

A Study on Performance evaluation of Mutual Funds in India

KRISHNA SAMADDAR

Assistant Teacher in Commerce, Naihati Mahendra High School,
UGC NET Qualified
Naihati, North 24 Parganas, West Bengal, India.

Abstract: *Mutual fund is the trust that pulls the saving of large number of investors who share a common financial goal. Mutual funds have become a widely popular and effective way for investors to participate in financial markets. Investors invest into different securities like shares bonds and short term securities like certificate of deposit, Commercial paper etc. and commodities. Mutual funds are one of the best investment procedures because they are very cost efficient and very easy to invest. The mutual fund industry in India began with setting up to the Unit Trust of India (UTI) in 1964. Indian mutual fund industry has grown tremendously over the last two decades. The present paper investigates the performance of open ended growth oriented to 10 equity mutual fund schemes for the period from, April 2017 to march 2018. Monthly closing NAV of different schemes have been used to calculate the returns from the fund schemes. Nifty 50 has been used for market portfolio. Various performance measures like sharp measure, Treynor measure and Jensen alpha are being used to compare the performance. The study finds that overall all the schemes provide higher and better average return than the market. HDFC small cap fund is the best performer with higher return and lower risk is good for investors.*

Key words: *Mutual fund, Return, Net Assets Value (NAV), Sharp ratio, Treynor ratio, Jensen alpha.*

Introduction:

A Mutual fund is the trust that pulls the saving of large number of investors who share a common financial goal. Mutual funds have become a widely popular and effective way for investors to participate in financial markets in an easy lowest fashion, while muting risk feature by spreading the investment across different types of securities, also called as diversification mutual fund is managed by a professional fund manager, who is responsible for implanting a fund investing strategy and managing its portfolio trading activities. Any investor can invest minimum amount that is affordable and diversity their portfolio in different sectors depending upon their interests and risks. A mutual fund is pure intermediary which performs basic function of buying & selling security on behalf of its investors or unit holders. The collected money is invested in capital market instruments, such as investment in others financial assets(stock market, Debenture, Bonds, Treasury bills etc.) and other nonfinancial assets (Post office certificate, Bank deposits, Pension scheme, Real estate etc.) to avoid risk. The main objectives of the investor are to minimize the risk and maximize the return. In recent decades mutual funds represent the most investment opportunities for most investors.

The mutual fund industry is a fast growing sector of the Indian financial markets. They have become the major vehicle for mobilization of saving. The mutual fund industry in India began with setting up the Unit Trust of India (UTI) in 1964 by the Government of India. In 1987 Public sectors banks and two in company (LIC, GIC) were allowed to launch mutual fund. SEBI, regulatory body for Indian capital market, allowed private corporate bodies to launch mutual fund scheme in 1993. Opening up the industry door to private sector banks and financial institution in 1993 had ushered in a new era in the evolution of Indian mutual fund sector. Thus mutual funds industry has moved from offering a handful of schemes like equity, debt or balanced funds to liquid, money market sector specific funds, index funds and gilt fund, etc.

Types of mutual fund schemes:-

The mutual funds can be classified under the following types-

A. According to maturity period:-

Open ended Fund: An open ended fund is a fund that is available for subscription and can be redeemed on a continuous basis. It is available for subscription throughout the year and investors can buy and sell units at NAV related prices. These funds do not have a fixed maturity date. The key feature of an open ended fund is liquidity.

Closed ended Fund: A close ended fund is a fund that has a defined maturity period 3-6 years. These funds are open for subscription for a specific period at the time of initial launch. These funds are listed on a recognized stock exchange.

Interval funds: Interval funds combine the features of open ended and closed ended funds. These funds may trade on stock exchange and are open for sale or redemption at predetermined intervals on the prevailing NAV.

B. According to Investment objectives:

Equity /Growth fund: Equity funds invest a major part of its corpus in stock and investment objectives of these funds are long term capital growth. When you buy shares of equity mutual funds, you effectively become a part owner of each of the securities in your fund's portfolio. Equity funds invest minimum 65% of its corpus in equity and equity related securities. These funds may

invest in a wide range of industries or focus on one or more industry sectors. These types of funds are suitable for investors with a long term outlook and higher risk appetite.

Debt income funds: Debt fund generally invest in securities such as bonds, corporate debenture, government securities (gilt) and money market instruments. These funds invest minimum 65% of its corpus in fixed income securities. By investing in debt instrument these funds provide low risk and stable income to investors with preservation of capital. These funds produce regular incomes. These funds are suitable for investors whose main objectives are safety of capital with moderate growth.

Balanced funds: Balanced funds invest in both equities and fixed income instruments as in line with the predetermined investment objectives of the scheme. These funds provide both stability of returns and capital appreciation to investors. These funds with equal allocation to equities and fixed income securities are ideal for investors looking for a combination of income and moderate growth. They generally have an investment pattern of investing around 60% in equities and balanced 40% in debt instrument.

Money market/ Liquid fund: Money market or liquid funds invest is safer than short term instruments such as treasury Bills, Certificates of Deposits and Commercial paper for a period of less than 91 days. The aim of money market funds is to provide easy liquidity preservation of capital and moderate Income. These funds are ideal for corporate and individual investors looking for moderate returns on their surplus funds.

Gilt fund: Gilt funds invest exclusively in government securities. Although these funds carry no credit risk, they are associated with interest rate risk. These funds are safer as they invest in government securities.

Tax saving (equity linked savings scheme) funds: Tax saving scheme offer tax rebates to investor under specific provision of the income tax Act, 1961. These are growth oriented schemes and invest primarily in equities like an equity scheme. They largely suit investors having a higher risk appetite and aim to generate capital appreciation over medium to long term.

Index funds: An Index scheme replicates the performance of a particular index such as the BSE sensex or the S&P CNX Nifty. The portfolio of these schemes consists of only those stocks that represent the index and the weightage assigned to each stock is aligned to the stocks weightage in the index. Hence the returns from these funds are more or less similar to those generated by the index.

Sector Specific funds: Sector specific funds invest in the securities of only those sectors or industries as specified in the scheme information document. The returns in these funds are dependent on the performance of respective sector or industries for example FMCG, Pharma, IT, etc.

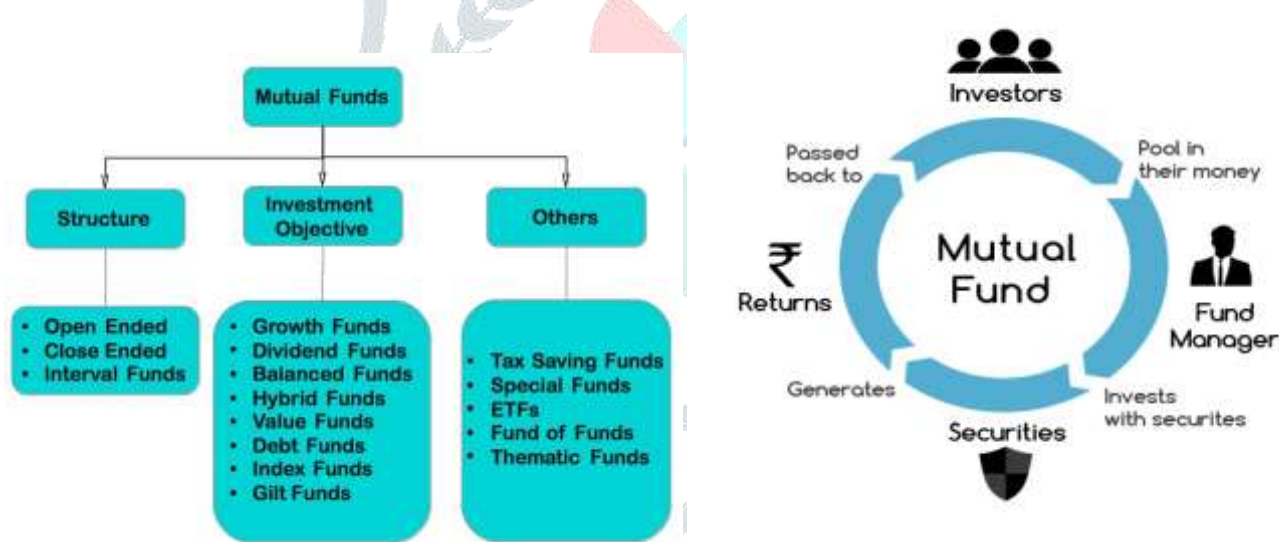


Figure 1: structure of Mutual Fund

Review of Literature:

N. Bhagyasree, Mrs B. Kishori (2016): Evaluates the performance of 30 open ended growth oriented equity scheme for the period from April, 2011 to March, 2015 of transition economy. The study revealed that 14 out of 30 mutual fund scheme had outperformed the benchmark return. Daily closing NAV of different schemes have been used to calculate the return from the fund scheme. BSE sensex has been used for market portfolio.

Muralidhar Prasad Ayluru (2016): "Performance Analysis of Mutual funds : Selected Reliance Mutual fund scheme" In this study 10 top performing schemes offered by Reliance mutual fund are selected to make a comparative study on the risk and return offered by these funds from the studying it is observed that among the selected funds reliance small cap funds is considered as a fund with moderate risk as well as moderate returns, against which the Reliance bank funds considered as high risk with high returns.

Dr. V Ramanujam, A Bhuvanewari (2015): This study attempts to analyses growth of mutual funds for last twelve year period i.e., march, 2000 to March, 2011. Growth of Indian mutual fund is presented by the parameters 1. Growth of Assets under management, 2. Assets under

Management Institution wise, 3. Sector wise mutual fund sales, 4. Sector wise redemption of mutual fund, 5. Scheme wise research mobilization by mutual fund and total no of scheme.

Dr. M. M. Goyal (2015): The study evaluates the performance of top 10 mutual funds as per Crisil September, 2014 ranking and also compares it with the benchmarks index i.e., S&P CNX Nifty various absolute and relative performance measure like Sharp measure, Treynor measure and Jensen Alfa is being used to compare the performance. The study finds that overall all the schemes provide higher and better average return than the market.

Taj Singha, Priyanka (2014): Analyzed the private sector of mutual funds are gaining more in terms of scale of mobilization of funds compared to that the public sector mutual funds. The study reveals that the private sector mutual funds are gaining more in terms of scale of mobilization of funds. Compared to that of public sector. The gap is reaching up to 81 percent in 203-04 from 31 percent in 1998-99 and finally settled at 54 percent in 2009-10.

Md Zaheeruddin, P Sivakumar, K. S. Reddy (2013): In this study they evaluate the performance of mutual funds based on their fund return, risk and performance ratio. Three financial intermediaries were considered from financial services sector to analyze the performance of mutual funds of the companies. The company names are HDFC, Birla sun life & ICICI.

Dr. R Narayanswami, V. Rathnamini (2013): Evaluate the performance selected equity large cap mutual funds schemes in terms of risk return relationship. The performance analyses of the selected five equity are large cap funds. The study may conclude that all the funds have performed well in the high volatile market movement expect Reliance vision.

Sahil jain (2012): "Analysis of equity based mutual funds in India" In this paper an attempt has been made to analyze the performance of equity based mutual funds. The analysis has been made using the risk return relationship and capital Assets Pricing Model (CAPM). The study period April, 1997 to April, 2012 for 15 years. The overall analysis finds that HDFC & ICICI have been best performances, UTI an average performance and LIC the worst performance which gave below expected returns on the risk return relationship.

Satya Swarup Debasish (2009): Studied that the performance of selected scheme of mutual fund based on risk return relationship models and measures. This paper concluded as in times of high stock market volatility, mutual funds are the best source of investment with assured and adequate returns provided the selection of mutual funds is in the right direction. The study covered the period from April, 1996 to March, 2009. The analysis was done on the basis of mean, return, Beta risk, Co-efficient of determination, Sharp ratio, Treynor ratio, and Jensen Alpha.

Importance of the study:

The present study can be great helpful to research agencies, academicians, mutual funds investors, business school students, mutual funds companies etc. The study focuses on the present and future scenario in the mutual funds industry which is concern with the rapidly changes capital market with respect to the investors preference. From the study the investor invests select investment area of mutual fund.

Objective of the study:

The study has set the following specific objectives—

1. To study the performance of selected open ended equity diversified funds in India.
2. To study the change in investment pattern.
3. To measure the risk returns relationship and market volatility of the selected mutual funds.
4. To examine the performance of selected portfolio by performance evolution model namely Sharp, Treynor and Jensen Alfa.
5. To evaluate the performance of equity mutual fund scheme understand the impact of benchmark index on mutual fund performance.

Research Methodology:

The paper evaluates the performance of ten selected equity diversified mutual funds in India as per Crisil ranking namely HDFC small cap fund, INVESCO India contra fund, Principal emerging bluchip fund, Principal Multicap Growth fund, Tata Equity P-E fund, Sundaram Rural India fund, Axis focus 25 fund, ABSL India Gen nest fund, IDFC core Equity fund and BNP Paribas multicap fund. Nifty 50 which is a portfolio of stock of leading and nationally owned companies and has been used as a proxy for market.

The monthly closing data of NAV's of the top 10 Equity diversified mutual funds are collected from Selected Portfolio websites from period of 1st April, 2017 to 30th March, 2018. The data of the closing share prices of Nifty 50 are collected from NSE India website. Total return is calculated as the average of the simple percentage return which is calculated as $(P_t - P_{t-1})/P_{t-1}$. In this study risk free rate is taken as the PPF rate of India. This is collected from PPF website. Descriptive statistics and risk adjusted measure are used to compare the performance of the top 10 mutual funds.

Tools & technique used:

Analysis has been done by using following statistical tools---

1. **Sharp Ratio:** It is also known as Sharpe index reward to variability ratio, sharp measure. It indicates the risk return performance of portfolio. Which is indicated by portfolio σ

$$\text{Sharp Ratio} = (R_p - R_f) / \sigma_p$$

R_p = Return on portfolio, R_f = Risk free rate, σ_p = Standard deviation of portfolio.

2. **Treynor ratio:** It is also known as Treynor measure or reward to volatility ratio. It measures the return earned in excess of that which could be earned on investment that has no diversifiable risk which is indicated by portfolio β . Beta is used as a measure of volatility

$$\text{Treynor Ratio} = (R_p - R_f) / \beta_p$$

R_p = Return on portfolio, R_f = Risk free rate, β_p = Portfolio beta

3. **Jenson Measure:** It measures the risk adjusted performance of a portfolio in relation to the expected market return. Which is indicated by portfolio α

$$\text{Jenson Ratio } (R_p - (R_f + \beta_p * (R_m - R_f)))$$

R_p = Return on portfolio, R_f = Risk free rate, β_p = Portfolio beta. R_m = Return on Market.

A positive α indicates good performance and a negative α indicates poor performance of portfolio.

4. **Standard deviation:** It shows the historical volatility

$$\sigma_p = \sqrt{\sum (R - R_p)^2 / N}$$

5. **Beta:** It measures the volatility of a portfolio with comparison to the market as a whole

$$\beta = \frac{\text{Covariance } (R_p, R_m)}{\text{Variance } R_m}$$

6. **Risk free rate (R_f):** Risk-free return is the theoretical return attributed to an investment that provides a guaranteed return with zero risk. The risk-free rate represents the interest on an investor's money that he or she would expect from an absolutely risk-free investment over a specified period of time.

Table 1: Monthly NAV for selected portfolio

DATE	NIFTY 50	HDFC SMALL CAP FUND	INVEST CO INDIA CONTRA	PRINCIPAL EMERGING BLUECHIP FUND	PRINCIPAL MULTI-CAP GROWTH FUND	TATA EQUITY P-E FUND	SUNDARAM RURAL INDIA FUND	AXIS FOCUS 25 FUND	ABSL INDIA GEN NEXT	IDFC CORE EQUITY FUND	BNP PARIBAS MULTICAP FUND
3/4/17	9220.6	34.115	38.2	91.2	120.71	118.033	37.091	21.26	67.92	39.065	41.313
2/5/17	9339.85	36.092	39.06	95.02	125.49	125.293	38.699	22.41	69.95	40.74	43.116
1/6/17	9603.55	36.209	39.68	94.46	128.04	122.728	39.489	22.58	70.83	41.507	42.703
3/7/17	9587.95	37.086	39.67	95.75	129.31	124.159	39.92	23.06	71.93	41.553	43.9
1/8/17	10101.05	38.011	41.28	100.86	134.88	130.019	40.948	24.41	75.1	43.076	46.296
1/9/17	9937.65	37.859	41.16	101.76	133.91	132.143	41.469	24.5	75.85	43.33	46.376
3/10/17	9893.3	38.078	41.34	102.02	134.95	132.594	40.484	24.54	74.74	42.625	46.552
1/11/17	10390.35	41.642	44.5	109.04	147.24	139.014	43.21	25.28	77.6	45.261	50.614
1/12/17	10263.7	43.683	44.94	108.18	145.48	134.823	42.764	25.31	77.85	44.696	49.092
1/1/18	10531.7	46.425	47.54	113.36	151.12	140.393	44.488	26.47	80.75	46.308	50.345
1/2/18	11044.55	45.809	48.18	111.85	151.44	143.209	43.68	26.71	81.14	47.41	50.071
1/3/18	10479.95	45.753	46.25	107.83	145.24	138.25	42.243	25.52	78.21	45.154	47.494
30/3/18	10143.6	44.23	44.94	103.84	139.36	134.308	41.063	25.15	76.61	43.856	45.384

Source: Monthly NAV of nifty 50 and selected portfolio are from NSE and selected Portfolio's Website

Inference: Table 1 represents the NAV (Net Asset Value) of selected mutual fund portfolio for the period from 1st April 2017 to 30st March, 2018 for one year of transition economy. Monthly closing NAV of different schemes have been used to calculate the returns from the fund scheme. Nifty 50 index has been used for market portfolio.

Table 2: Analysis of performance of top 10 diversified open ended Equity fund

DATE	NIFTY RET URN	HDFC SMAL L CAP FUND RETU RN	INVE SCO INDIA CON TRA RETUR N	PRINCIP AL EMERGI NG BLUEC HIP FUND RETUR N	PRINCIP AL MULTIC AP GROWT H FUND RETURN	TATA EQUIT Y P-E FUND RETUR N	SUNDA RAM RURAL INDIA FUND RETUR N	AXIS FOCU S 25 FUND RETU RN	ABSL INDIA GEN NEXT RETUR N	IDFC CORE EQUI TY FUND RETU RN	BNP PARIB AS MULTI CAP FUND RETU RN
3/4/17	---	---	---	---	---	---	---	---	---	---	---
2/5/17	1.29	5.80	2.25	4.19	3.96	6.15	4.34	5.41	2.99	4.29	4.36
1/6/17	2.82	0.32	1.59	-0.59	2.03	-2.05	2.04	0.76	1.26	1.88	-0.96
3/7/17	-0.16	2.42	-0.03	1.37	0.99	1.17	1.09	2.13	1.55	0.11	2.80
1/8/17	5.35	2.49	4.06	5.34	4.31	4.72	2.58	5.85	4.41	3.67	5.46
1/9/17	-1.62	-0.40	-0.29	0.89	-0.72	1.63	1.27	0.37	1.00	0.59	0.17
3/10/17	-0.45	0.58	0.44	0.26	0.78	0.34	-2.38	0.16	-1.46	-1.63	0.38
1/11/17	5.02	9.36	7.64	6.88	9.11	4.84	6.73	3.02	3.83	6.18	8.73
1/12/17	-1.22	4.90	0.99	-0.79	-1.20	-3.01	-1.03	0.12	0.32	-1.25	-3.01
1/1/18	2.61	6.28	5.79	4.79	3.88	4.13	4.03	4.58	3.73	3.61	2.55
1/2/18	4.87	-1.33	1.35	-1.33	0.21	2.01	-1.82	0.91	0.48	2.38	-0.54
1/3/18	-5.11	-0.12	-4.01	-3.59	-4.09	-3.46	-3.29	-4.46	-3.61	-4.76	-5.15
30/3/18	-3.21	-3.33	-2.83	-3.70	-4.05	-2.85	-2.79	-1.45	-2.05	-2.87	-4.44
TOTAL	10.21	26.97	16.94	13.70	15.21	13.61	10.77	17.40	12.44	12.20	10.36
Average Return	0.85	2.25	1.41	1.14	1.27	1.13	0.90	1.45	1.04	1.02	0.86
Annualized Return (R_m)	10.01	29.65	17.64	13.86	15.45	13.79	10.71	18.30	12.79	12.26	9.85
SD monthly	3.24	3.53	3.15	3.33	3.58	3.25	3.07	2.84	2.39	3.10	3.95
SD Annualized	11.23	12.23	10.92	11.52	12.40	11.26	10.63	9.82	8.29	10.74	13.68
Beta	---	0.48	0.82	0.72	0.90	0.70	0.61	0.66	0.60	0.85	0.91
Risk free rate (R_f)	7.8										
SHARPE RATIO	0.20	1.79	0.90	0.53	0.62	0.53	0.26	1.07	0.60	0.42	0.15
TREYNOR RATIO		45.11	12.01	8.43	8.47	8.56	4.74	15.86	8.38	5.26	2.26
JENSEN RATIO		20.78	8.03	4.47	5.65	4.44	1.55	9.03	3.68	2.59	0.05

Inference: Table 2 represent the descriptive results of average return, risk, SD and Beta of selected portfolios with benchmark return and risk in India for the period of 1st April, 2017 to 30th march, 2018. Table 2 shows that the maximum return was from HDFC small cap fund and Minimum return was from BNP Paribas multicap fund. In the context of risk, it found from the table that schemes had less risky than market risk and remaining schemes have risk greater than the market risk. In the context of Beta HDFC small cap fund indicating less volatility and BNP Paribas multicap fund indicating high volatility as compare to other mutual fund portfolio.

Table 2 also represents the sharp ratio, Treynor ratio and Jensen ratio. It is observed from the table 2 that higher position value of sharp measure was found in HDFC small cap fund (1.79) which followed by Axis focus 25 fund (1.07) and INVESCO India contra fund (0.9). In the study the sharp ratio was positive for all scheme which showed that funds were providing higher return than risk free rate. It also found from the table that 9 out of 10 portfolios have better sharp ratio in comparison to the benchmark portfolio.

In the context of Treynor measure and Jensen Alfa HDFC small cap fund is the top performer which was followed by Axis focus 25 fund, INVESCO India contra and others portfolios respectively.

Table 3: Ranking of selected portfolio on the basis of Sharp, Treynor & Jensen masseur

PORTFOLIO NAME	SHARPE RATIO	RANK	TREYNOR RATIO	RANK	JENSEN RATIO	RANK
HDFC SMALL CAP FUND	1.79	1	45.11	1	20.78	1
INVESCO INDIA CONTRA	0.9	3	12.01	3	8.03	3
PRINCIPAL EMERGING BLUECHIP FUND	0.53	6	8.43	6	4.47	5
PRINCIPAL MULTICAP GROWTH FUND	0.62	4	8.47	5	5.65	4
TATA EQUITY P-E FUND	0.53	6	8.56	4	4.44	6
SUNDARAM RURAL INDIA FUND	0.26	8	4.74	9	1.55	9
AXIS FOCUS 25 FUND	1.07	2	15.86	2	9.03	2
ABSL INDIA GEN NEXT	0.6	5	8.38	7	3.68	7
IDFC CORE EQUITY FUND	0.42	7	5.26	8	2.59	8
BNP PARIBAS MULTICAP FUND	0.15	9	2.26	10	0.05	10

Inference: Table 3 represents the ranking of sharp measure, Treynor measure and Jensen Alfa out of the selected financial intermediaries the interested investor can invest in 1stly HDFC small cap mutual fund as it is ranked in top position as per the performance ratios 2ndly Axis focus 25 fund as it is ranked in 2nd position and thirdly investor invest in INVESCO India contra mutual fund which is ranked in 3rd position as per the selected performance ratios

Conclusion: As per investment procedure mutual funds are one of the best investment sources available for Indian small investors to make an investment which may give big return with little savings. As per selected performance ratios are very much helpful for the evaluator to assess the fund performance. The present paper investigate the performance of top 10 open ended diversified equity fund for the period from 1st April, 2017 to 30th march, 2018 for one year. Monthly closing NAV of different schemes have been used to calculate the return. The historical performance of selected schemes were evaluated on the basis of Sharpe, Treynor and Jensen measure whose results will be useful for investors for taking better investment decision. All the schemes have positive returns. In the study the sharp ratio was positive for all the schemes which showed that funds were providing returns greater than risk free rate. If any investor wants to higher returns as a lower risk then HDFC small cap fund is the best mutual fund for investment.

Bibliography:

1. N. Bhagyasree, Mrs. B. Kishori (2016): "A Study on Performance Evaluation of Mutual Funds Schemes in India" International journal for Innovative Research in Science & Technology, Vol-2, Issue-11
2. M. P. Ayluru (2016): "Performance Analysis of Mutual Funds: Selected Reliance Mutual Fund Scheme" Parikalpana KIIT journal of management, Vol-12, Issue-1
3. Dr. M.M. Goyal (2015): "Performance Evaluation of top 10 Mutual Funds in India" Indian journal of commerce & Management studies. Vol-6, Issue-1
4. Dr. V. Ramanujam, A Bhuvanaeswari (2015): "Growth and performance of Indian mutual fund Industry during past decades" International journal of Advances Research in Computer Science and Management studies, Vol-3, Issue-2
5. Md. Zaheeruddin, P. Sivakumar, K. S. Reddy (2013): "Performance evaluation of mutual 1 funds in to selected financial intermediaries" IOSR journal of Business and Management, Vol-7, Issue-2
6. DR. R. Narayanswami, V. Rathnamani (2013): "Performance evaluation of equity mutual funds on selected equity large cap funds" Trichy International journal of business and management Invention, Vol-2
7. Sahil Jain (2012): "Analysis of equity based mutual funds in India" IOSR journal of Business and Management, Vol-2, Issue-1
8. Debasish Satya Swarup (2009): "Investigating performance of equity based mutual fund scheme in Indian scenario." KCA journal of business management, Vol-2, Issue-2

Websites:

1. www.nseindia.com
2. www.moneycontrol.com
3. www.indiaonline.com
4. <http://www.hdfcfund.com/scheme-details/8519d2bb-d75e-41e8-8273-d0cba8930714>
5. <https://invescomutualfund.com/nav-and-dividends>

6. <https://www.principalindia.com/our-funds-navs-and-dividends.aspx>
7. <http://www.tatamutualfund.com/navs-dividends/navs-dividends>
8. <https://www.axismf.com/latest-nav-and-dividend-history>
9. [https://www.idfcmf.com/IDFC-Core-Equity-Fund-\(Formerly-Known-as-IDFC-Classic-Equity-Fund\)-39](https://www.idfcmf.com/IDFC-Core-Equity-Fund-(Formerly-Known-as-IDFC-Classic-Equity-Fund)-39)
10. <https://www.bnpparibasmf.in/investor-centre/nav-history>
11. https://www.sundarammutual.com/NAV_Div_History

