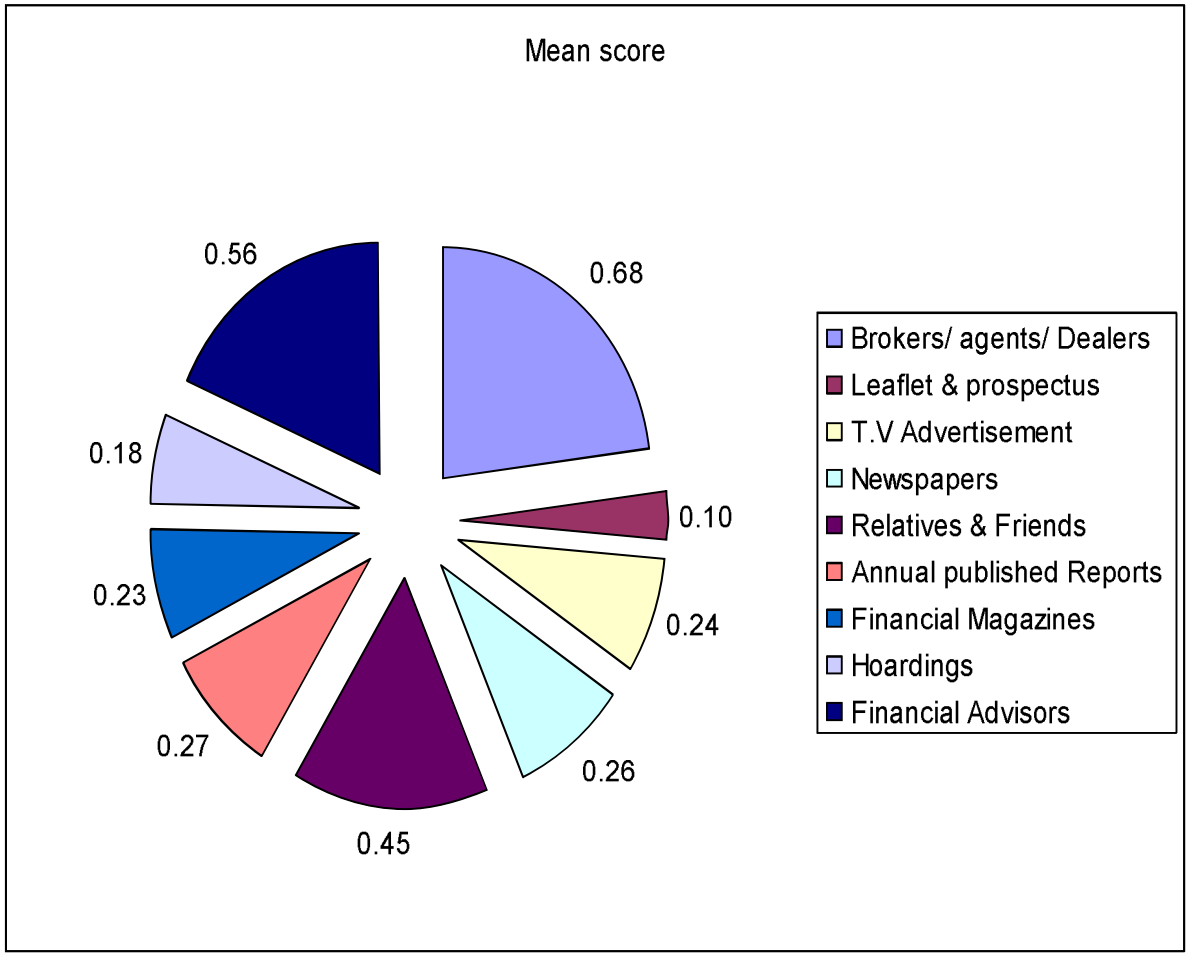
The graphical representation for the Frequency in terms of percentage for important sources of information for mutual fund schemes data shown in the chart: (5.21).

(Table: 5.24 Mean Score Value for important sources of information for mutual fund schemes)

Information Sources	**Mean score**
Brokers/ agents/ Dealers	0.68
Leaflet & prospectus	0.10
T.V Advertisement	0.24
Newspapers	0.26
Relatives & Friends	0.45
Annual published Reports	0.27
Financial Magazines	0.23
Hoardings	0.18
Financial Advisors	0.56

From the table (5.24) and chart (5.22), the result found that, the highest mean score value acquired by brokers/dealers/agents, followed by financial advisors and relative and friends with the mean score value 0.56 and .45 respectively. The interesting result found from the same area that leaflets & prospects, Hoardings, financial magazines, TV advertisement and news papers were acquired lower mean score; it means these are not considered as most important sources of information regarding mutual fund schemes.

(Chart: 5.22 Mean Score Value for important sources of information for mutual fund schemes)



5.13 General satisfaction level towards mutual fund investment:

The general question was asked to the respondents that they are satisfied with their present mutual fund investment. The following table :(5.25), shows the mean score 1.21, standard deviation .405 and variance .164 for the same subject matter.

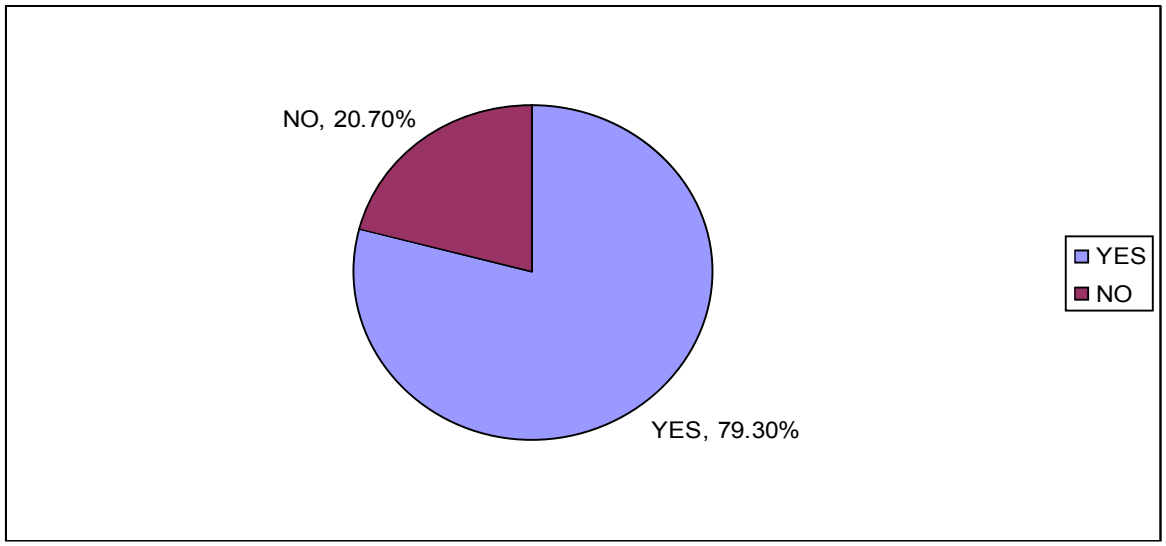
(Table: 5.25 Mean score, Standard deviation and variance for general satisfaction towards mutual fund investments)

N	Valid	450
	Missing	0
Mean		1.21
Std. Deviation		.405
Variance		.164

(Table: 5.26 Frequency for general satisfaction towards mutual fund investments)

Particulars	**Frequency**	**Percentage**
YES	357	79.3
NO	93	20.7
Total	450	100.0

(Chart: 5.23 Frequency in terms of percentage for general satisfaction towards mutual fund investments)



From the above table (5.26), result found that, out of 450 respondents 357 respondents i.e. 79.30% are overall satisfied with their present investment in mutual funds, where as 93 respondents i.e. 20.70% are not satisfied with their present investment in mutual fund in general manner. The graphical representation for the same data shows in chart (5.23).

5.14 satisfaction level towards various factors (Frequency distribution):

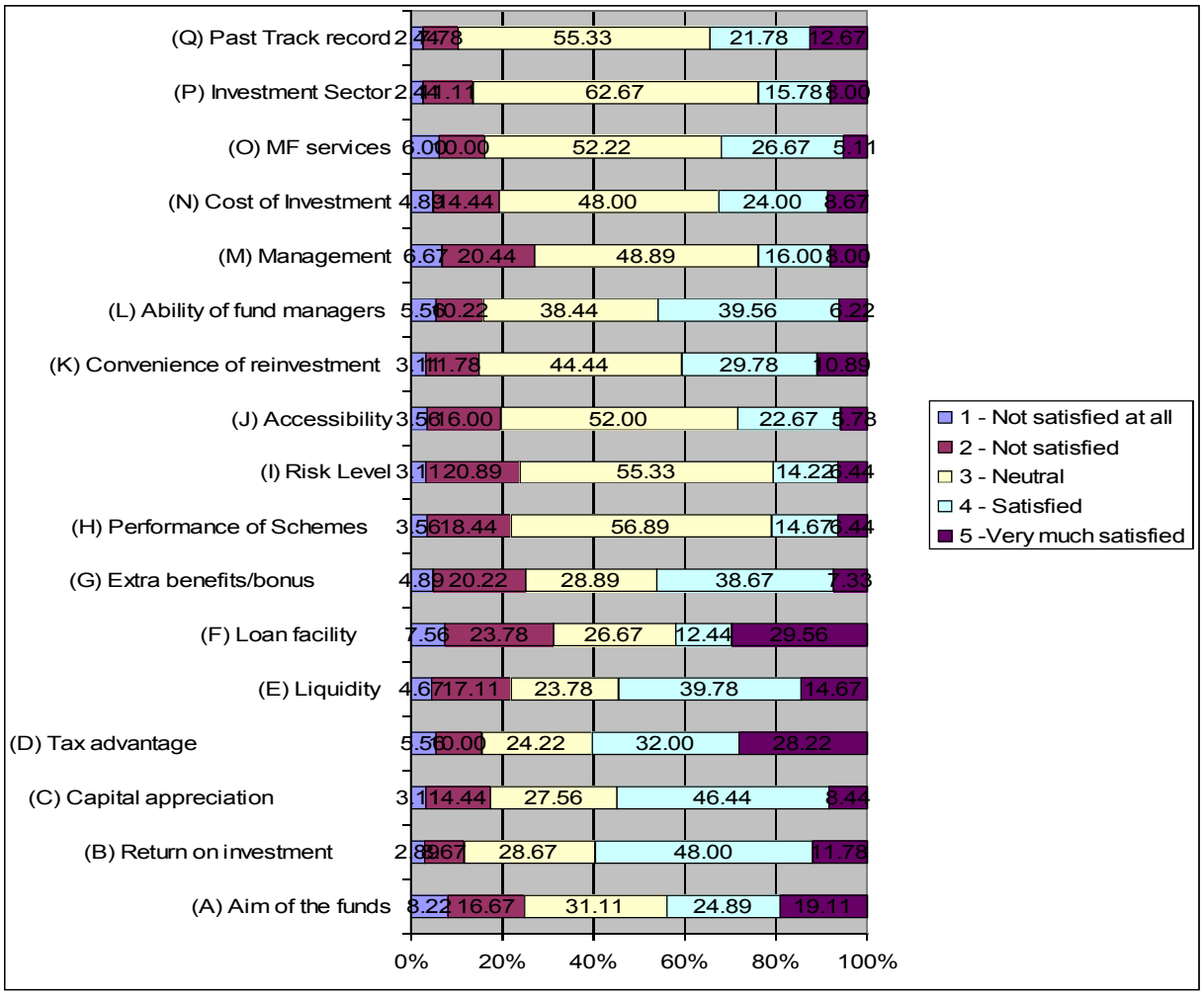
To know the satisfaction level of the respondents with respect to the different factors, five point likert scale method used for the purpose of analysis. The five point likert scale set between 1-point to 5-point. 1-point considered as a not satisfied at all to 5-point very much satisfied.

(Table: 5.27 Frequency and Mean score given by the respondents towards satisfaction level for their present mutual fund investment)

Satisfaction Level	**1 - Not satisfied at all**	**2 - Not satisfied**	**3 - Neutral**	**4 - Satisfied**	**5 -Very much satisfied**	**Mean Score**
(A) Aim of the funds	**37**	**75**	**140**	**112**	**86**	**3.30**
(%)	**8.22**	**16.67**	**31.11**	**24.89**	**19.11**	
(B) Return on investment	13	39	129	216	53	3.57
(%)	2.89	8.67	28.67	48.00	11.78	
(C)Capital appreciation	14	65	124	209	38	3.43
(%)	3.11	14.44	27.56	46.44	8.44	
(D) Tax advantage	**25**	**45**	**109**	**144**	**127**	**3.67**
(%)	**5.56**	**10.00**	**24.22**	**32.00**	**28.22**	
(E) Liquidity	**21**	**77**	**107**	**179**	**66**	**3.43**
(%)	**4.67**	**17.11**	**23.78**	**39.78**	**14.67**	
(F) Loan facility	**34**	**107**	**120**	**56**	**133**	**3.73**
(%)	**7.56**	**23.78**	**26.67**	**12.44**	**29.56**	
(G) Extra benefits/bonus	22	91	130	174	33	3.23
(%)	4.89	20.22	28.89	38.67	7.33	
(H) Performance of Schemes	16	83	256	66	29	
(%)	3.56	18.44	56.89	14.67	6.44	3.02
(I) Risk Level	14	94	249	64	29	3.00
(%)	3.11	20.89	55.33	14.22	6.44	
(J) Accessibility	16	72	234	102	26	3.11
(%)	3.56	16.00	52.00	22.67	5.78	

(K) Convenience of reinvestment	14	53	200	134	49	3.34
(%)	3.11	11.78	44.44	29.78	10.89	
(L) Ability of fund managers	25	46	173	178	28	
(%)	5.56	10.22	38.44	39.56	6.22	3.31
(M) Management	30	92	220	72	36	2.98
(%)	6.67	20.44	48.89	16.00	8.00	
(N) Cost of Investment	22	65	216	108	39	3.17
(%)	4.89	14.44	48.00	24.00	8.67	
(O) MF services	27	45	235	120	23	3.15
(%)	6.00	10.00	52.22	26.67	5.11	
(P) Investment Sector	11	50	282	71	36	3.16
(%)	2.44	11.11	62.67	15.78	8.00	
(Q) Past Track record	**11**	**35**	**249**	**98**	**57**	**3.34**
(%)	**2.44**	**7.78**	**55.33**	**21.78**	**12.67**	

(Chart: 5.24 Frequency in terms of percentage given by the respondents towards satisfaction level for their present mutual fund investment)



The data regarding the satisfaction level, both number of respondents and percentage of respondents, are given in the table (5.27). The same data set represented in graphical form shown in the Chart: (5.24). For very much satisfied option (Represented by 5-Point), highest responses given by the respondents for the loan facilities with 133 number of respondents i.e. 29.56% followed by the tax advantages and aim of the funds with 127 number of respondents i.e.28.22% and 86 number of respondents i.e. 19.11% respectively. Liquidity gives higher satisfaction for 66 numbers of respondents i.e. 14.67%, while 57 number of respondents i.e.12.67% give their responses towards past track record or information.

Opposite to the responses for not satisfied at all response, was for the factor like investment sector, MF services, cost of investment, management, ability to fund managers convenience of the reinvestment, performance of the schemes and risk level. The table also indicates that respondents are satisfied with their present mutual fund investment and still they are using the various mutual fund products.

5.15 Factor Analysis - I (Most Influencing Factors):

One of the most and popularly used interdependency techniques for data reductions is factor analysis. As per definition given by the luck and Rubin, it seeks to discover the set of dimension that is not readily available and observed from the different set of variable called factor analysis. The factor analysis develop a specific set of class from the observed variables and create a relatively new categories called as factor. There are two most important reasons for using

the factor analysis (a) to identify the specific variable from the large set of variables which can be interrelated due to multicollinearity. (b) to define the identical structure from the large data set with respect to the small characteristics of the defined sample.

Factor analysis is considered as multivariate technique, which is utilized for the purpose of summarized result from the large number of variables. Factor analysis also identifies small components from the large set of various variables called as single factor. According to Naresh. Malhotra, there are different reasons for using the factor analysis. Some of the reasons are given below.

(1) Factor analysis describes the correlation between the various set of variables.

(2) To explore the small set of uncorrelated variables from the original correlated set of variables.

(3) To define the small set of salient variables which are influence more as compare to large set of variables.

For the present study, factor analysis is utilize for the purpose of reduce the number of factors from the large number of variables. To check the most influencing factors based on the respondent's investment needs. Respondents were asked to give their responses towards different fifteen factors regarding their investment needs. For these many number of factors, factor analysis was performed in this present study.

Bartlett's test of sphericity is statistical test utilized to check the hypothesis that the variables are uncorrelated in the population, that means the population matrix

correlation matrix is an identical matrix; variable perfectly correlated with each others, but has no correlation with other set of variable under the present study.

From the given below Table (5.28), the significance value of Bartlett's Test is 0.00, this leads to rejection of the idea that the correlation matrix is identity matrix.

(Table: 5.28 KMO and Bartlett's Test)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.647
Bartlett's Test of Sphericity	Approx. Chi-Square	1662.927
	d f	105
	Sig.	.000

Sampling adequacy measures with the help of the Kaiser-Meyer-Olkin (KMO) test for the present research study. To check the correctness of factor analysis this test is generally performed. It compares the partial correlation coefficients to observed correlation coefficients. The KMO value ranging between 0 to 1. The KMO value 0.647 which is nearer to 1, hence this value is acceptable and justifies the correctness and appropriateness of the factor analysis.

The variance for all the variables can explain with all the factors beings considered called communality. Communality also explains the percentage of total variance with respect to all common factors. For the present research study principal component analysis method adopted. The total variance is considered for the analysis. The initial principal component analysis is 1; however the primary concern is the extracted communalities, which are achieved after

extraction of various factors. The general method for calculating the communality through the squaring factor loading of a variable across all the factors and then aggregate all the values.

For the present research study communality calculated through the software and is given in the table (5.29). A low communality value indicates that the variable is statistically independent and can not be combined with other variable.

From the Table (5.29), the result found that all the extracted communalities are grater then 0.5, it means communality acceptable for all the variables.

(Table: 5.29 Communalities*)

Factors (Variable)	**Initial**	**Extraction**
SAVING	1.000	.567
SAFETY	1.000	.818
RETURN	1.000	.724
LONG TERM INVESTMENT	1.000	.586
CAPITAL APPRECIATION	1.000	.722
CONSTANT INCOME	1.000	.593
TAX ASSPECTS	1.000	.520
FUTURE INCOME PENSION	1.000	.548
PRINCIPLE SECURITY	1.000	.518
LIQUIDITY	1.000	.674
CONSTANT GROWTH	1.000	.741
CAPITAL GAIN	1.000	.581
SUSTAINABLE RETURN	1.000	.680
EXTRA INCENTIVES	1.000	.762
EXTRA BONUS	1.000	.758
*Extraction Method: principal Component Analysis		

(Table :5.30 Total Variance Explained)

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.594	17.294	17.294	2.594	17.294	17.294	2.068	13.786	13.786
2	2.153	14.353	31.646	2.153	14.353	31.646	1.996	13.305	27.090
3	1.892	12.616	44.263	1.892	12.616	44.263	1.970	13.132	40.222
4	1.256	8.372	52.635	1.256	8.372	52.635	1.576	10.507	50.729
5	1.196	7.971	60.606	1.196	7.971	60.606	1.482	9.877	60.606
6	1.086	7.239	67.845						
7	.921	6.139	73.984						
8	.852	5.682	79.666						
9	.647	4.313	83.979						
10	.638	4.252	88.231						
11	.506	3.375	91.606						
12	.427	2.850	94.456						
13	.356	2.372	96.828						
14	.283	1.884	98.712						
15	.193	1.288	100.000						

*Extraction Method: principal Component Analysis

Now, the variance explains through the factor analysis, maximum variance should be explained with scale construction and component extraction. For the present research study, an analysis of Eigen value is required. The total variance for each factor represent by the Eigen Value.

All the extracted variables Eigen values are shown in the Table (5.30). A maximum of 15 various components can be extracted as there are fifteen

variables. The same table also shows the cumulative variance. However it is required that the maximum amount of variance explained in minimum of components, for each reason extraction of the component is required. Only those factors are extracted for which the Eigen value are always grater then one.

The factor extracted shows in the table (5.30), five initial factors altogether and contribute the 60.60% of total variance. This is a absolutely fair percentage of variance to be explained and assumes of the appropriateness of the factors analysis.

Further table (5.30) shows the extraction sum of squared loadings of the scale for measuring the influencing level construct. However, a careful look at the table 5.39 shows that 60.60% variance is not uniformly distributed across all components where only the first components accounts for 17.294% of variance. Thus, in order for the variance to be uniformly distributed across all the components a rotation of the components matrix is required. Components matrix is the loadings of various variables to the extracted components.

Although the initial or unrotated matrix indicates the relationship between the factors and individual variables, it seldom results in factors that can be interpreted, because the factors are correlated with many variables. In such a complex matrix it is difficult to interpret the factors. Therefore, through rotation, the factor matrix is transformed into a simpler one that is easier to interpret. There are various methods for rotation. Some of them are briefly mentioned as follows: (1) Orthogonal rotation – In which while rotation of factors the axes are maintained at right angles. This is the simplest method for rotation. (2) Quartimax

rotation – the ultimate goal of a Quartimax rotation is to simplify the row of a factor matrix, i.e., Quartimax focuses on rotating the initial factor so that a variable loads high on one factor and as low as possible on all other factors. (3) Varimax rotation – This is an orthogonal method of factor rotation that minimizes the number of variables with higher loadings on a factor, thereby enhancing the interpretability of the factors (4) Equimax rotation – the Equimax approach is compromise between the Quartimax and Varimax approaches. Rather than concentrating either on simplification of the rows or on simplification of columns, it tries to accomplish some of each. This method has not gained widespread acceptance and is used infrequently. (5) Oblique rotation – Rotation of factors when the axes are not maintained at right angles.

The method of rotation used for this study is VARIMAX, which is the most commonly used rotation method. The variance explained by each component before and after the rotation method is shown in table 5.39. It is visible from this table that the variance is now evenly distributed in a range of 13.786% – 9.877%, which was 17.294% - 7.971% before rotation.

Rotated Factor Matrix

An analysis of factor loadings in the rotated factor matrix helps in interpreting and naming the five factors that have been extracted in the earlier section. Interpretation is done by identifying the statements that have very high loadings on the same component. These factors can then be interpreted in terms of the Variables that load highly on it. Table (5.31) shows the rotated component matrix.

(Table:5.31 Rotated Component Matrix (a*))

Factors	**Components**				
Number of Variables	1	2	3	4	5
SAVING	-0.0212	**0.7343**	0.1274	-0.1054	-0.0021
SAFETY	-0.0750	0.0611	**0.8966**	-0.0408	-0.0558
RETURN	-0.1893	-0.0380	**0.7866**	0.2581	-0.0341
LONG TERM INVESTMENT	-0.0375	0.0197	-0.0041	**0.6958**	0.0048
CAPITAL APPRECIATION	-0.1629	**0.8136**	-0.1636	0.0780	0.0280
CONSTSNT INCOME	-0.0559	0.4568	0.0830	0.1878	0.3725
TAX ASSPECTS	0.2542	-0.0014	0.0994	**0.6672**	-0.0063
FUTURE INCOME PENSION	0.0085	0.0979	0.3340	**0.5401**	0.1884
PRINCIPLE SECURITY	0.2518	0.1003	**0.4337**	0.1156	0.2080
LIQUIDITY	0.0004	0.2572	-0.1615	0.2398	**0.7239**
CONSTANT GROWTH	0.1375	-0.1703	0.2582	-0.2736	**0.7424**
CAPITAL GAIN	**0.5103**	-0.0691	-0.0742	0.1849	**0.4195**
SUSTAINABLE RETURN	0.4685	**0.6529**	0.1549	0.0985	-0.0270
EXTRA INCENTIVES	**0.8315**	-0.1595	0.1087	0.1768	-0.0404
EXTRA BONUS	**0.8225**	0.0956	-0.2317	-0.1159	0.0729

* Extraction Method: principal Component Analysis Rotation Method: Varimax with Kaiser Normalization. a rotation coverage in 7 iterations.

The relationship between the observed variables and the newly produced factors is revealed in the form of factor loadings. These are the coefficients within the matrix that indicate the importance of the factor. These loading have the upper limit +1.0 and lower limit of -1.0. For better data reduction those variables that had the factor loadings more than 0.40 were considered under each factor. Coincidently, factor loading for all the variables are grater then 0.40, so five different factors Table: (5.31) are considered for further extraction. The other interesting result found that out of fifteen different variables, fourteen variables considered for extraction for factor analysis.

(Table:5.32 Grouping of variables based on the factor Loadings)

Factors	**Components**				
Variables	**1**	**2**	**3**	**4**	**5**
EXTRA INCENTIVES	**0.8315**				
EXTRA BONUS	**0.8225**				
CAPITAL GAIN	**0.5103**				
CAPITAL APPRECIATION		**0.8136**			
SAVING		**0.7343**			
SUSTAINABLE RETURN		**0.6529**			
SAFETY			**0.8966**		
RETURN			**0.7866**		
PRINCIPLE SECURITY			**0.4337**		
LONG TERM INVESTMENT				**0.6958**	
TAX ASSPECTS				**0.6672**	
FUTURE INCOME PENSION				**0.5401**	
CONSTANT GROWTH					**0.7424**
LIQUIDITY					**0.7239**

From the table (5.32) it can be seen that three variables like extra incentives, extra bonus and capital gain are clubbed in factor 1. Factor 2 includes of three variables as Capital appreciation, saving and sustainable return. Variables having high loading with factor 3 consists safety, return and principal security with respect to the respondents investment needs. Long term investment, Tax aspects and future income are variables that from factor 4. Factor 5 only includes two variables like constant growth and liquidity.

As per the grouping of the variables based on the factor loading shown in table (5.32) following five different factors were identified and given them common names.

Factor: 1: Extra benefits:

This factor consists with three different variables like extra incentives, extra bonus and capital gain. Investor always wants extra benefits in terms of monetary gain and profit. All the variables in this factor depicted that most of the investors interested in excess income over the regular income from their present investments.

Factor: 2: value for investment:

This factor includes capital appreciation, saving and sustainable return. Most of the investors are invested their financial resources for the purpose of future saving, consistent return and high value of their present investment in future so that's why this factor called as a "Value for Investment"

Factor: 3: Investment as sure and safe returns:

High loading group variable like safety, return and principal security considered as a third factors called “Investment as sure and safe return”. Here high load for individual indicates higher number of respondents. Investors are contingently invested their fund in terms of sure and safe return from any investment avenues.

Factor: 4: Future security with tax benefits

Fourth factor includes three variables like long term investment, tax aspects and future income. Most of the respondents invested their money longer period of time with future income benefits, both variables long term investments and future income interconnected with each other. Investors are always concern with the tax saving aspects so they might be select the tax saving investment vehicles based on their investment needs.

Factor: 5: Economical rewards:

This factor includes only two variables constant growth and liquidity. Most of the respondents demand for constant growth and liquidity from their present investments. Combination of these two variables considered as a single factor called “economical rewards”. Based on their present investment needs, they are always concerned with constant growth and liquidity.

5.16 Factor Analysis - II (Satisfaction Level):

From the given below Table (5.33), the significance value of Bartlett’s Test is 0.00, this leads to rejection of the idea that the correlation matrix is identity matrix.

(Table: 5.33 KMO and Bartlett's Test)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.833
Bartlett's Test of Sphericity	Approx. Chi-Square	3766.335
	Df	136
	Sig.	.000

Sampling adequacy measures with the help of the Kaiser-Meyer-Olkin (KMO) test for the present research study. To check the correctness of factor analysis, this test is generally performed. It compares the partial correlation coefficients to observed correlation coefficients. The KMO value ranging between, 0 to 1. The KMO value 0.833 which is nearer to 1, hence this value is acceptable and justifies the appropriateness and correctness of the factor analysis.

For the present research study communality calculated through the SPSS software and is given in the table (5.34). A high communality value indicates that the variable is statistically dependent and can be combined with other variables.

The communality value are shown in the table (5.34), here the again result found that extracted communalities are grater then 0.5, it means communality acceptable for all the variables.

(Table: 5.34 Communalities*)

Satisfaction Level (Factors)	**Initial**	**Extraction**
(A) Aim of the funds	1.000	.513
(B) Return on investment	1.000	.660
(C) Capital appreciation	1.000	.645
(D) Tax advantage	1.000	.811
(E) Liquidity	1.000	.570

(F) Loan facility	1.000	.771
(G) Extra benefits/bonus	1.000	.734
(H) Performance of Schemes	1.000	.515
(I) Risk Level	1.000	.637
(J) Accessibility	1.000	.738
(K) Convenience of reinvestment	1.000	.668
(L) Ability of fund managers	1.000	.498
(M) Management	1.000	.628
(N) Cost of Investment	1.000	.649
(O) MF services	1.000	.723
(P) Investment Sector	1.000	.612
(Q) Past Track record	1.000	.595
*Extraction Method:principal Component Analysis		

All the extracted variables Eigen values are shown in the Table (5.35). A maximum of 17 various components can be extracted as there are seventeen variables. The same table also shows the cumulative variance. However it is required that the maximum amount of variance explained in minimum of components, for each reason extraction of the component is required. Only those factors are extracted for which the Eigen value are always grater then one.

The factor extracted shows in the table (5.35), four initial factors altogether and contribute the 64.508% of total variance.

This is very good percentage of variance to be explained and assumes of the correctness and appropriateness of the factors analysis.

(Table: 5.35 Total variance Explained)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.626	38.979	38.979	6.626	38.979	38.979	3.543	20.838	20.838
2	2.057	12.097	51.077	2.057	12.097	51.077	2.728	16.046	36.884
3	1.220	7.178	58.254	1.220	7.178	58.254	2.556	15.035	51.919
4	1.063	6.253	64.508	1.063	6.253	64.508	2.140	12.589	64.508
5	.938	5.519	70.027						
6	.696	4.097	74.124						
7	.622	3.661	77.785						
8	.586	3.449	81.234						
9	.557	3.278	84.512						
10	.511	3.003	87.515						
11	.463	2.726	90.241						
12	.396	2.328	92.569						
13	.344	2.022	94.591						
14	.310	1.824	96.415						
15	.231	1.357	97.772						
16	.199	1.168	98.940						
17	.180	1.060	100.000						

*Extraction Method: principal Component Analysis

Further table (5.35) shows the extraction sum of squared loadings of the scale for measuring the satisfaction level construct for present mutual fund investors/respondents. However, a careful look at the table (5.35) shows that 64.508% variance is not uniformly distributed across all components where only the first components accounts for 38.979% of variance. Thus, in order for the variance to be uniformly distributed across all the components a rotation of the

components matrix is required. Components matrix is the loadings of various variables to the extracted components.

Again the same method of rotation used for this study called VARIMAX, which is the most frequently used rotation method. The variance explained by each component before and after the rotation method is shown in table (5.35). It is visible from this table that the variance is now evenly distributed in a range of 20.838% – 12.589%, which was 38.979% - 6.253% before rotation.

Rotated Factor Matrix

An analysis of factor loadings in the rotated factor matrix helps in interpreting and naming the four factors that have been extracted in the earlier section. Interpretation is done by identifying the statements that have very high loadings on the same component. These factors can then be interpreted in terms of the Variables that load highly on it. Table (5.36) shows the rotated component matrix.

(Table:5.36 Rotated Component Matrix (a*))

Satisfaction Level (Factors)	**Components**			
	1	**2**	**3**	**4**
(A) Aim of the funds	**.507**	.397	.300	-.091
(B) Return on investment	.322	.209	**.705**	.123
(C) Capital appreciation	.025	.251	**.755**	.105
(D) Tax advantage	.027	-.080	**.804**	.397
(E) Liquidity	.490	.115	.342	.447
(F) Loan facility	.038	.016	.471	**.740**
(G) Extra benefits/bonus	.084	.209	.154	**.812**
(H) Performance of Schemes	.198	.479	.030	.495
(I) Risk Level	.220	**.677**	.073	.352
(J) Accessibility	.075	**.820**	.243	.028

(K)Convenience of reinvestment	.404	**.701**	.082	.085
(L) Ability of fund managers	.372	.350	.480	.084
(M) Management	.493	**.532**	.241	.209
(N) Cost of Investment	**.694**	.272	.006	.305
(O) MF services	**.821**	.169	.095	.108
(P) Investment Sector	**.761**	.091	.132	.085
(Q) Past Track record	**.749**	.174	.061	-.027

* Extraction Method: principal Component Analysis Rotation Method: Varimax with Kaiser Normalization. a rotation Coverage in 8 iterations.

The relationship between the observed variables and the newly produced factors is revealed in the form of factor loadings. These are the coefficients within the matrix that indicate the importance of the factor. These loading have the upper limit +1.0 and lower limit of -1.0. For better data reduction those variables that had the factor loadings more than 0.50 were considered under each factor. Luckily, factor loading for all the variables are grater then 0.50, so four different factors Table: (5.36) are considered for further extraction. The other interesting result found that out of 17 different variables, fourteen variables considered for extraction for factor analysis.

(Table: 5.37 Grouping of variables based on the factor Loadings)

Satisfaction Level (Factors)	**Components**			
	1	**2**	**3**	**4**
(O) MF services	**.821**			
(P) Investment Sector	**.761**			
(Q) Past Track record	**.749**			
(N) Cost of Investment	**.694**			
(A) Aim of the funds	**.507**			

(J) Accessibility		**.820**		
(K) Convenience of reinvestment		**.701**		
(I) Risk Level		**.677**		
(M) Management		**.532**		
(D) Tax advantage			**.804**	
(C) Capital appreciation			**.755**	
(B) Return on investment			**.705**	
(G) Extra benefits/bonus				**.812**
(F) Loan facility				**.740**

From the above table (5.37) it can be seen that five variables like MF services, investment sector, past track record, cost of investment and aim of the funds are sum up in factor 1. Factor 2 includes of four variables as accessibility, convenience of reinvestment, risk level and management. Variables have moderate loading with factor 3, Tax advantage, capital appreciation and return on investment with respect to the respondents' satisfaction level towards their present investment in mutual funds. Extra benefits/bonus and loan facility are variables that from factor 4.

Based on the factor loading grouping variables are shown in table (5.36), the following four various factors were explored and given then unique names.

Factor: 1 History, Cost and services:

This factor consists with five different variables like MF services, investment sector, past track record, cost of investment and aim of the funds. Investor always satisfied with some of the identical variables, they are always concern

with the past return, present cost of investment, services provided by company and objective of the fund/scheme. All the five variables identified through the factor analysis called as “History, Cost and Services”

Factor: 2 Portfolio features:

This factor includes accessibility, convenience of reinvestment, risk level and management. Most of the investors/respondents are satisfied with easily accessible, possibility of reinvestment potential level of risk and management of specific funds with so that’s why this factor called as a “portfolio features”

Factor: 3 monetary rewards:

Fourth factor includes three variables like Tax advantage, capital appreciation and return on investment. Most of the respondents are satisfied with their present mutual fund investment through the gaining of tax shield, higher capital appreciations and average return on investment. Respondents are always concern with the monetary reward with some other advantages.

Factor: 4 Excess benefits:

This factor includes only two variables Extra benefits/bonus and loan facility. Most of the respondents satisfied with excess return or bonus units over a period of time and loan facilities provided by the fund/scheme from their current mutual fund investment. Combination of these two variables considered as a single factor called “Excess Benefits”. Based on their present investment in mutual fund, they are always concerned higher benefits and flexibility.

5.17 Discriminant Analysis (Satisfaction Level)

Discriminant analysis is a multivariate technique used for predicting group members on the basis of the independent variables. The purpose of the Discriminant analysis is development of the Discriminant function or linear combinations of the independent variable which will best discriminate between the categories of dependent variables.

(Table: 5.38 Classification Results (a*))

	Satisfaction level		**Predicted Group Membership**		
			Very much Satisfied	*Not satisfied at all*	Total
Original	Count (%)	*Very much Satisfied*	324	33	357
		(%)	90.8	9.2	
		Not satisfied at all	12	81	93
		(%)	12.9	87.1	

*A 90 % of original grouped cases correctly classified.

The result of the discriminant analysis based on the classification matrix is shown in the table (5.38). Classification matrix is also known as confusion matrix. From the present research it was found that 90.0% of respondents are correctly classified.

Table: 5.39 statistical significance

Test of Function(s)	**Chi-square**	**Df**	**Sig.**
1	284.788	3	.000

The statistical significance of discriminant function obtained from the analysis that the value of F-test indicates the discrimination between two groups is highly significant as the significance value is 0.000. This indicates better discrimination power of the model.

For purpose of developing the Discriminant function, two independent variables are used as satisfaction from aim of the funds, MF Services and Liquidity, but these variables are not equally important. To know which is more important then other, standardized canonical Discriminant function coefficients are used as shown in table (5.40).

(Table: 5.40 Standardized Canonical Discriminant Function Coefficients)

Particulars	**Function**
Variables	1
(A) Aim of the funds	.508
(O) MF services	.425
(E) Liquidity	.561

From the result of discriminant analysis it is found that canonical discriminant Function Coefficient is higher for liquidity and it is 0.561. So satisfaction from liquidity is more important in identifying overall satisfaction. The second important variable is aim of the funds and the Canonical Discriminant Function Coefficient is 0.508, which is slightly lower then first variable (liquidity). The third important variable is MF services and the canonical discriminant Function Coefficient is 0.425, which is lower then second variable (aim of the funds).

The main objective of the discriminant analysis is to develop the discriminant function based on which the new mutual fund investor is discriminated as either as Very much satisfied or Not satisfied at all.

Table: 5.41 Canonical Discriminant Function Coefficients (Unstandardized)

Particulars	**Function**
Variables	1
(A) Aim of the funds	.495
(O) MF services	.571
(E) Liquidity	.619
(Constant)	-5.555

*Unstandardized coefficient

From the analysis the function is developed based on the unstandardized canonical discriminant function coefficient as given below:

Y (Satisfaction Level) = - 5.555 + 0. 619 (Liquidity) + 0.495

(Aim of the funds) + 0.571 (MF services)

(Table: 5.42 Functions at Group Centroids)

Satisfaction level	**Function**
	1
Very much Satisfied	.481
Not satisfied at all	-1.847

Group centroid values are given in table (5.42), identified through the analysis and its ranging between + 0.481 to – 1.847. For discriminating any mutual fund investors as very much satisfied or not satisfied at all, it requires to compare Y value derived from the discrimination function with the group centroid values. For the present study if Y value is nearer to (+ 0.481), that investors is classified as a Very much satisfied investor/respondent. Where as if the Y value is for any investor is nearer to (– 1.847), then he/she is classified as not satisfied at all investor/respondent.

5.18 Hypothesis Testing:

***H_0**: Satisfaction in mutual fund investment is not significantly associated with the respondent's income*

***H_1**: Satisfaction in mutual fund investment is significantly associated with the respondent's income*

(Table: 5.43 satisfaction level towards different income levels)

Cross tabulation		**Satisfaction Level**		
		YES	*NO*	Total
Annual Income	Less then 100000	89	12	101
	100000-500000	220	74	294
	above 500000	48	7	55
Total		357	93	450

(Table: 5.44 Pearson Chi Square value for satisfaction level towards different income levels)

Particulars	**Value**	**Df**	**Asymp. Sig. (2-sided)**
Pearson Chi-Square	10.506[a]	2	***.005***
Likelihood Ratio	11.241	2	.004
Linear-by-Linear Association	.817	1	.366
N of Valid Cases	450		

For the testing of hypothesis mainly chi-square test applied. The test is performed manually at 5% level of significance and 2 degrees of freedom. The result given in the table (5.44) of the Pearson Chi-square significance value is 0.005. This indicates that the null hypothesis is rejected that means there is a significant relationship between respondent's income and satisfaction in mutual fund investment.

***H_0**: Satisfaction in mutual fund investment is not significantly associated with the age of respondent*

***H_1**: Satisfaction in mutual fund investment is significantly associated with the age of respondent*

(Table: 5.45 satisfaction level towards different income levels)

Cross tabulation		**Satisfaction Level**		Total
		YES	NO	
AGE	Below 30 years	117	20	137
	31-40 years	184	47	231
	40-50 years	38	12	50
	Above 50 years	18	14	32
Total		357	93	450

(Table:5.46 Pearson Chi Square value for satisfaction level towards different income levels)

Particulars	**Value**	**Df**	**Asymp. Sig. (2-sided)**
Pearson Chi-Square	13.830[a]	3	.003
Likelihood Ratio	12.304	3	.006
N of Valid Cases	450		

For the above hypothesis testing again Chi-Square test is used. The test is performed manually at 5% level of significance and 3 degrees of freedom. The result shown in the table (5.46) for the Pearson Chi-square significance value is 0.003. This indicates that the null hypothesis is rejected that means there is a

significant relationship between respondent's age and satisfaction in mutual fund investment.

***H_0**: There is no significant difference in preference by investors regarding mutual fund investment instruments.*

***H_1**: There is a significant difference in preference by investors regarding mutual fund investment instruments.*

(Table:5.47 Chi-square value for various types of Mutual funds)

Particulars	Income fund	Growth fund	Money market fund	Tax saving fund	Sector fund	Balance fund	Gilt fund	Index fund	SIP
Chi-Square	344.680[a]	239.680[a]	144.920[a]	135.800[a]	149.000[a]	215.440[a]	543.080[a]	331.600[a]	209.520[a]
df	8	8	8	8	8	8	8	8	8
Asymp. Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000

For the above hypothesis testing basically ranking and mean score value considered. From the present research result found that the first rank is given to the growth fund, second rank is given to the income fund and third rank is given to tax income fund, it means null hypothesis rejected and alternate hypothesis accepted. Various other tests is given the same result, it indicates there is a significant difference in preference by investors regarding mutual fund investment instruments.

For all the types of funds chi square test was performed with 5% level of significance and 8 degree of freedom. The result shown in the table (5.47), for chi square significance value 0.000 (all the funds), that is less then table value. It clearly indicates that, null hypothesis is rejected. It means there is a significant difference in preference by the investors regarding mutual fund instruments.

5.19 Secondary Data analysis:

This part of chapter includes the analysis of secondary data based on the past record of the selected mutual fund schemes.

The secondary research concern with performance evaluation of 51 various selected mutual fund schemes. For this study initially 51 existing mutual fund schemes selected based on their risk return criteria for the period of 2010, 2011 and 2012.

The following Table (5.48) shows average risk-return and R- value for three financial years. The primary result found from the data analysis that out 51 selected mutual fund schemes 18 schemes having low level of risk and higher percentage of return. From the selected samples overall 35% (i.e. 18 schemes) of the schemes are generated the higher amount of potential return with lower risk. It means 18 mutual fund schemes are performing very well during the three consecutive financial years.

(Table:5.48 Average Risk-Return and R-Value for FY 2010, FY 2011, FY 2012)

Average risk & return based on FY 2010, FY 2011 & FY 2012			
Scheme : Scheme	**Risk (%)**	**Return (%)**	**R: correlation of coefficient:**
AXIS Long Term Equity Fund	0.9966	11.89	-0.016504327
Baroda Pioneer Liquid Fund	0.0166	6.8	0.002796478
Birla Sun Life Cash Plus	0.0166	6.91	0.00295333
Birla Sun Life Frontline Equity Fund - Plan A	1.33	33.72	0.007931994
Birla Sun Life India GenNext Fund	1.16	32.1	0.009415285
Birla Sun Life MNC Fund - B	0.9	44.79	0.005922829
Birla Sun Life Savings Fund	0.0166	7.11	0.003157085
Birla Sun Life Top 100 Fund	1.27	18.35	-0.069491141
Canara Robeco Equity - Tax Saver	1.15	43.35	0.00963243
DSP BR India T.I.G.E.R. Fund	1.32	23.95	0.009828585
DSP BR Micro-Cap Fund	2.36	3.65	-0.454227772
Franklin Build India Fund	0.95	-0.60667	-0.07972362
Franklin India Bluechip Fund	1.1766	34.7833	0.007747357
GS Nifty BeES	1.4566	26.2533	0.010819039
HDFC Cash Mgmt - Treasury Advantage	0.0166	6.6633	0.003377122
HDFC Mid-Cap Opportunities Fund	1.0866	11.28	-0.065525302
HDFC Monthly Income Plan - LTP	0.3033	15.9333	0.007328961
HDFC Short Term Opportunities Fund	0.0133	3.1866	0.002562217
ICICI Pru Balanced Fund	0.80667	25.3167	0.007177696
ICICI Pru Equity & Deriv - Volatility Advantage	0.7466	22.84	0.011756696
ICICI Pru Flexible Income Plan	0.0166	7.1033	0.003179956
ICICI Pru Focused Bluechip Equity Fund	1.2733	35.5563	0.007985079
ICICI Pru Liquid Plan	0.01667	6.8966	0.00304345
ICICI Pru MIP 25	0.32667	13	0.00948038
IDFC Cash Fund - Plan C	0.01667	6.8233	0.002872767
IDFC Dynamic Bond Fund - B	0.1566	7.2233	-0.032263077
IDFC G Sec Fund - Invst Plan - A	0.2066	6.33	-0.024193777
IDFC G Sec Fund - Invst Plan - B	0.20667	10.01	-0.287442051
IDFC G Sec Fund - PF	0.2066	7.2433	-0.031772843

IDFC Premier Equity Fund - Plan A	1.1667	45.32	0.006963251
JM Short Term Fund	0.0267	11.77	0.009774479
Kotak Nifty ETF	1.06	1.03	-0.078334708
LIC NOMURA MF Income Plus Fund	0.0133	6.6866	0.005684645
LIC NOMURA MF Savings Plus Fund	0.01667	6.6433	0.005037839
Mirae Asset India Opportunities Fund	1.31	45.98	0.007435379
Peerless Short Term Fund	0.0933	3.43	-0.022586942
Reliance Equity Opportunities Fund	1.2433	50.61	0.006012098
Reliance Pharma Fund	0.98	58.9433	0.004944589
Religare Credit Opportunities Fund	0.01667	5.08	0.001487581
SBI Dynamic Bond Fund	0.1	7.77	0.00573817
SBI Magnum Income Fund	0.12667	6.7433	0.013025888
SBI Magnum MIP Floater	0.17	8.0033	0.012488063
Sundaram Flexible - STP - IP	0.0267	7.14	0.003185031
UTI-Equity Fund	1.133	32.99	0.006449165
UTI-India LifeStyle Fund	1.15	30.21	0.010092611
UTI-Liquid - Cash Plan - Inst	0.014677	6.79	0.002936322
UTI-Liquid – Cash Plan	0.0133	6.2733	0.003504701
UTI-MNC Fund	0.8766	39.1033	0.008464967
UTI-Opportunities Fund	1.2433	36.2567	0.012179007
UTI-Treasury Advantage Fund - Inst	0.01667	7.1233	0.003117168
UTI-Treasury Advantage Fund	0.0166	6.5867	0.003016606

The correlation of coefficient between risk and return of selected 51 mutual fund schemes is (R) +0.623046; it indicates there is a positive relationship between risk and return. Risk and return are positive correlated with each other means both variables are moving in the same direction.

Another interesting result found from the present study that out of 51 selected mutual fund schemes 40 schemes are positively correlated while 11 schemes are negative correlated with risk return profile. From the selected samples 72.50% samples are positively correlated with respect to risk and return combination

Continue with the performance evaluation of selected mutual fund schemes with the help of CAPM model (Capital Asset Pricing Model). CAPM model is single period model and basically it used for identify the percentage of return based on the beta (sensitivity coefficient), Risk free rate of return (Rf) and Market Return (Rm). This model is helpful to investors for identifying whether the mutual fund scheme is over valued (O.V), Highly Over Valued (H.O.V) Properly Valued (P.V) and Under Valued (U.V), Highly Under Valued (H.U.V).

(Table:5.49 CAPM return & Incremental return value as per CAPM for FY 2010)

Name of the schemes	Beta	Actual Rate of return (%)	CAPM Return (%)	Nature	Incremental value
AXIS Long Term Equity Fund (G)	0.31	12.51	7.3322381	O.V	5.177761851
Baroda Pioneer Liquid Fund (G)	0.00	4.4	7.8948736	**U.V**	-3.494873566
Birla Sun Life Cash Plus - (G)	0.00	4.71	7.8954257	**U.V**	-3.185425711
Birla Sun Life Frontline Equity Fund - Plan A (G)	0.89	97.65	6.2535315	H.O.V	91.39646849
Birla Sun Life India GenNext Fund (G)	0.66	75.11	6.6761062	H.O.V	68.43389377
Birla Sun Life MNC Fund - B (G)	0.51	104.8	6.9648779	H.O.V	97.8351221
Birla Sun Life Savings Fund - (G)	0.00	5.09	7.8948736	**U.V**	-2.804873566
Birla Sun Life Top 100 Fund (G)	0.85	11.44	6.3407704	O.V	5.099229628
Canara Robeco Equity - Tax Saver (G)	0.84	118.69	6.3442673	H.O.V	112.3457327
DSP BR India T.I.G.E.R. Fund (G)	0.89	81.54	6.2632861	H.O.V	75.27671393
DSP BR Micro-Cap Fund (G)	1.14	0	5.7976441	**U.V**	-5.797644067
Franklin Build India Fund (G)	0.73	0	6.560524	**U.V**	-6.56052395
Franklin India Bluechip Fund - (G)	0.80	94.31	6.4304019	H.O.V	87.87959814
GS Nifty BeES	1.00	77.15	6.060833	H.O.V	71.08916697
HDFCCashMgmtTreasury Advantage (G)	0.00	4.75	7.8950576	**U.V**	-3.145057614
HDFC Mid-Cap Opportunities Fund (G)	0.61	5.75	6.7769647	**U.V**	-1.02696466
HDFC Monthly Income Plan - LTP (G)	0.18	33.17	7.5685561	H.O.V	25.60144393
HDFC Short Term Opportunities Fund (G)	0.00	0	7.89653	**U.V**	-7.89653
ICICI Pru Balanced Fund - (G)	0.50	59.29	6.9713196	H.O.V	52.31868042
ICICI Pru Equity & Deriv -Volatility Advantage (G)	0.53	52.9	6.9188658	H.O.V	45.98113416
ICICI Pru Flexible Income Plan (G)	0.00	5.09	7.8950576	**U.V**	-2.805057614
ICICI Pru Focused Bluechip Equity Fund	0.84	91.66	6.3531016	H.O.V	85.3068984

(G)					
ICICI Pru Liquid Plan (G)	0.00	4.76	7.8952417	**U.V**	-3.135241662
ICICI Pru MIP 25 (G)	0.20	26.25	7.5343231	H.O.V	18.7156769
IDFC Cash Fund - Plan C (G)	0.00	4.51	7.8952417	**U.V**	-3.385241662
IDFC Dynamic Bond Fund - B (G)	0.01	4.49	7.8869595	**U.V**	-3.396959492
IDFC G Sec Fund - Invst Plan - A (G)	0.00	3.51	7.8934012	**U.V**	-4.38340118
IDFC G Sec Fund - Invst Plan - B (G)	0.00	9.71	7.8930331	O.V	1.816966916
IDFC G Sec Fund - PF (G)	0.00	5.88	7.8921128	**U.V**	-2.012112843
IDFC Premier Equity Fund - Plan A (G)	0.68	117.13	6.6529162	H.O.V	110.4770838
JM Short Term Fund - (G)	0.00	12.19	7.8932171	O.V	4.296782868
Kotak Nifty ETF	1.01	0	6.0387472	**U.V**	-6.038747239
LIC NOMURA MF Income Plus Fund (G)	0.00	5.29	7.8952417	**U.V**	-2.605241662
LIC NOMURA MF Savings Plus Fund (G)	0.00	5.53	7.8943214	**U.V**	-2.364321421
Mirae Asset India Opportunities Fund (G)	0.89	125.24	6.2586849	H.O.V	118.9813151
Peerless Short Term Fund (G)	0.00	0	7.89653	**U.V**	-7.89653
Reliance Equity Opportunities Fund (G)	0.79	134.51	6.4414448	H.O.V	128.0685552
Reliance Pharma Fund (G)	0.41	160.47	7.1434047	H.O.V	153.3265953
Religare Credit Opportunities Fund (G)	0.00	0	7.8950576	**U.V**	-7.90
SBI Dynamic Bond Fund (G)	0.00	4.25	7.9000269	**U.V**	-3.650026916
SBI Magnum Income Fund - (G)	0.00	5.86	7.8878797	**U.V**	-2.027879734
SBI Magnum MIP Floater (G)	0.07	10.09	7.7645674	O.V	2.325432576
Sundaram Flexible – STP - IP (G)	0.00	6.17	7.8924809	**U.V**	-1.722480939
UTI-Equity Fund (G)	0.70	85.97	6.6050636	H.O.V	79.36493638
UTI-India LifeStyle Fund (G)	0.76	72.82	6.5062297	H.O.V	66.31377028
UTI-Liquid - Cash Plan - Inst (G)	0.00	4.54	7.8948736	**U.V**	-3.354873566
UTI-Liquid - Cash Plan (G)	0.00	4.13	7.8950576	**U.V**	-3.765057614
UTI-MNC Fund (G)	0.51	84.36	6.9505221	H.O.V	77.40947787
UTI-Opportunities Fund (G)	0.89	90	6.2544518	H.O.V	83.74554824
UTI-Treasury Advantage Fund - Inst (G)	0.00	5.09	7.8950576	**U.V**	-2.805057614
UTI-Treasury Advantage Fund (G)	0.00	4.46	7.8950576	**U.V**	-3.435057614

The primary result found from the table (5.49) that, in 2010 out of the 51 selected samples 5 schemes are over valued, 20 schemes are highly over valued and 26 schemes are under valued.

(Table:5.50 Incremental return value as per CAPM for FY 2011)

Name of the schmes	Beta	Actual Rate of return (%)	CAPM Return (%)	Nature	Incremental value
AXIS Long Term Equity Fund (G)	0.80	12.35	2.372736369	O.V	9.977263631
Baroda Pioneer Liquid Fund (G)	0.00	6.56	7.882799466	**U.V**	-1.32279946
Birla Sun Life Cash Plus - (G)	0.00	6.56	7.88211294	**U.V**	-1.32211294
Birla Sun Life Frontline Equity Fund - Plan A (G)	0.87	10.74	1.938164984	O.V	8.801835016
Birla Sun Life India GenNext Fund (G)	0.82	15.82	2.253280728	O.V	13.56671927
Birla Sun Life MNC Fund - B (G)	0.54	15.49	4.196837746	O.V	11.29316225
Birla Sun Life Savings Fund - (G)	0.00	6.73	7.88005336	**U.V**	-1.15005336
Birla Sun Life Top 100 Fund (G)	0.89	20.55	1.796053962	O.V	18.75394604
Canara Robeco Equity - Tax Saver (G)	0.64	10.43	3.504132331	O.V	6.925867669
DSP BR India T.I.G.E.R. Fund (G)	0.82	0.02	2.299278015	**U.V**	-2.27927801
DSP BR Micro-Cap Fund (G)	0.68	9.67	3.246684827	O.V	6.423315173
Franklin Build India Fund (G)	0.77	0.94	2.629497346	**U.V**	-1.68949734
Franklin India Bluechip Fund - (G)	0.78	12.3	2.534756665	O.V	9.765243335
GS Nifty BeES	1.01	10.81	0.972908478	O.V	9.837091522
HDFC Cash Mgmt - Treasury Advantage (G)	0.00	6.34	7.881426413	**U.V**	-1.54142641
HDFC Mid-Cap Opportunities Fund (G)	0.67	13.07	3.309845281	O.V	9.760154719
HDFC Monthly Income Plan - LTP (G)	0.18	9.11	6.648424504	O.V	2.461575496
HDFC Short Term Opportunities Fund (G)	0.00	0	7.876620726	**U.V**	-7.87662072
ICICI Pru Balanced Fund - (G)	0.58	11.48	3.897512116	O.V	7.582487884
ICICI Pru Equity & Deriv -Volatility Advantage (G)	0.45	9.64	4.794115954	O.V	4.845884046
ICICI Pru Flexible Income Plan (G)	0.00	6.73	7.880739886	**U.V**	-1.15073988
ICICI Pru Focused Bluechip Equity Fund (G)	0.90	17.989	1.740445301	O.V	16.2485547
ICICI Pru Liquid Plan (G)	0.00	6.56	7.88211294	**U.V**	-1.32211294
ICICI Pru MIP 25 (G)	0.21	6.83	6.423243755	**P.V**	0.406756245
IDFC Cash Fund - Plan C (G)	0.00	6.55	7.881426413	**U.V**	-1.33142641
IDFC Dynamic Bond Fund - B (G)	-0.01	5.86	7.996076368	**U.V**	-2.13607636
IDFC G Sec Fund - Invst Plan - A (G)	-0.03	5.65	8.069534722	**U.V**	-2.41953472
IDFC G Sec Fund - Invst Plan - B (G)	-0.03	10.1	8.068161669	O.V	2.031838331
IDFC G Sec Fund - PF (G)	-0.01	5.81	7.968615301	**U.V**	-2.15861530
IDFC Premier Equity Fund - Plan A	0.72	12.97	2.92195771	O.V	10.04804229

(G)					
JM Short Term Fund - (G)	0.00	12.96	7.88417252	O.V	5.07582748
Kotak Nifty ETF	1.01	10.75	0.978400692	O.V	9.771599308
LIC NOMURA MF Income Plus Fund (G)	0.00	6.11	7.88005336	**U.V**	-1.77005336
LIC NOMURA MF Savings Plus Fund (G)	0.00	6.18	7.878680306	**U.V**	-1.69868030
Mirae Asset India Opportunities Fund (G)	0.88	14.94	1.864020103	O.V	13.0759799
Peerless Short Term Fund (G)	-0.01	0	7.968615301	**U.V**	-7.96861530
Reliance Equity Opportunities Fund (G)	0.80	14.73	2.437269877	O.V	12.29273012
Reliance Pharma Fund (G)	0.49	11.81	4.540101084	O.V	7.269898916
Religare Credit Opportunities Fund (G)	0.00	5.82	7.868382406	**U.V**	-2.05
SBI Dynamic Bond Fund (G)	0.01	6.42	7.855338399	**U.V**	-1.435338399
SBI Magnum Income Fund - (G)	0.01	4.64	7.855338399	**U.V**	-3.21533839
SBI Magnum MIP Floater (G)	0.12	6.59	7.100159056	**P.V**	-0.51015905
Sundaram Flexible - STP - IP (G)	0.00	5.57	7.86769588	**U.V**	-2.29769588
UTI-Equity Fund (G)	0.83	14.14	2.168837947	O.V	11.97116205
UTI-India LifeStyle Fund (G)	0.82	14.44	2.280741795	O.V	12.15925821
UTI-Liquid – Cash Plan - Inst (G)	0.00	6.5	7.88211294	**U.V**	-1.38211294
UTI-Liquid – Cash Plan (G)	0.00	5.95	7.883485993	**U.V**	-1.93348599
UTI-MNC Fund (G)	0.51	15.68	4.371902048	O.V	11.30809795
UTI-Opportunities Fund (G)	0.82	13.16	2.254653781	O.V	10.90534622
UTI-Treasury Advantage Fund - Inst (G)	0.00	6.71	7.88005336	**U.V**	-1.17005336
UTI-Treasury Advantage Fund (G)	0.00	6.2	7.881426413	**U.V**	-1.68142641

The above table (5.50) indicates the value related to capm return and incremental return for the FY 2011. Out of 51 selected mutual fund schemes 25 schemes are over valued, 24 schemes are under valued and 2 schemes are properly valued.

For the FY2012 from the 51 selected schemes 31 schemes are over valued, 11 schemes are under valued, 8 schemes are properly valued and only 1 scheme is highly over valued.

The following table (5.51) indicates the incremental value and capm return, it also shown the nature of the selected mutual fund schemes

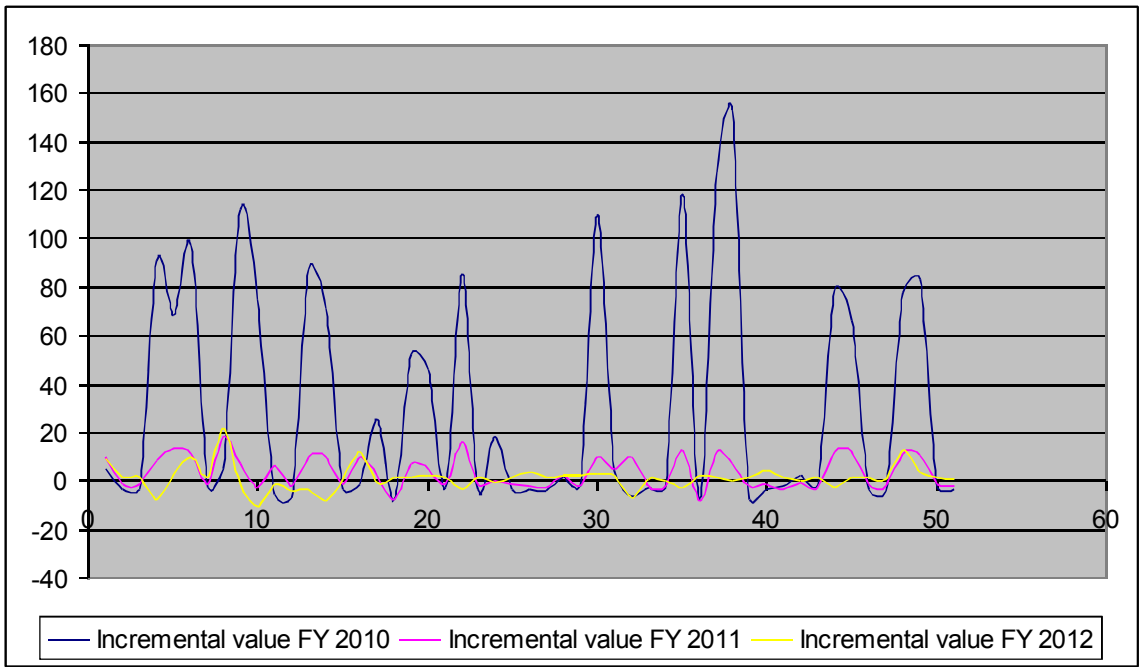
(Table: 5.51 Incremental return value as per CAPM for FY 2012)

Name of the schmes	Beta	Actual Rate of return (%)	CAPM Return (%)	Nature	Incremental value
AXIS Long Term Equity Fund (G)	0.75	10.83	1.424324	O.V	9.405676
Baroda Pioneer Liquid Fund (G)	0.00	9.44	7.9086486	O.V	1.5313514
Birla Sun Life Cash Plus - (G)	0.00	9.46	7.907783	O.V	1.552217
Birla Sun Life Frontline Equity Fund - Plan A (G)	0.84	-7.21	0.614108	**U.V**	-7.824108
Birla Sun Life India GenNext Fund (G)	0.65	5.38	2.2553147	O.V	3.1246853
Birla Sun Life MNC Fund - B (G)	0.43	14.08	4.1821745	O.V	9.8978255
Birla Sun Life Savings Fund - (G)	0.00	9.52	7.9060518	O.V	1.6139482
Birla Sun Life Top 100 Fund (G)	0.83	23.08	0.6824916	**H.O.V**	22.397508
Canara Robeco Equity - Tax Saver (G)	0.68	0.93	2.0146737	**U.V**	-1.084674
DSP BR India T.I.G.E.R. Fund (G)	0.83	-9.7	0.6894166	**U.V**	-10.38942
DSP BR Micro-Cap Fund (G)	0.60	1.29	2.677735	**U.V**	-1.387735
Franklin Build India Fund (G)	0.73	-2.76	1.5835972	**U.V**	-4.343597
Franklin India Bluechip Fund - (G)	0.80	-2.26	0.9473699	**U.V**	-3.20737
GS Nifty BeES	1.00	-9.2	-0.7734734	**U.V**	-8.426527
HDFC Cash Mgmt - Treasury Advantage (G)	0.00	8.9	7.9086486	**P.V**	0.9913514
HDFC Mid-Cap Opportunities Fund (G)	0.59	15.02	2.7616997	O.V	12.2583
HDFC Monthly Income Plan - LTP (G)	0.19	5.52	6.2804261	**P.V**	-0.760426
HDFC Short Term Opportunities Fund (G)	0.00	9.56	7.907783	O.V	1.652217
ICICI Pru Balanced Fund - (G)	0.53	5.18	3.3485869	O.V	1.8314131
ICICI Pru Equity & Deriv -Volatility Advantage (G)	0.45	5.98	3.9631738	O.V	2.0168262
ICICI Pru Flexible Income Plan (G)	0.00	9.49	7.9095142	O.V	1.5804858
ICICI Pru Focused Bluechip Equity Fund (G)	0.85	-2.98	0.5483213	**U.V**	-3.528321
ICICI Pru Liquid Plan (G)	0.00	9.37	7.9017237	O.V	1.4682763
ICICI Pru MIP 25 (G)	0.20	5.92	6.1453901	**P.V**	-0.22539
IDFC Cash Fund - Plan C (G)	0.00	9.41	7.9025893	O.V	1.5074107
IDFC Dynamic Bond Fund - B (G)	-0.01	11.32	7.9501982	O.V	3.3698018
IDFC G Sec Fund - Invst Plan - A	-0.02	9.83	8.0713843	O.V	1.7586157

(G)					
IDFC G Sec Fund - Invst Plan - B (G)	-0.02	10.22	8.0722499	O.V	2.1477501
IDFC G Sec Fund - PF (G)	-0.02	10.04	8.0679218	O.V	1.9720782
IDFC Premier Equity Fund - Plan A (G)	0.57	5.86	2.9729099	O.V	2.8870901
JM Short Term Fund - (G)	0.00	10.16	7.9103798	O.V	2.2496202
Kotak Nifty ETF	1.01	-7.66	-0.8072324	**U.V**	-6.852768
LIC NOMURA MF Income Plus Fund (G)	0.00	8.66	7.9086486	**P.V**	0.7513514
LIC NOMURA MF Savings Plus Fund (G)	0.00	8.22	7.9069174	**P.V**	0.3130826
Mirae Asset India Opportunities Fund (G)	0.83	-2.24	0.7058633	**U.V**	-2.945863
Peerless Short Term Fund (G)	0.00	10.29	7.9069174	O.V	2.3830826
Reliance Equity Opportunities Fund (G)	0.77	2.59	1.2676476	O.V	1.3223524
Reliance Pharma Fund (G)	0.43	4.55	4.1414906	**P.V**	0.4085094
Religare Credit Opportunities Fund (G)	0.00	9.42	7.907783	O.V	1.51
SBI Dynamic Bond Fund (G)	-0.02	12.64	8.0506095	O.V	4.5893905
SBI Magnum Income Fund - (G)	-0.01	9.73	8.0237755	O.V	1.7062245
SBI Magnum MIP Floater (G)	0.06	7.33	7.4091886	**P.V**	-0.079189
Sundaram Flexible - STP - IP (G)	0.00	9.68	7.9155735	O.V	1.7644265
UTI-Equity Fund (G)	0.76	-1.14	1.3100628	**U.V**	-2.450063
UTI-India LifeStyle Fund (G)	0.70	3.37	1.8701159	O.V	1.4998841
UTI-Liquid - Cash Plan - Inst (G)	0.00	9.33	7.9025893	O.V	1.4274107
UTI-Liquid - Cash Plan (G)	0.00	8.74	7.9017237	**P.V**	0.8382763
UTI-MNC Fund (G)	0.42	17.27	4.2323802	O.V	13.03762
UTI-Opportunities Fund (G)	0.72	5.61	1.6701588	O.V	3.9398412
UTI-Treasury Advantage Fund - Inst (G)	0.00	9.57	7.9086486	O.V	1.6613514
UTI-Treasury Advantage Fund (G)	0.00	9.1	7.907783	O.V	1.192217

From this result investors can invest their money in under valued schemes and properly schemes because as per CAPM model under valued schemes are still able to generate handsome amount of returns. On the second side over valued and highly over valued schemes have already generated higher amount of return so, immediately sell the schemes in the open market.

(Chart: 5.25 Incremental return value as per CAPM for FY 2010, FY 2011, FY 2012)



From the above Chart (5.25) shown the incremental return value as per capm model. Now the trend predicted form the above chart (5.25), result found that, during the FY 2010 incremental return value gap was quite large. For the FY 2011, it was found that incremental return value gap very small, while for FY 2012 the incremental return value gap was smallest and quite constant. Form the past track record, it would predict that, in next future incremental return value and capm return is nearer to same. It means all the selected mutual fund schemes are nearly properly valued.

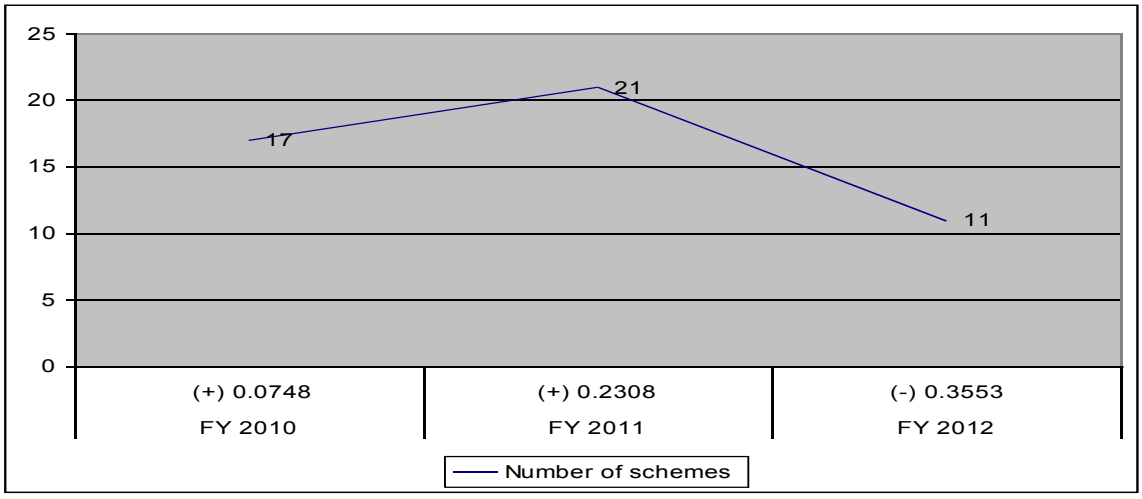
The following table (5.52) and Chart (5.26) shows Correlation of coefficient (R-Value) and number of schemes. As per CAPM model interesting result found from the present research that, in 2010, out of 51 schemes 17 schemes are

selected from under valued and highly over valued schemes and identifies the relationship between under valued and highly over valued schemes. Here result identified that under valued and highly over valued schemes are positively correlated with each other (R. = + 0.074814). In 2011 from the 51 mutual fund schemes, 21 schemes are selected from over valued and under valued schemes. The result found that over valued and under valued schemes are positively and strongly correlated with each other (R. = + 0.2308511). During 2012, out of 51 schemes 11 mutual fund schemes are selected from over valued and under valued category. The result drawn from the study that there over valued and under valued schemes are negatively correlated with each other (R. = - 3550).

(Table: 5.52 Correlation of coefficient for FY 2010, FY 2011, FY 2012)

Years	R: correlation of coefficient:	Number of schemes
FY 2010	(+) 0.0748	17
FY 2011	(+) 0.2308	21
FY 2012	(-) 0.3553	11

(Chart: 5.26 Correlation of coefficient and number of schemes for FY 2010, FY 2011, FY 2012)

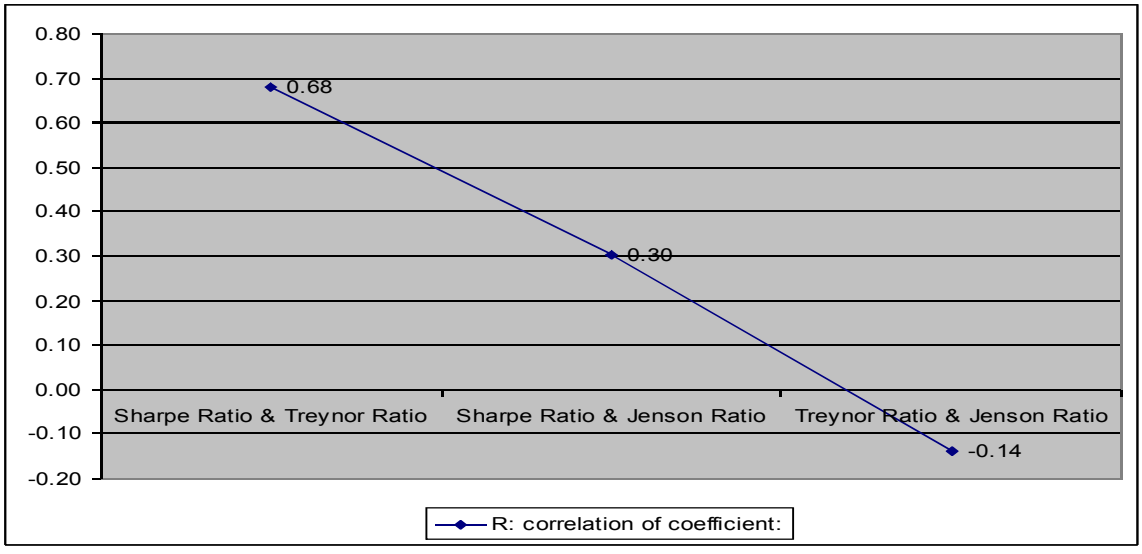


Research continues with the measurement of performance of 51 selected mutual fund schemes with the help of Sharpe model, Treynor model and Jenson model. From the table (5.53) and chart (5.27) shows the correlation of coefficient (R-value). The result found from the present study that in 2010, sharpe ratio and treynor ratio are positively and strongly correlated with each other (R. = + 0.6792) it means both model gives same result for mutual fund scheme selection, sharpe ratio and jenson ration are also positively correlated with each other (R. = + 0.3028) it means both model not exactly gives same result but up to some extent gives similar result and treynor ratio and jenson ratio are negatively correlated with each other (R. = - 0.13725).

(Table: 5.53 Correlation of Coefficient (R-Value) for FY 2010)

FY 2010	**R: correlation of coefficient:**
Sharpe Ratio & Treynor Ratio	0.6792
Sharpe Ratio & Jenson Ratio	0.3028
Treynor Ratio & Jenson Ratio	-0.13725

(Chart: 5.27 Correlation of Coefficient (R-Value) for FY 2010)

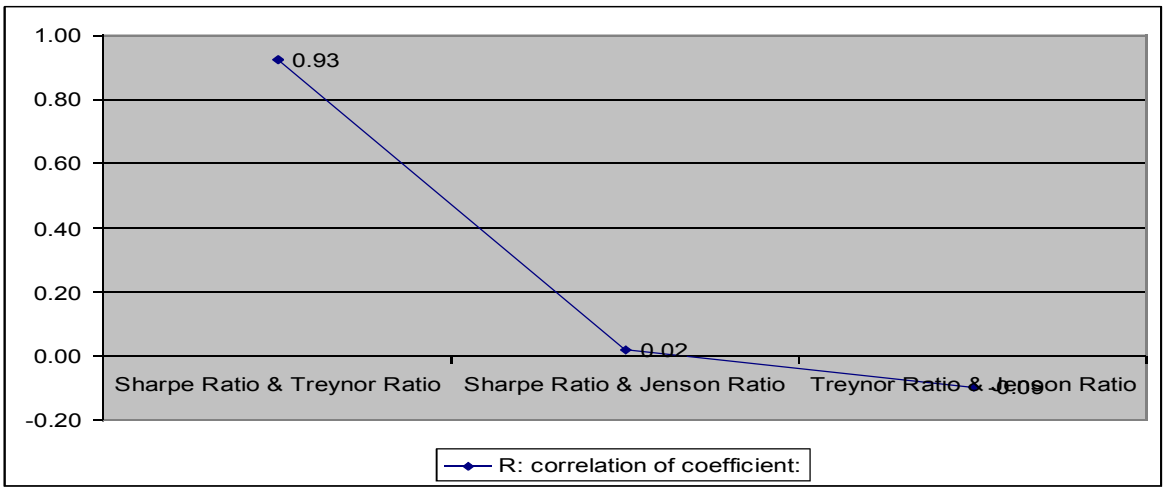


During 2011 the same research carried out and applied same models for performance evaluation of selected mutual fund schemes. The result found from the research that sharpe ratio and treynor ratio are positively and strongly correlated with each other (R. = + 0.92578) it means both model gives same result for mutual fund scheme selection, sharpe ratio and jenson ratio are slightly positive correlated with each other (R. = + 0.01785) it means both model not exactly gives same result but up to some extent gives common result, and treynor ratio and jenson ratio are slightly negative correlated with each other (R. = - 0.09436), it means both models gives different result for selection of mutual fund schemes. The following table (5.54) and chart (5.28) represented the same data for the same subject matter.

(Table:5.54 Correlation of Coefficient (R-Value) for FY 2011)

FY 2011	**R: correlation of coefficient:**
Sharpe Ratio & Treynor Ratio	0.92578
Sharpe Ratio & Jenson Ratio	0.01785
Treynor Ratio & Jenson Ratio	-0.09436

(Chart:5.28 Correlation of Coefficient (R-Value) for FY 2011)

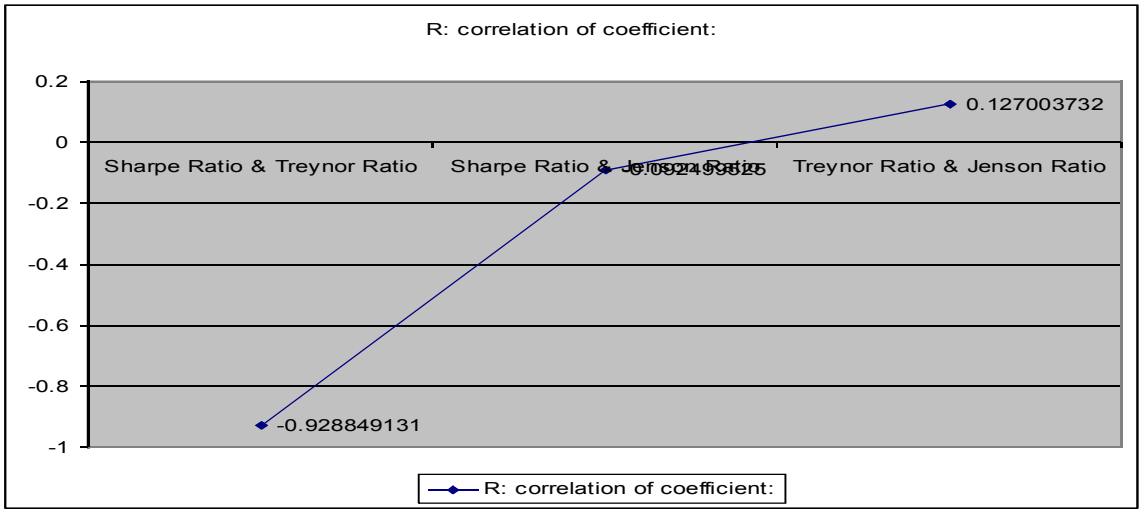


The following table (5.55) and chart (5.29) shows correlation of Coefficient (R-Value), the result found that, In 2012 the same fundament applies for performance evaluation of 51 selected mutual fund schemes. The present research found that sharpe ratio and treynor ratio are positively and strongly correlated with each other (R. = + 0.92885) it means both model gives same result for mutual fund scheme selection, sharpe ratio and jenson ration are negatively correlated with each other (R. = - 0.0925) it means both model not exactly gives same result and the interesting statistics shows in case of treynor ratio and jenson ratio both are positively correlated with each other (R. = + 127004), it means both models gives same result for selection of mutual fund schemes in 2012.

(Table:5.55 Correlation of Coefficient (R-Value) for FY 2011)

FY 2012	**R: correlation of coefficient:**
Sharpe Ratio & Treynor Ratio	-0.928849131
Sharpe Ratio & Jenson Ratio	-0.092499525
Treynor Ratio & Jenson Ratio	0.127003732

(Chart: 5.29 Correlation of Coefficient (R-Value) for FY 2012)



To check any significant difference between these three performance evaluation tools one sample T- test performed. The following table (5.56, 5.57 and 5.58) shows the one sample t test values.

(Table :5.56 one sample T-test for FY 2012 (sharpe ratio, jenson ratio & treynor ratio)

Performance Evaluation tools					**95% Confidence Interval of the Difference**	
	t	**df**	**Sig. (2-tailed)**	**Mean Difference**	**Lower**	**Upper**
Sharpe Ratio	5.550	50	.000	.33294	.2125	.4534
Jenson Ratio	-5.073	50	.000	-6.57235	-9.1745	-3.9702
Treynor Ratio	13.251	50	.000	.02196	.0186	.0253

(Table: 5.57 one sample T-test for FY 2011 (sharpe ratio, jenson ratio & treynor ratio)

Performance Evaluation tools					**95% Confidence Interval of the Difference**	
	t	**df**	**Sig. (2-tailed)**	**Mean Difference**	**Lower**	**Upper**
Sharpe Ratio	4.967	50	.000	.43204	.3105	.5534
Jenson Ratio	-5.125	50	.000	-6.7301	-9.1098	-4.5224
Treynor Ratio	12.251	50	.000	.03876	.0287	.0293

(Table: 5.58 one sample T-test for FY 2010 (sharpe ratio, jenson ratio & treynor ratio)

Performance Evaluation tools					**95% Confidence Interval of the Difference**	
	t	**df**	**Sig. (2-tailed)**	**Mean Difference**	**Lower**	**Upper**
Sharpe Ratio	3.876	50	.000	.2287	.1572	.2876
Jenson Ratio	-2.122	50	.000	-3.54901	-6.1745	-4.6032
Treynor Ratio	9.367	50	.000	.01298	.0186	.0213

Form the above tables (5.56, 5.57 and 5.58), the result found that, there is a significant difference between various performance evaluation tools, because for all the past three years, 2-tailed significant values are 0.000, which is less then 0.005 at 95% confidence levels. It means all the performance evaluation tools have a significant difference between them.