

## **PERFORMANCE EVALUATION OF MUTUAL FUND SCHEMES AND INVESTOR RISK PERCEPTION**

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### ***Abstract***

This research project delves into equity mutual funds, specifically assessing the performance of large-cap, mid-cap, and small-cap mutual funds while also exploring the landscape of investor risk perception. In the performance evaluation of mutual funds, analysis of different mutual funds was done based on returns and risk ratios such as alpha, beta, standard deviation, Treynor and Sharpe ratio. Under large-cap segment, the top performers emerged as HDFC Top 100 Fund, ICICI Prudential Blue-chip Fund, and Nippon India Large Cap Fund. In the mid-cap segment, HDFC Mid Cap Opportunities Fund, Kotak Emerging Equity Fund, and SBI Magnum Mid Cap Fund exhibited commendable performance, while in the small-cap segment, leading funds included SBI Small Cap Fund, HDFC Small Cap Fund, Nippon India Small Cap Fund, HSBC Small Cap Fund, and Quant Small Cap Fund. In the investor risk perception, a survey was conducted with questionnaire given to 197 people in Trivandrum who have mutual fund investment experience or possess basic investment knowledge. A profound inclination towards mutual funds was observed in contrast to traditional investment avenues such as bonds, stocks, and real estate. Most of the responders were having High or Medium risk perception score which explains their understanding and awareness about risk involved in the mutual funds and investments. Demographic factors such as age, gender, qualification, occupation and income have large influence on the risk perception of investors. The research uncovered a wide spectrum of investment objectives, underscoring the diverse nature of investor preferences. Notably, past fund performance significantly influenced investment decisions, as investors were keen on achieving higher returns while maintaining investment stability. In the process of fund selection, risk-adjusted metrics played a pivotal role, further emphasizing the importance of a calculated approach to mutual fund investments. This, research offers valuable insights for both mutual fund investors and industry professionals, enabling a better understanding of mutual fund performance and investor perception, thus paving the way for informed investment decisions and strategic management within the mutual fund sector.

**Keywords:** Mutual fund, investment, risk, demographic

## **Introduction**

Mutual funds have become a popular investment choice for both individual and institutional investors due to their diversification benefits and professional management. These funds pool money from multiple investors and invest in a diversified portfolio of assets such as stocks, bonds, or other securities. They offer investors the opportunity to access a wide range of assets without requiring significant capital or investment expertise.

The performance evaluation of mutual funds is crucial for investors as it allows them to gauge the historical returns and risk associated with a particular fund. Different mutual funds cater to investors with varying risk tolerances and investment objectives. Three common categories of mutual funds are large-cap, mid-cap, and small-cap funds, each investing in companies of different sizes. Large-cap funds typically focus on well-established, stable companies, while mid-cap and small-cap funds invest in medium-sized and smaller, potentially high-growth companies, respectively.

To assess the performance of these mutual fund schemes, several risk ratios are commonly used:

**Treynor Ratio:** Measures the excess return of a fund per unit of systematic risk, taking into account the beta of the fund.

**Sharpe Ratio:** Evaluates the risk-adjusted return of a fund by considering the excess return per unit of total risk (standard deviation).

**Alpha:** Represents the excess return of a fund compared to its benchmark, after adjusting for its beta and market-related risk.

**Beta:** Indicates the sensitivity of a fund's returns to market movements. A beta of 1 implies the fund moves in line with the market, while values above or below 1 indicate higher or lower volatility, respectively.

## **Problem Statement**

The problem addressed by this research project is to evaluate the performance of mutual fund schemes offered by various companies, categorized under large cap, mid cap, and small cap funds. The research aims to compare the returns and risk ratios of mutual funds such as Treynor, Sharpe, Alpha, and Beta. Additionally, the project seeks to gather insights into investors' risk perception towards different mutual fund and investments and examine the influence of factors that have impact on perception.

### **Objectives of the Study**

1. To study about the mutual fund schemes offered by various companies categorized under large cap, mid cap and small cap.
2. To evaluate and compare the performance of mutual fund schemes using returns and risk ratio.
3. To analyse investor risk perception towards mutual funds and investment decisions and assess the factors that impact their perception.

### **Literature Review**

**(Gaurav Agarwal, 2012)** – “Comparative study on performance evaluation of mutual fund schemes”: The global appeal of mutual funds as an investment instrument has risen significantly, experiencing substantial growth worldwide in recent years. With a long and successful history, mutual funds have garnered immense popularity among consumers. This surge in popularity is particularly evident in developed financial markets such as the United States, where mutual funds have nearly surpassed bank deposits and the total assets of insurance funds. In India, the mutual fund industry operates under the regulation of the Association of Mutual Funds in India (AMFI) and boasts a market size of approximately 493,287 crores. A remarkable 4.6 million investors have entrusted their resources to the wealth generation expertise offered by mutual funds. Consistently outperforming benchmark indices, mutual fund schemes have become the investment of choice for numerous individual and high-net-worth investors (HNIs). The research project titled "Comparative Study on Performance Evaluation of Mutual Fund Schemes" provides me with a unique opportunity to enrich my understanding of the mutual funds industry, gaining insights into the diverse business processes involved in serving various types of clients.

**(Erly Mulyani<sup>1</sup>, Halkadri Fitra, Fiola Finomia Honesty, 2021)** – “Investment Decisions: The Effect of Risk Perceptions and Risk Propensity for Beginner Investors in West Sumatra”: The study focuses on investment decisions made by investors, highlighting the influence of both accounting information and investor psychology. The dominance of personal psychology over public information often leads to hesitation in decision-making, potentially causing stock prices to deviate from their fair value. Specifically, the research targets students, who tend to make irrational investment decisions influenced by risk perceptions and risk propensity. The main objectives are to examine the impact of risk perceptions and risk propensity on investment decisions. The study employs a causative research approach, using a questionnaire for primary data collection. The participants are beginner investors in West Sumatra, meeting specific criteria, and the sample size is determined using the Slovin formula. The results indicate

a positive correlation between risk propensity and investment decisions, aligning with previous research findings on the relationship between these two variables.

### **Research Methodology**

Secondary data is collected from online websites and analysis is done for each of funds under large, mid and small cap.

Sampling Technique:

#### **1. Mutual Fund Performance Analysis:**

- Selection of top funds by AUM (asset under management) in each category (large, mid, small-cap) is done for performance analysis.
- Sample size is 10 funds per category.

#### **2. Investor Risk Perception:**

- Convenience sampling is done for risk perception analysis.
- Inclusion criteria is individuals who have invested in mutual funds or possess basic investment knowledge.
- Sample size is adequate number of respondents to ensure diversity.

Data Collection:

#### **1. Mutual Fund Performance Analysis:**

- Collection of historical fund performance data like returns, risk ratios, p/v, p/b ratios , NAV and AUM of top funds within each category

#### **2. Investor Risk Perception:**

- Survey with questionnaire on individuals having mutual fund investment experience to gather data on risk perception

### **Mutual Fund Performance Analysis**

**Large cap funds:**

No.	Scheme Name	Returns(%)						Year of launch
		1Y	2Y	3Y	5Y	10Y	Since Launch	
1	ICICI Prudential Bluechip Fund - Direct Plan - GrowthLarge Cap Fund	15%	12%	22%	13%	17%	15.31%	2008
2	SBI Blue Chip Fund - Direct Plan - GrowthLarge Cap Fund	13%	10%	21%	13%	18%	15.35%	2006
3	Mirae Asset Large Cap Fund - Direct Plan - GrowthLarge Cap Fund	11%	8%	19%	12%	19%	16.41%	2013
4	Axis Bluechip Fund - Direct Plan - GrowthLarge Cap Fund	4%	2%	15%	11%	16%	14.49%	2010
5	HDFC Top 100 Fund - Direct Plan - GrowthLarge Cap Fund	16%	14%	24%	12%	17%	13.75%	1996
6	Aditya Birla Sun Life Frontline Equity Fund - Direct Plan - GrowthLarge Cap Fund	12%	9%	21%	12%	16%	14.38%	2002
7	Nippon India Large Cap Fund - Direct Plan - GrowthLarge Cap Fund	21%	17%	27%	14%	19%	15.87%	2007
8	UTI Mastershare Unit Scheme - Direct Plan - GrowthLarge Cap Fund	9%	7%	19%	12%	16%	15.90%	1986
9	Canara Robeco Bluechip Equity Fund - Direct Plan - GrowthLarge Cap Fund	12%	7%	19%	14%	16%	13.61%	1987
10	Franklin India Bluechip Fund - Direct - GrowthLarge Cap Fund	10%	6%	20%	10%	15%	14.59%	1993

- When the above statistics were analysed, it was found that taking returns alone the funds - Nippon India large cap fund, ICICI, Prudential Blue-chip fund and HDFC top 100 fund performed well.
- When taking risk ratios alone, it was found that ICICI, Nippon and HDFC performed well
- When all the factors including pv ratio pb ratio with returns and risk were taken, overall HDFC, ICICI and Nippon performed very well.

#### Mid cap funds:

No.	Scheme Name	Returns(%)						Year of Launch
		1Y	2Y	3Y	5Y	10Y	Since Launch	
1	HDFC Mid-Cap Opportunities Fund - Direct Plan - GrowthMid Cap Fund	32%	22%	35%	18%	24%	20.74%	2007
2	Kotak Emerging Equity Fund - Direct Plan - GrowthMid Cap Fund	19%	16%	33%	19%	26%	20.48%	2013
3	Axis Midcap Fund - Direct Plan - GrowthMid Cap Fund	15%	9%	26%	17%	23%	19.14%	2011
4	Nippon India Growth Fund - Direct Plan - GrowthMid Cap Fund	26%	18%	34%	19%	22%	17.76%	1995
5	DSP Midcap Fund - Direct Plan - GrowthMid Cap Fund	19%	9%	22%	14%	23%	17.47%	2006
6	SBI Magnum Midcap Fund - Direct Plan - GrowthMid Cap Fund	19%	18%	36%	19%	24%	19.94%	2005
7	Mirae Asset Midcap Fund - Direct Plan - GrowthMid Cap Fund	21%	15%	34%	-	-	28.34%	2019
8	PGIM India Midcap Opportunities Fund - Direct Plan - GrowthMid Cap Fund	9%	11%	34%	21%	-	19.04%	2013
9	Franklin India Prima Fund - Direct - GrowthMid Cap Fund	22%	12%	27%	14%	22%	18.40%	1993
10	UTI Mid Cap Fund - Direct Plan - GrowthMid Cap Fund	19%	13%	30%	17%	24%	19.65%	2005

- When the above statistics were analysed, it was found that taking returns alone the funds - HDFC Mid cap opportunities fund, SBI Magnum midcap fund and Nippon fund performed well.

- When taking risk ratios alone it was found that HDFC, Kotak, SBI performed well
- When all the factors including pv ratio pb ratio with returns and risk were taken , overall HDFC, Kotak and SBI performed very well.

### Small cap funds:

No.	Scheme Name	AuM (Cr)	Returns(%)						Year of Launch
			1Y	2Y	3Y	5Y	10Y	Since Launch	
1	Nippon India Small Cap Fund - Direct Plan - GrowthSmall Cap Fund	34,468.92	36%	26%	45%	23%	31%	26.37%	2010
2	HDFC Small Cap Fund - Direct Plan - GrowthSmall Cap Fund	21,066.56	39%	24%	42%	19%	23%	20.45%	2008
3	SBI Small Cap Fund - Direct Plan - GrowthSmall Cap Fund	20,017.77	20%	19%	34%	20%	29%	25.90%	2009
4	Axis Small Cap Fund - Direct Plan - GrowthSmall Cap Fund	15,025.00	24%	18%	36%	24%	-	24.78%	2013
5	DSP Small Cap Fund - Direct Plan - GrowthSmall Cap Fund	11,651.12	30%	21%	37%	20%	28%	22.64%	2007
6	Kotak Small Cap Fund - Direct Plan - GrowthSmall Cap Fund	11,597.03	20%	16%	40%	23%	26%	20.73%	2005
7	HSBC Small Cap Fund - Direct Plan - GrowthSmall Cap Fund	10,766.46	33%	25%	44%	19%	-	22.71%	2014
8	Franklin India Smaller Companies Fund - Direct - GrowthSmall Cap Fund	9,103.82	39%	23%	41%	18%	25%	21.68%	2006
9	Canara Robeco Small Cap Fund - Direct Plan - GrowthSmall Cap Fund	7,145.01	19%	21%	41%	-	-	28.75%	2019
10	Quant Small Cap Fund - Direct Plan - GrowthSmall Cap Fund	6,779.64	39%	24%	51%	30%	18%	17.65%	1996

- When the above statistics were analysed, it was found that taking returns alone the funds - Nippon India small cap fund, HDFC small cap fund and HSBC performed well.
- When taking risk ratios alone it was found that Nippon, SBI and Kotak performed well
- When all the factors including PV ratio pb ratio with returns and risk were taken, overall HDFC, HSBC, Quant small cap fund, Nippon and SBI performed very well.

### Risk Perception Analysis

A sample of almost 200 individuals were selected for the risk perception analysis. The data was given to individuals who have prior experience in investment in market or have some knowledge about current market conditions.

A questionnaire was prepared to get the responses of the individuals. The questionnaire included general investment perception and risk related questions. Different points were set for each question and the investor had to select from the options. After all the questions were answered, a perception score was

given to them. This score was analysed with their age, gender, qualification, occupation and income. The investor related questions were also analysed.

From the questionnaire given to each investor, based on his/her selection to questions, an overall score was generated, which is his/her perception score.

It was found out that the lowest perception score was 57 and the highest score was 310. Based on these values the whole score was divided into 3 parts which are Low risk perception, medium risk perception and high-risk perception.

Low Risk Perception – Score of 150 and less

Medium Risk Perception – Score between 151 and 200

High Risk Perception – Score above 200

**The findings are given below**

**1. Investment in financial instruments**

Large number of respondents invested in mutual funds which is around 80% followed by stocks with 37%. Individuals also have adequate investments in gold and government bonds.

Much less in real estate with 11%.

**2. Mutual fund investment objective.**

The mutual fund objectives of individuals were almost equally divided. Slight majority wanted protection of their investments, some wanted moderate growth and some wanted long term growth. So the investment objectives are quite different for the respondents.

**3. The investor opinion towards the importance of past performance of mutual funds for making investment decisions.** Majority of the investors agreed that past performance matters in taking investment decision. Past performance is a major factor for investment decisions.

**4. Comfortability for taking higher risks**

Majority of people agreed they are comfortable in taking risks which is around 40%.

They might be knowing that with adequate risk, it can lead to more returns.

**5. Importance of stability of investments and unaccepting fluctuation**

Investors disagreed that they are against unaccepting fluctuations. They are open to fluctuations as it can lead to good returns in future. A small 5 % agreed to unaccepting fluctuations

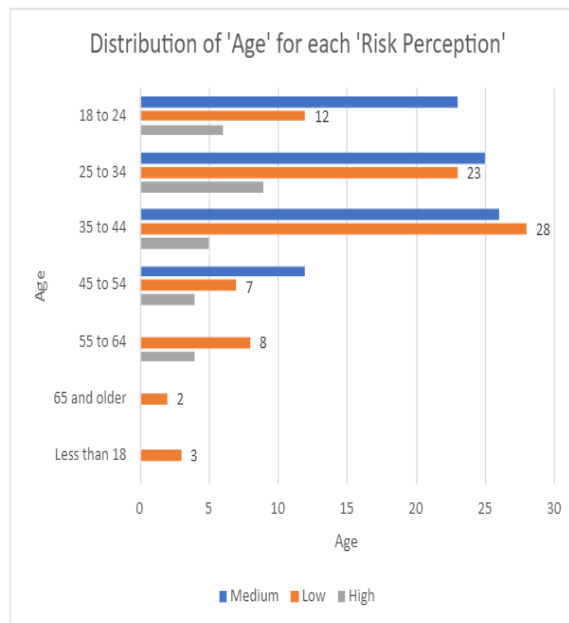
They will be knowing that fluctuation can be ok for investments and for long term it will be good only.

## Interpretations

### 1. Age and risk perception

Distribution of 'Age' for each 'Risk Perception'

Count of Age	Risk Perception	Low	High	Grand Total	
18 to 24	Medium	23	12	6	41
25 to 34	Medium	25	23	9	57
35 to 44	Medium	26	28	5	59
45 to 54	Medium	12	7	4	23
55 to 64	Medium	8	4		12
65 and older	Medium	2			2
Less than 18	Medium	3			3
<b>Grand Total</b>		<b>86</b>	<b>83</b>	<b>28</b>	<b>197</b>

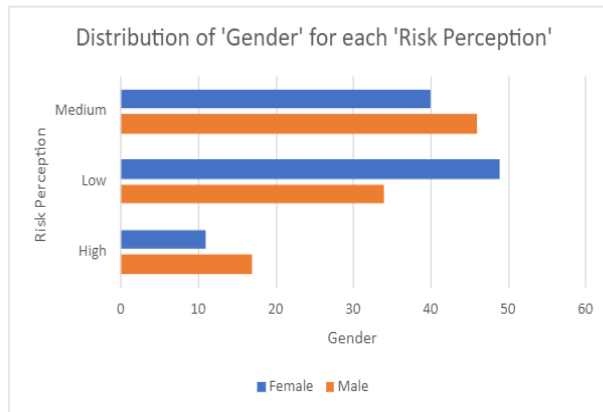


When age and the risk perception was compared, high risk perception were highest for the age group 25 to 34 and the low-risk perception were highest for age group 35 to 44. So, it can be interpreted that investors in the age group 25 to 34 tend to take more risks for having more returns. Investors in the age group 35 to 44, comparatively tend to invest less.

## 2. Gender and risk perception

Distribution of 'Gender' for each 'Risk Perception'

Count of Gender	Gender			
Risk Perception	Female	Male	Grand Total	
Medium	40	46	86	
Low	49	34	83	
High	11	17	28	
<b>Grand Total</b>	<b>100</b>	<b>97</b>	<b>197</b>	

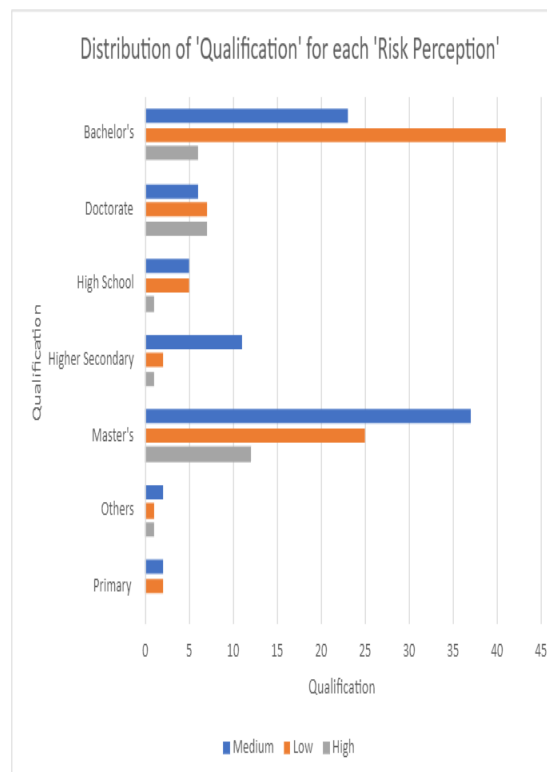


When gender and the risk perception was compared, high risk perception were highest for Male and the low-risk perception were highest for females. So, it can be interpreted that Male investors tend to take more risks for having more returns. Female investors comparatively tend to invest less.

## Qualification and risk perception

Distribution of 'Qualification' for each 'Risk Perception'

Count of Qualification	Risk Perception			
Qualification	Medium	Low	High	Grand Total
Bachelor's	23	41	6	70
Doctorate	6	7	7	20
High School	5	5	1	11
Higher Secondary	11	2	1	14
Master's	37	25	12	74
Others	2	1	1	4
Primary	2	2		4
<b>Grand Total</b>	<b>86</b>	<b>83</b>	<b>28</b>	<b>197</b>

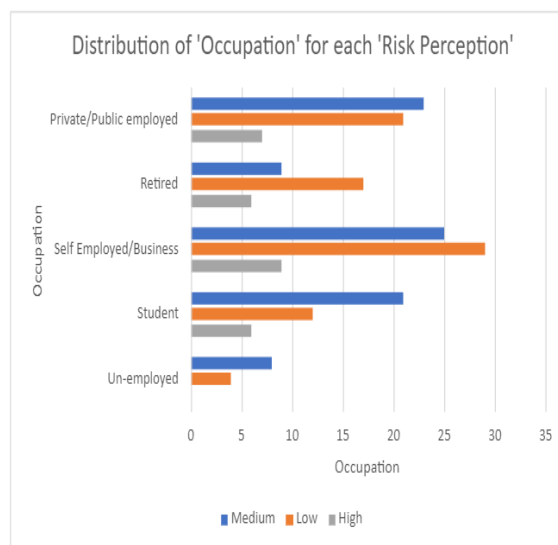


When qualification and the risk perception was compared, high risk perception were highest for Master's and the low-risk perception were highest for Bachelor's. So, it can be interpreted that investors who have master's qualification tend to take more risks for having more returns. Investors who have bachelor's degree, comparatively tend to invest less.

### Occupation and risk perception

*Distribution of 'Occupation' for each 'Risk Perception'*

Count of Occupation	Risk Perception	Low	High	Grand Total	
Private/Public employed	Medium	23	21	7	51
Retired	Medium	9	17	6	32
Self Employed/Business	Medium	25	29	9	63
Student	Medium	21	12	6	39
Un-employed	Medium	8	4		12
<b>Grand Total</b>		<b>86</b>	<b>83</b>	<b>28</b>	<b>197</b>

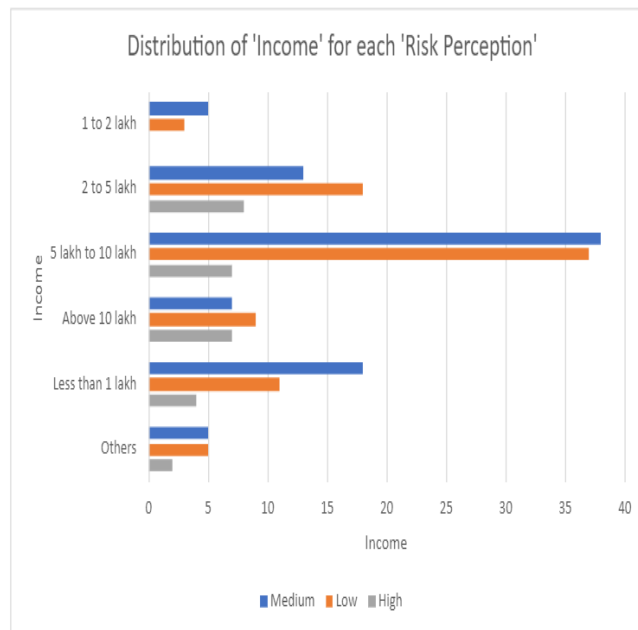


When occupation and the risk perception was compared, high risk perception were highest for Self-employed or business and the low-risk perception were also highest for business or self-employed investors. So, it can be interpreted that investors who have their own business or are self-employed tend to have taking more risks for having more returns and also is invest less.

## Income and risk perception

Distribution of 'Income' for each 'Risk Perception'

Count of Income	Risk Perception	Low	High	Grand Total
1 to 2 lakh	Medium	5	3	8
2 to 5 lakh	Medium	13	18	31
5 lakh to 10 lakh	Medium	38	37	75
Above 10 lakh	Medium	7	9	16
Less than 1 lakh	Medium	18	11	29
Others	Medium	5	5	10
Grand Total		86	83	169



When income and the risk perception was compared, high risk perception were highest for 2 to 5 lakh income and the low-risk perception were highest for 5 to 10 lakh income. So, it can be interpreted that investors having income 2 to 5 lakh tend to take more risks for having more returns. Investors having income 5 to 10 lakh, comparatively tend to invest less.

## Conclusion

From the performance analysis study of equity funds – large cap, mid cap and small cap, the following were found out:

- In large cap segment, the funds HDFC Top 100 fund, ICICI Prudential Blue-chip Fund and the Nippon India large cap fund are the leading players.
- In the mid cap segment, HDFC Mid cap opportunities fund, Kotak Emerging equity fund and SBI Magnum Mid cap fund were the leading ones.
- But in the small cap segment, there were quite number of leading players including SBI Small cap fund, HDFC small cap fund, Nippon India Small cap fund, HSBC Small cap fund and the Quant Small cap fund.

From the risk perception study various conclusions were found out:

- People have investments largely in mutual funds followed by bonds, stocks and real estates
- Their investment objectives are very much different to each other.
- The past performance of the funds largely influences their decision in investing.
- Investors are comfortable in taking risks for higher returns.
- But the fluctuations in their investment are not ok for them and they want stability of their invested amount.
- But in situations of market underperformance, they have not redeemed their investment and stick to their plans.
- They are not willing to keep their investment for more than 5 years.
- Majority were against in investing more when the market was down.
- Investors are influenced to switch to new fund due to mainly new fund's management and performance.
- If consistent underperformance of fund happens, then they are willing to opt out from mutual fund investment
- Majority are comfortable in investing in mid and small cap funds.
- Investors tend to buy funds with higher Treynor ratio, better Sharpe ratio, positive alpha value and lower standard deviation.
- All the risk ratios were almost selected by investors for mutual fund information.
- Majority chose HDFC Top 100 fund, ICICI Prudential Blue-chip Fund and the Nippon India large cap fund under current market conditions in large cap funds
- Most of investors chose HDFC Mid cap opportunities fund, Kotak Emerging equity fund and SBI Magnum Mid cap fund under current market conditions in mid cap funds
- Investors chose SBI Small cap fund, HDFC small cap fund and the Quant Small cap fund under current market conditions in small cap fund.
- Males were having high risk perception when compared to female, so they tend to have clear clarity and assessment of risk and other investment related decisions
- The age group of 25-34 has better understanding on decisions on investments.
- Investors with qualification of masters tend to have better perception towards investment decisions.
- Investors who are self-employed or have own business has more knowledge and perception towards investments.

- People with income of 2 to 5 lakh have better risk perception.

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