A STUDY ON

A COMPARATIVE STUDY ON PERFORMANCE OF SELECTED EQUITY MUTUAL FUND SCHEMES IN BANKING AND INFRASTRUCTURE INDUSTRY

PROJECT REPORT

Submitted to Mahatma Gandhi University in partial fulfillment of therequirements for the award of the Degree of

MASTER OF BUSINESS ADMINISTRATION

Submitted by

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DEPARTMENT OF MANAGEMENT STUDIES
MAR ATHANASIOS COLLEGE FOR ADVANCED STUDIES
TIRUVALLA

2021

CERTIFICATE

This is to certify that the project report entitled ***"A COMPARATIVE STUDY ON PERFORMANCE OF SELECTED EQUITY MUTUAL FUND SCHEMES IN BANKING AND INFRASTRUCTURAL INDUSTRY"*** *is a bonafide report of the project work undertaken by* ***REJIN VARGHESE MATHEW,*** *fourth semester MBA student of our college during the period from* 1st April *to 30th May ,2021*

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DECLARATION

I hereby declare that this project report entitled "***A COMPARATIVE STUDY ON PERFORMANCE OF SELECTED EQUITY MUTUAL FUND SCHEMES IN BANKING AND INFRASTRUCTURE INDUSTRY***"is a *bonafide* report of the study undertaken by me, under the guidance of **MR. JIBUMON K G**, Department of Management Studies, MACFAST, Tiruvalla.

I also declare that this project report has not been submitted to any other University or Institute for the award of any degree or diploma.

Place : Tiruvalla
Date :31/05/2021

REJIN VARGHESE MATHEW

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ABBREVIATIONS

APT : Arbitrage Pricing Theory

NAV : Net Asset Value

UTI : Unit Trust Of India

SBI : State Bank Of India

HDFC: Housing Development Finance Company

ICICI : Industrial Credit and Investment Corporation of India

AMC : Asset Management Company

SEBI : Securities and Exchange Board of India

DP : Depository Participant

BSE : Bombay Stock Exchange

CAPM : Capital Asset Pricing Method

AUM : Asset Under Management

FMCG : Fast Moving Consumer Goods

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CHAPTER 1

INTRODUCTION

Background of the Topic

Mutual Fund is the pool of the money, based on trust who invests the saving of a number of investors who shares a common financial goal, like the capital appreciation and divided earning. The increase money is used in different securities like stock, bond, funds markets & commodities. Each mutual fund has general financial goal and the money is invested in accordance with the idea. Fund is managed by a professional fund manager, who is responsible for apply a fund's investing strategy and managing its portfolio trading performance. Each investor in the mutual fund participate proportionally (base upon the number of shares owned) in the gain or loss of the stock. Any investor can invest minimum amount that is practical and diversify their portfolio in different sectors depending upon their interests and risk. Equity funds are ideal investment vehicles for all investors. The attributes that make equity funds most suitable for investors are the reduction of risk resulting from fund's portfolio diversification and the relatively small amount of capital required to acquire shares of an equity fund. Equity funds / stock funds are funds that invest in stocks. The size of an equity determined by the fund's stock holdings. Mainly it is being invested in Banking and Financial Service sector, Health Care sector, Commodities and Real Estate sector, etc. The investors do not know in which all stocks the collected amount is being invested and in which all sectors it is being invested by the fund manager. It is the fund manager who makes a historical analysis of growth and growth expectations of particular stocks and sectors to add it to the portfolio. So the study is conducted to identify that which all companies and sectors are mostly preferred by the fund managers.

Statement of the Problem

The present study aims at to answer a few questions in this respect. What is the performance of the mutual funds in context to their risk and return incurred during the study period? Whether the mutual funds have outperformed the market or not. What is the position of mutual funds performance among the different schemes? Which type of mutual funds are performing well and which are below the expectation level? What are the basic motives for investing in the mutual funds in India? These are some questions which the present study attempts to answer.

Relevance and Scope of the Study

The main purpose of this study is to conduct performance evaluation of mutual funds and to find the best performing fund. In this project the scope of the study is limited to equity oriented mutual funds among banking and infrastructure sectors of mutual fund industry:

- The study includes all the schemes in the selected equity mutual funds.
- The selected funds are equity oriented.

Objectives of the Study

- To identify the best equity based mutual fund schemes in banking and infrastructure industry
- To identify mutual fund schemes from those industries which have less risk.
- To know the performance in terms of rate of return
- To find out the investment pattern among the selected equity mutual funds
- Evaluation of mutual fund based on Sharpe and Treynors ratios to measure performance.

CHAPTER 2

Industry Profile

Business Process of Mutual Fund

A mutual fund is a large, professionally managed investment organization that combines the fund of many individual investors having similar investment objectives. It designs its schemes to meet the needs of different type of investors in terms of nature of investment, dividend distribution and liquidity etc. the entire income/profits are distributed to the investors in proportion to their investments. However, expenses for managing the fund are charged to the fund. Mutual fund activity has come to play an important role in our development efforts.

The concept of mutual fund is not new. At the very drawn of commercial history, Egyptians and Phoenicians were selling shares in vessels and caravans in order to spread the risk of these perilous ventures. Much later, in 1822, the Société Générale de Belgique was formed, which embodied the modern concept of risk sharing. The foreign and colonial government trust of London formed in 168 was the pioneer in the field of modern day concept of mutual fund. Later in 1873, the Scottish American trust was established by Robert Fleming at Dundee. In England, the early institutions were created under legal form, known as the old English trust. People who had experience in large trust estates were appointed as trustees and capital was entrusted to them for purchasing securities. British investment trusts invested in American stocks, the first American investment trust was the close-end Boston personal property trust created in 1983.
Now mutual fund assets are growing so fast and consumer bank deposits so slowly, the Americans believe by the turn of the 21" century, individuals may well have more money in mutual funds than in saving ban accounts.

At present, the US mutual fund industry is spread over 3000 funds. Commanding investments to the tune of 25% of the household income and having over 50 million shareholder accounts. The mutual fund industry in the US now occupies the premier position in the financial sector while banking and insurance companies lag behind. The mutual fund industry serves about 50 million investors. Japan tops in the number of mutual funds with around 5400 funds whereas USA'S 3400 mutual funds command four times higher assets than Japan. The UK has around 14001 mutual funds, while France with 1000 odd mutual funds ranks second in asset formation, next to US.

Mutual funds/unit trusts are popular financial intermediaries in many countries. In December 1995, the European community issued a directive to coordinative laws, regulations and the administrative provisions relating to mutual funds. This is popularly known as undertaking for collective investment in transferable securities. The directive establishes a common regularity scheme for investment policies, public disclosure, structure and control. These policy changes have encouraged the growth of mutual funds all over the globe. Countries in the Asia-pacific area like Hong Kong, Thailand, Singapore and Korea have also entered this field with a big bang.

The mutual fund industry in India started in 1963 with the formation of Unit Trust of India, at the initiative of the government of India and Reserve Bank of India. Rajeshwari and Moorthy (2002) conducted research among 350 mutual fund investors. The study made an attempt to understand the financial behaviour of mutual fund investors in connection with the scheme preference and selection. They analyzed the importance factors which influence mutual funds/scheme selection that every MNC's need to consider while designing mutual fund product. They conclude that most of the investors selected funds based on their fund performance, agency reputation, and quality of product Research analysis revealed that growth schemes of the mutual funds have been favoured by investors in their investment decisions, followed by tax saving schemes, balanced schemes and income schemes respectively. When it comes to educational level, investors with graduate, post graduate and above qualification have made maximum investment compared to professionals and undergraduates. Education, occupation, age and marital status have significant relationship with investment decisions of retail investors in mutual funds schemes. Lastly it was stated that these evidences should be taken into consideration when evaluating the merits of schemes provided by the mutual fund industry. Moreover, the mutual fund companies should focus more on investment strategies which will help them to attract and retain more and more valuable retail investors. The companies should come up with schemes which are within the reach of average retail investors. At present there are 43 mutual fund companies.

Market demand and supply- Contribution to GDP and Revenue generation

The RBI has carried out major reforms in the Indian financial markets in the last few years primarily by reducing Cash Reserve ratio by 4% over three years and Bank Rate by 5% over five years. It is due to measures like these that the Indian economy is currently showing fundamental robustness, with the GDP expected to grow by almost 8%. With rising exports and stable inflation of around 5%, the foreign exchange reserves are at an all-time high of $118 billion. The interest rates in the country are at record lows and have led to an increase in credit flow to the commercial sector. The equity markets have passed through a tumultuous phase in the last 3 years. The improving macro-economic fundamentals of the Indian economy have led the market players to expect a bright future. During the year, the equity markets around the world are showing good performance. However, the markets in India outperformed the world major scripts showed around more than 75% growth in last 12 months. The year began with resumption of peace process with Pakistan and end of war in Gulf. The market also has welcome robust increase in agriculture production with more-than-normal monsoons. Most of the groundwork for the disinvestment completed over the last few years, the last Government had started disinvestments and new government has already acquired shape and started it is not reluctant of divestment. The debt markets have witnessed a rally for over 2 years and now seem to be stabilizing. The measures to deepen and widen the debt markets continued throughout the year. A key step in developing the markets was the launch of Negotiated Dealing System (NDS). NDS allows electronic bidding in primary markets, thereby bringing about transparency in trading, electronic settlement of trades and better monitoring and controls. Issuances of a 30year paper, floaters ranging from 5 to 15 years and securities with call and put options by the government will also go a long way in deepening the markets. In a bid to increase the retail participation, non-competitive bidding is being encouraged by the RBI.

Level and Types of Competition

The mutual fund industry can be broadly put into four phases according to the development of the sector. Each phase is briefly described as under.

First Phase 1964 – 1987

Unit Trust of India (UTI) was established on 1963 by an ACT of Parliament. It was set up by the

Reserve Bank of India and functioned under the regulatory and administrative control of the

Reserve Bank of India. In 1978, UTI was de-linked from the RBI and the Industrial

Development Bank of India (IDBI) took over the regulatory and administrative control in place of RBI. The first scheme launched by UTI was Unit Scheme 1964. At the end of 1988 UTI had Rs. 6,700 crores of assets under management.

Second Phase 1987 – 1993(Entry of Public Sector Funds)

Entry of non – UTI mutual fund, SBI mutual fund was the first followed by Canbank mutual fund (Dec 1987), Punjab National Bank Mutual Fund (Aug 1989), Indian Bank Mutual fund (Nov 1989), Bank of India (Jun1990), Bank of Baroda Mutual fund (Oct 1992), LIC Mutual fund (1989) and GIC (1990). The end of 1993 marked Rs. 47,004 as Assets under Management.

Third Phase 1993-2003 (Entry of Private Sector Funds)

With the entry of private sector funds in 1993, a new era started in the Indian mutual fund industry, giving the Indian investors a wider choice of fund families. Also, 1993 was the year in which the first Mutual Fund regulations came into being, under which all mutual funds, except UTI were to be registered and governed. The Erstwhile pioneer (now merged with Franklin

Templeton) was the first private sector mutual fund registered in July 1993.The 1993 SEBI

(Mutual Fund) Regulations were substituted by a more comprehensive and revised Mutual Fund

Regulations in 1996. The industry now functions under the SEBI (Mutual Fund) Regulations 1996.The number of mutual fund houses went on increasing, with many foreign mutual funds setting up funds in India and also the industry has witnessed several mergers and acquisitions. As at the end of January 2003, there were 33 mutual funds with total assets of Rs. 1,21,805 crores. The Unit Trust of India with Rs 44,541 crores of Asset Under Management was way ahead of other mutual funds.

Fourth Phase – Since February 2003

This phase had bitter experience for UTI. It was bifurcated into two separate entities. One is the

Specified Undertaking of the Unit Trust of India with AUM of Rs. 29,835 crores (as on January 2003). The Specified Undertaking of Unit Trust of India, functioning under an administrator and under the rules framed by Government of India and does not come under the preview of the Mutual Fund Regulations. The second is the UTI Mutual Fund Ltd., sponsored by SEBI, PNB, BOB, and LIC. It is registered with SEBI and functions under the Mutual Fund Regulations. With the bifurcation of the Erstwhile UTI which had in March 2000 more than Rs. 76,000 crores of AUM and with the setting up of a UTI Mutual Fund, conforming to the SEBI Mutual Fund Regulations, and with recent mergers taking place among different phase of consolidation and growth. As at the end of September 2004 there were 29 funds, which manage assets of Rs.1,53,108 crores under 421 schemes.

Types of Competitions

In this section we discuss some aspects of the competition in the mutual fund industry. Like in any industry, mutual fund firm profits are maximized by increasing revenues and decreasing costs. Firms aim to increase assets under management since revenues are usually a percentage (i.e. in gross terms, the fees) of assets under management. Firm goals are naturally to gain market share and increase fees.

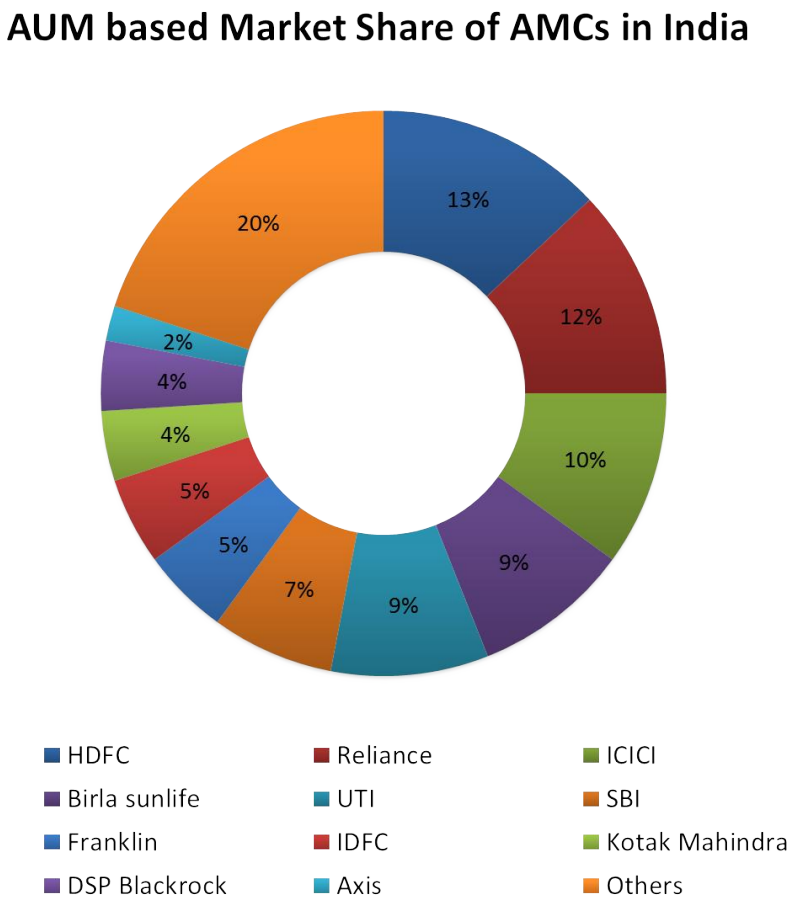
The key driver of the mutual fund industry competition seems to be that the fact abnormal past performance originates a substantial amount of fund inflows. Early studies like Spitz (1970), Chevalier and Ellison (1997) and Sirri and Tufano (1998) have documented that abnormal positive returns generate disproportionately more inflows than abnormal negative returns would generate outflows. In addition, fund performance is also important because of the “spillover" effect that the performance of a fund provides to all the other funds belonging to the same family. Nanda, Wang and Zheng (2004) show that “star performance” results in greater cash inflow to the fund and to other funds in its family. Moreover, families with higher variation in investment strategies across funds are shown to be more likely to generate star performance. Massa (2003) argues that the proliferation of funds is originated by the “spillover effect” that the performance of a fund provides to all other funds belonging to the same family. **Contestability**

A main element of economic models of competition is the number of firms competing. The usual claim is that the larger the number of rival firms, the more choices available to consumers and the greater the likelihood of competitive pricing. Thus the first element of competition we analyze is the number of firms in the mutual fund industry. **Performance versus non Performance Competition**

As referred above, firms try to induce performance in funds in order to gain market share. Gaspar, Massa and Matos (2006) find some evidence that mutual fund families strategically allocate performance across their member funds favoring those more likely to generate higher fee income or future inflows. These funds will not only generate inflows for the fund itself but for the all family. Guedj and Papastaikoudi (2005) find that the better performing funds in a family have a higher probability of getting more managers, one of the main resources available to firms.

Major Mutual Fund companies in India

- ICICI Prudential Mutual Fund
- Reliance Mutual Fund
- SBI Mutual Fund
- HDFC Mutual Fund
- Birla Sun Life Mutual Fund
- UTI Mutual Fund
- HDFC Mutual Fund
- Kotak Mahindra Mutual Fund
- Franklin Templeton Mutual Fund



Pricing Strategies in Mutual Fund

Mutual funds are pretty transparent. You can easily find out what stocks are in a mutual fund by searching online. Many financial sites list the holding of funds. The price of a share, often called a unit, is posted on these sites, and you can find it easily if you use an online discount broker as well. Mutual fund trades may be subject to a variety of charges and fees. Some funds carry a sales charge or load, which are fees you pay to buy or sell shares in the fund, similar to paying a commission on a stock trade. These can be in the form of upfront payments (front-end load) or fees you pay when you sell shares (contingent deferred sales charge).

The most common method for determining a mutual fund's price is to calculate or compare its NAV, or Net Asset Value. A mutual fund's purchase price is determined by the previous day's NAV. The only way to get the exact price you want is to buy an exchange-traded fund instead of a mutual fund. Otherwise, changes to the NAV could have an effect on the purchase price of your fund.

Prospects and Challenges of Mutual Fund

Prospects of Mutual Fund

Mutual funds constitute a very important component of the capital market in developed countries and now, are also becoming the vibrant institutions in emerging markets like India. In the coming years, the mutual funds in India are likely to emerge as important players in the capital market for managing the funds of small investors. The country's economic and financial health, regulatory framework, and the performance of the funds are likely to play an important role in deciding the future prospects of the industry. Despite some temporary disturbances, the overall country's economic and financial growth scenario foretells the good future of mutual funds in India. This can be observed from the fact that with the continuously rising savings rate, the investment activities in mutual funds have also risen in the country.

Challenges of Mutual Fund

Mutual funds industry in India has emerged as one of the major constituents of Indian financial system. It has completed more than forty-five years of its presence. In this short period, it grew fast and also suffered from equally fast decline. It became sick in its formative years. It has witnessed noticeable structural transformation, quantitative growth, qualitative and quantitative decline and perhaps the revival, which may put the industry back on track.

Low Level of Awareness

The awareness of investors determines the success of mutual funds industry. In India, low investors awareness/ information level and financial literacy have been causing biggest threats to mutual funds industry in channelizing the household savings into mutual funds.

Regulatory Problems

A strong regulatory framework is the key to success for any business environment and so is the case for Indian mutual funds industry. The level of competition in the industry has

continuously been going up. So, it needs to perform a more dynamic and vibrant role to meet the tests of time.

Improper Investment Policy Disclosure

Mutual funds are stipulated to have investment policy in written form. Mutual fund schemes have followed tough and vague language in writing their investment policies. These are written in a manner that the investor may get confused. Also, the investment objectives of schemes are found descriptive in nature and it is difficult to draw the generalizations out of them. The portfolio turnover rates of last five years of the schemes are also not mentioned in the offer documents.

Stagnant Fee and High Cost

The fee structure in Indian mutual funds industry is stiff in nature as compared to developed countries. In developed countries, the fee structure is based on several factors such as the investment objective of fund, fund assets allocation, fund performance, the nature and number of services that a fund offers etc. It is not so in India, as a result, while the expenses have been rising; the management fees have remained the same.

Lack of Satisfactory Performance

Investors' satisfaction depends on the good performance of mutual funds. Investors entrust their hard-earned savings to mutual fund managers for the effective management of their funds. Therefore, it becomes imperative on the part of mutual fund managers to provide satisfactory performance to investors.

Key Drivers of Mutual Fund

You can use a factor model to identify the biggest drivers of mutual fund flows. For mutual funds and ETFs, all factors fall into one of four categories:

Product - this includes any characteristics of the fund that describe it as a product, such as its fees, legal structure, management team composition, investment strategy, etc.

Performance - this is somewhat self-explanatory, but investors care about raw returns, risk, risk adjusted returns, returns relative to the fund's category, and 3rd party ratings (Morningstar/Lipper)

Brand - some brands (e.g. Vanguard) are strong enough to bring in flows to a fund purely because of their reputation as caretakers of investor capital, even after accounting for all 4 other categories of flow factors.

Distribution - asset managers have to get people to invest in their funds. Some asset managers are much better than others at this either by developing deep relationships in their distribution channels (retirement, retail, direct, institutional) or by using technology (e.g. machine learning) to better understand which investors are likely to invest in them rather than their competitors.

CHAPTER 3

REVIEW OF LITERATURE

Brief Theoretical Construct related to the Problem

The mutual fund theorem is an investing strategy whereby mutual funds are used exclusively in a portfolio for diversification and mean-variance optimization. The latter term can be defined as the weighing of risk against the expected return from an investment.

The mutual fund theorem explains the importance of diversification in a portfolio and portrays how including mutual funds in a portfolio can limit its risk. The concept of mean-variance optimization presented by Harry Markowitz—weighing the risk against the expected return— forms the basis for the theorem. Given mean-variance optimization from modern portfolio theory techniques, an investor can identify the optimal allocations in a portfolio.

Given modern portfolio theory technical analysis, an investor can use modern portfolio theory to create the same graphical representations and coordinates using a universe of mutual funds. An efficient frontier is constructed using mutual funds, and a capital market line is created that provides the allocations for diversification.

Similar to modern portfolio theory, investments in risk-free assets are represented by Treasury bills. Farther up the capital market line an investor can include greater amounts of higher risk assets such as emerging market equity mutual funds. At the lower end of the spectrum, an investor may invest in short-term, high-quality-debt mutual funds.

Overall, the mutual fund theorem suggests that investors can build an optimal portfolio using mutual funds. This type of portfolio can increase diversification. It may also have other advantages, such as operational trading efficiencies.

Investors seeking the best mutual funds, or the best funds for them, should focus on a few key criteria. A standard measure used to score mutual funds is the fund investment-quality scorecard (FIQS). This measure helps investors collect key data in an organized way in order to make informed judgments as to the quality of a mutual fund. A FIQS does not include all quantitative data and may include qualitative information, but all information should be quantifiable, for example, the risk-return profile and return and expense information.

The key criteria for the FIQS include the investment style of the fund, such as what the mutual fund invests in and the manager's ability to manage the assets according to the investments' objectives. Other criteria to consider concerning the mutual fund quality are the risk-return profile, fund size and compatibility, manager tenure and structure, portfolio turnover, mutual fund expenses, total returns, and research analyst reports.

Overview of Earlier studies

A. Historical performance evaluation of mutual funds

Historical performance of mutual funds one of the major indicators of its likely Performance in future. The study enables me to get insights into the various aspects of portfolio management affecting the performance of a common fund. However one of the risk factors mandatory to be included in the offer document in Indian context is the statement "the past performance may or may not be an indicator of future performance". Following studies support the hypothesis that historical performance is one of the major indicators of likely future performance.

(Rajkumar, 2010) - examined the relationship between the stated fund objectives and their risk-return attributes. They conclude that on an average, the fund managers appear to offer superior aggregate returns but they are offset by expenses and load charges.

(Malkiel, 1995)-Conducted a research to analyze the performance of equity mutual funds for the period 1971-1991.For this purpose study involved a data set that included the returns from all mutual funds in existence in each year of the period. After analyzing the returns from all funds he found that mutual funds underperformed the market. Survivorship bias was considered to be the important part of the analysis. Study also examined the fund returns in the context of the capital asset pricing framework and neither found any evidence of excess return nor observed any risk return relationship stated by the capital asset pricing model. Study concluded that it was better for the investors to purchase a low expense index fund than to select an active fund manager.

(NANCY, 2006)has stated that study of the past performance is helpful in forecasting. Study of the past performance unveils some or all factors that influence the level of financial returns. The study of these factors may help in improving the ability and accuracy of forecasting future returns. This study is likely to be useful for investors and Portfolio managers **According to Haslem (1988)** the past performance is the most important aspect for the mutual fund because it is basis to estimate how well the fund would perform in future.

(LEHMANN, 1987)-Came out with one of the cornerstone study of mutual fund performance evaluation. They, for the first time used multifactor models for performance measurement. They found that results are highly dependent on performance metrics employed; the show considerable differences between rankings based on the Capital Asset Pricing Model (CAPM) and on various application of the Arbitrage Pricing Theory (APT)

(Robert, 1988)-Studied that the effect of size of the mutual fund on its total return can be measured by using the casual relationship of fund's net assets and return. He also concluded that in US small mutual funds are doing better than big mutual funds. He gave the reason behind smaller size leading to more effectiveness of mutual funds as that they have significant positive risk. Moreover other researchers also shown that more the smaller size of the fund, the more it will have high operating effectiveness.

(BARUA, 1991)-evaluated the performance of Master Share during the period 1987 to 1991 using Sharpe, Jensen and Treynor measures. They conclude the fund performed better than the market, but not so well as compared to the Capital Market Line.

B. Performance in terms of rate of return: Absolute measure of performance

Performance in terms of growth of net asset value (NAV) per unit is commonly applies measure of performance of mutual funds. According to Firth (1977), unit trust performance in the UK has used returns as the sole yard stick of evaluation. According to Firth rate of return on equities held by the equity mutual fund have a direct bearing on the fund performance. (LC, 1981) Presented a detailed and well-based estimate of "portfolio" rate of return on equities. This pioneering study in the Indian context has been a major contribution in this field and is regarded as the benchmark on the rate of return on equities for the specified time. He laid the basis for rate of return concept in performance evaluation. Evaluated performance of unit trust of India (UTI) during 1964-65 to 1979 including the profitability aspects of unit scheme 1964, unit scheme 1971 and unit 1976. He concluded that its real rate of return have been low indicating overall performance of UTI schemes. There has been so significant increase in the profitability over the years.

(ARNAUD, 1985) has suggested that there are three basic measurements of the performance of investment trust company at three basic level in terms of capital changes. As per the first approach, market value of investments is to be monitored duly adjusted for liabilities. In the second approach NAV per unit is measured and it is considered as more acceptable measure f mutual fund performance. Third level of measurement is to follow share price movements.

(STOPP, 1988) had evaluated mutual fund schemes (UK) in terms of rate of return generated for the investors for the period ended December 31, 1986. He also examined inter-group performance by regrouping the sample into four broad categories. He suggesting that choosing funds based on outstanding performance might be a recipe for disaster as the sectors, which tend to produce the most outstanding performance may also carry the great risk.

(Sheridan, 1989) evaluated performance in terms of gross returns of mutual funds. They constructed eight portfolio benchmark based on firm size, dividend yield and past returns. One month T-Bills were used as risk-free return. The period of study was December 31, 1974 to December 31, 1984. The findings revealed that abnormal performance of the funds based on gross returns is inversely related to the size. They pointed out that superior performance may exist for funds with smallest size of net assets value. But due to high expenses, the investors are unable to take advantage of their superior performance.

(Sharpe, 1966) have provided the conceptual framework of relative measure of performance of equity mutual funds while Treynor used systematic risk. Sharpe used total risk to evaluate the mutual fund portfolio performance higher value of Treynor's index indicates better performance of portfolio and vice versa. The Treynor's measure of portfolio performance is relative measure that ranks the funds in terms of risk and return. The index is also termed as reward to volatility ratio. Higher value of Sharpe's day indicates better performance of portfolio and vice versa. The Sharpe's measure of portfolio performance is also relative measure that ranks the funds in terms of risk and return. The ratio is also termed as reward to variability ratio.

(GOETZMANN, 1994)-Analyzed monthly total returns of 728 mutual funds over 13- year period. Performance measures were total returns and Jensen alphas. They measured the power of various lengths of selection period to predict the performance measured from the holding periods of the same length. The time horizons were one year, two year, and three year and one month. The past performance has some predictive power on future performance ofall time horizons tested. To test the robustness of the results over the conjecture whether the performance persistence is related more to investment style than skill, they performed the same tests on a sub sample that consists of the relatively homogeneous growth funds. The test indicates that the performance persistence is not likely to be due to style differences.

(JAYADEV, 1996)-Evaluated the performance of 2 growth oriented mutual funds (Master gain and Magnum Express) on the basis of monthly returns compared to benchmark returns. Performance

measure suggested by Jensen, Treynor and Shape were employed. It was found that, Master gain has performed better according to Jensen and Treynor measures and on the basis of Sharpe ratio its performances is not up to the benchmark. The performance of Magnum Express was on the basis of all those three measures. However, Magnum Express is well diversified and has reduced its unique risk whereas Master gain did not. These two funds were found to be poor in earning better returns either adopting or in selecting underpriced securities.

(GUPTA, 1998)-found out the investment performance of 80 schemes managed by 25Mutual funds, 15 in private sector and 10 in public sector for the time period of June 1992-1996.The study has examined the performance in terms of fund diversification and consistency of performance. The paper conclude that mutual fund industry's diversification has performed well and it's supported the consistency of performance.

(Otten, 1999)- Analyzed the performance of the European mutual fund from 1991 through December 1998. Study also investigated the performance of fund managers along with the influence of fund characteristics on risk-adjusted performance. For this purpose a sample of 506 funds was taken and4-factor model was used. The results indicated that the European mutual funds especially small cap funds were able to add value and 4 out of 5 countries exhibit significant between risk-adjusted return and fund size and negative relation between risks adjusted and fund's expense ratio.

(Redman, 2000)- Analyzed the risk adjusted returns for five portfolios of international mutual funds. The study was conducted for three periods: 1985-1994, 1985-1989 and 1990-1994. The performance was measured by using Treynor (1965) Index Sharp (1966) and Jensen's alpha and comparison was made with the U.S market. Results owed that under Sharpe (1966)'s and Treynor (1965) indices the performance of international mutual funds was higher than the U.S market from 1985-1994 and 1985-1989.On the other hand performance of U.S equity portfolio and the market index was higher than global portfolios.

(Singh, 2001) in their book presented a framework for conducting critical appraisal of mutual fund performance in the Indian context reviewed the performance of Unit Trust of India (UTI), private and money market mutual funds.

(GORMANN, 2004)-Found the same results as mentioned by Robert that small mutual funds (mostly measured by their net assets) perform in most cases faintly better than large mutual funds. Another important basis mentioned by Gorman was that most of the mutual funds swiftly wear out the economies of scale, leading to decline in returns. (Becker and Vaughan), 2001; Chen et al,

(AGGARWAL, 2007)-Provided an overview of mutual fund activity in emerging markets described their size and asset allocation. His paper analyzed the Indian mutual fund industry's pricing mechanism with empirical studies on its valuation. He also analyzed data at both the fund manager and fund investor levels.

(ANAND, 2008)-Examined the components and sources of investment performance order to attribute it to specific activities of Indian fund managers. They also attempted to identify a part of observed return which was due to the ability to pick up the best securities at given level of risk. For this purpose, Fame's methodology is adopted here. The study covers the period between April 1999 and March 2003 and evaluates the performance of mutual funds based on 113 selected schemes having exposure more than 90 percent of corpus to equity stocks of 25 fund houses. The empirical results reported reveals the fact that the mutual funds were not able to compensate the investors for the additional risk that they have taken by investing in the mutual funds. The study concludes that the influence of market factor was more severe during negative performance of the funds while the impact selectivity skills of fund managers was more than the other factors on the fund performance in times of generating positive return by the funds.

(THANOU, 2008)-In his paper examined the risk adjusted overall performance of 17 Greek Equity mutual funds between the years 1997 and 2005. The performance evaluation of each fund based on the CAPM performance, Treynor and Sharp indexes for the nine year period as well as for three sub periods displaying different market characteristics was done. Then, he compared the rankings obtained by the two indexes and found significant differences in rankings between up and down market conditions.

UNIQUENESS OF THE STUDY

In India, Mutual fund industry is an organized financial system, accessible to individual investors having varied needs and options. Mutual Fund is one of the most preferred investment alternatives for the small investors as it offers an opportunity to invest in a diversified, professionally managed portfolio at a relatively low cost. A Mutual Fund is a thrust that pools the savings of a number of investors who share a common financial goal. Over the past decade, mutual funds have increasingly become the investor’s vehicle of choice for long-term investing. Mutual funds have both advantages and disadvantages compared to direct investing in individual securities.

Today they play an important role in household finances. The study attempts to find out the awareness of people about such a growing financial asset and provide recommendations / suggestions which can be used for knowing the preferences of investors in KDMC and making the mutual fund investment popular among the investors in KDMC region which is a fast growing metropolitan city. The investors are now very much aware and make the choice of investments by studying it from all the angles. The present study also attempts to the considerations of investors while investing in Mutual Funds, which can help the mutual fund companies while launching the new schemes. This can turn the potential investors of KDMC region to turn into investors and channelize the flow of saving towards the mutual fund investment.

CHAPTER 4

METHODOLOGY OF STUDY

RESEARCH APPROACH & DESIGN

A research is a plan of the proposed research work. It is a systematic self-critical enquiry. This enquiry is aimed at understanding a thing, or phenomenon or solving a problem. The research designs simply a specific presentation of the various steps in the process of research. Design means adopting that type of technique of research which is most suited for the research and study of the problem. It constitutes the blue print for the collection, measurement and analysis of data. After selecting the topic and problems, defining concepts, and frame hypothesis, a researcher has to think about the research design.

Descriptive Research

Under this project study used the Descriptive Research; Descriptive study is a fact-finding investigation with adequate interpretation. It is the simplest type of research. It includes survey and fact finding enquiries of different kinds. The major purpose of Descriptive Research is descriptive of the state of affairs as it exists at present. So researcher has no control over the variables.

Study Approach

There are two approaches in this study, quantitative approach and qualitative approach. Here the quantitative approach is used.

Quantitative approach

Under this project study used the Descriptive Research. Descriptive study is a fact-finding investigation with adequate interpretation. It is the simplest type of research. It includes survey and fact finding enquiries of different kinds. The major purpose of Descriptive Research is descriptive of the state of affairs as it exists at present. So researcher has no control over the variables.

SOURCES OF ONLINE DATA

The period of study was 5 years and it aimed at analyzing the performance of open-ended equity growth mutual fund schemes. An open-end fund is one that is available for subscription all through the year. These do not have a fixed maturity. The study has used secondary data.

Secondary data: Additional information was obtained from related websites, company journals, magazines, AMFI, mutualfundsindia.com, moneycontrol.com and BSE.com, valueresearch.com, mutual funds books, journals and websites of other mutual funds.

SAMPLING DESIGN:

A sample design is a definite plan for obtaining a sample from a given population. It refers to the techniques or the procedure the researcher would adopt in selecting items for the sample. Sample design may as well lay down the number of items to be included in the sample i.e., the size of the sample. Sample design is determined before data are collected. While developing a sample design, the researcher must pay attention to the following points. ➢ Type of universe

➢ Sampling unit

➢ Source list

➢ Size of sample

➢ Parameters of interest

➢ Budgetary constraint

➢ Sampling procedure

SIZE OF SAMPLE:

This refers to the number of items to be selected from the universe to constitute a sample. This is a major problem before a researcher. The size of sample should neither be excessively large, nor too small. It should be optimum. An optimum sample is one, which

fulfils the requirement of efficiency, representative ness reliability and flexibility while deciding the size of sample;

researcher must determine the desired precision as also an confidence level for the estimate. The size of population variance needs to be considered as in case of larger variance usually bigger sample is needed. This study involves the sample size of 100 investors' in mutual funds

SAMPLING TECHNIQUES:

Sampling technique are normally classified as two, namely

➢ Probability sampling

Non-probability sampling

DATA ANALYSIS TOOL

1. The data analysis is mainly done through the three important measures of mutual funds. a) Sharpe b) Treynor

2. Various Statistical formulae like Standard deviation, beta to find the risk associated with the schemes.

Following tools were used in the course of the research study

•Sharpe (risk adjusted return) ratio

The Sharpe ratio is almost identical to the Treynor measure, except the risk measure is the standard deviation of the portfolio instead of considering only the systematic risk, are represented by beta. Conceived by Bill Sharpe, this measure is closely follows the work on capital asset pricing Model (CAPM) and by extension uses total risk to compare portfolios to the capital market line. In this model, performance of a fund is evaluated on the basis of Sharpe ratio, which is a ratio of returns generated by the fund over and above risk free rate of return and the total risk associated with it. The Sharpe ratio can be easily defined as:**(Portfolio return – risk free rate)/ Standard Deviation.**

•Co-efficient of risk (beta)

Beta measures the systematic risk and shows how prices of securities respond to the market forces. Beta is used in the capital asset pricing model (CAPM) a model that calculates the expected return of an asset based on its beta and expected market returns. Systematic risk is measured in terms of beta which indicates the sensitivity of a schemes return in a relation to a market return. If a schemes beta is less than 1, it is considered to be defensive if the schemes beta is more than 1 it is considered to be aggressive**.**

•The Treynor's measure

Developed by Jack Treynor, this performance measure evaluates funds on the basis of Treynor's index. This index is a ratio of return generated by the fund over and above risk free rate of return (generally taken to be the return on securities backed by the government, as there is no credit risk associated) during a given period and systematic risk associated with it (beta). Symbolically, it can be represented as:

Treynor's index

(Ti)= (Ri-Rf)/Bi

Where Ri represents return on fund,

Rf is risk free rate of return and

Bi is beta of fund

Alpha:

The size alpha exhibits the stock's unsystematic returns and its average return independence of market return if the fund produces the expected return at the level of risk assumed, the fund would have an alpha equal to zero. A positive alpha indicates the manager produced return greater than expected for the risk taken. Alpha is calculated by comparing the fund's actual performance with the risk- adjusted expected return.

Evaluation of mutual funds

Evaluation of mutual fund is basically based on risk adjusted returns. Once obvious method of adjusting for the risk is to look at the reward per unit of risk. We know that investments in shares are risky. Risk free rate of interest is the return that an investor can earn on riskless security. I e, without bearing any risk. The return earned over and above the risk free return is the premium per unit of risk. Thus, the reward per unit of risk. Thus, the reward per unit risk for different portfolios or mutual funds may be calculated and the funds may be ranked in descending order of the ratio. A higher ratio indicates better performance. In order to determine the risk- adjusted returns of investment portfolios, several eminent authors have worked since 1960s to develop composite performance indices to evaluate portfolio by comparing alternative portfolios within a particular risk class.

Risk adjusted returns

The risk adjusted return calculation is the most effective way to measure investment quality. All research can be distilled down in to the elements of potential profit, downside risk, and probability of each coming true. This holistic framework results in s quantitative measure that can be used to make the critical portfolio decisions of whether or not to make an investment, how to size the position, and when to trade. The use of risk- adjusted return in portfolio construction reduces risk by decreasing position size when an asset has greater downside and increasing return by maximizing the overall portfolio's risk- adjusted return.

REPORT STRUCTURE

Chapter 1: Introduction – Statement of the Problem

Introduction chapter gives an idea about the study, the background of the study, statement of the problem, relevance & scope of the study and the objective of the study.

Chapter 2: Industry Profile

It gives an overview of mutual fund industry; it deals with business process of the industry, market demand and supply, contribution to GDP, revenue generation, level and type of competition, pricing strategies in the industry, prospects and challenges of the industry and the key drivers of the industry.

Chapter 3: Review of Literature

In this chapter all the theoretical details of fundamental analysis and the methods are discussed.

Chapter 4: Methodology of the Study

In this chapter it dealt with the methodology used by the researcher. The research approach and design, sources of online data, sampling design, data analysis tools, report structure, limitations of the study.

Chapter 5: Data Analysis, Interpretation & inference

This chapter dealt with the analysis of the data collected and also their interpretation and inference.

Chapter 6: Findings of the Study

This chapter dealt with the findings of the study.

Chapter 7: Conclusions

This chapter dealt with the conclusions of the report.

Limitation of the Study

The sample used for the study has been taken from the investors of only a particular locality. So

- it can be said that the study was regionally biased.
- Lack of time on the part of the respondent.
- Respondents may fill the questionnaire with partially correct information in questionnaire.
- The conclusions derived from the report cannot be generalized.

CHAPTER 5

DATA PRESENTATION AND ANALYSIS

Data Presentation and Analysis

FUND NAME AND SECTOR
Banking sector
ICICI Prudential banking and financial services fund
Nippon India Banking Fund
Invesco India Financial Service fund
SBI Banking and Financial Service Fund
UTI Banking and Financial Service Fund
Infrastructure sector
Franklin Build India Fund
L&T Infrastructure Fund
Kotak Infrastructure and Economic Reform Fund
Invesco India Infrastructure Fund
Aditya Birla Sun Life Infrastructure Fund

Table No.5.1

- **To analysis the risk involved in the equity based mutual funds.**

To analysis the risk of equity funds, we using standard deviation and Beta co-efficient of funds. To find out Standard Deviation we used NAV changes for last five years of each fund (Rp). To find out beta of fund we have used following data's of NAV growth of funds in last five years as return from the fund (Rp), return from the market is changes in Bench mark index of each funds (Rm) and risk free rate (Rf) 10yera G-sec yield as risk free rate.

Standard Deviation Formula:

$$\sigma = \sqrt{\frac{\sum [x - \bar{x}]^2}{n}}$$

Beta Co-efficient Formula:

$$\beta = \frac{N\Sigma xy - \Sigma x \Sigma y}{N\Sigma x2-(\Sigma x)^2}$$

CALCULATION BETA & STANDARD DEVIATION

- **Calculation Beta Co-efficient of ICICI Prudential Banking and Financial Services Fund**

Year	Rp(Y)	Rm(X)	X^2	XY
2016	-6.68	-3.94	15.52	26.31
2017	21.69	3.11	9.67	67.45
2018	45.70	28.26	798.62	1291.48
2019	0.21	3.14	9.85	0.65
2020	13.70	11.82	139.71	161.93
	74.62	**42.39**	**973.37**	**1547.82**

Table No.5.2

$$\beta = \frac{N\Sigma xy - \Sigma x\Sigma y}{N\Sigma x2-(\Sigma x)^2}$$

$$= \frac{5*1547.82 - (42.39*74.62)}{5*973.37 - (42.39)^2}$$

$$= 1.49$$

❖ **Calculation of standard Deviation of ICICI Prudential Banking and Financial Services Fund**

X(Rp)	$(X-\bar{X})$	$(X-\bar{X})^2$
-6.68	-21.6	466.56
21.69	6.77	45.83
45.70	30.78	947.40
0.21	-14.71	216.38
13.70	-1.22	1.48
14.92		1677.65

Table No.5.3

$$\sigma = \sqrt{\frac{\sum [x - \bar{x}]^2}{n}}$$

= 18.31

INTERPRETATION

Here, The fund, **ICICI Prudential Banking and Financial Services Fund** have beta of 1.49**.** By calculating beta co-efficient we using average of returns from portfolio, return from the market and average of risk free return. The beta in market is 1. Here the **ICICI Prudential Banking and Financial Services Fund** having beta of 1.49**.** So the beta of stock is greater than the beta of market. So this fund is high risky.

The standard deviation of ICICI Prudential Banking and Financial Services Fund is 1.49

❖ **Calculation Beta Co-efficient of Nippon India Banking Fund**

Year	**Rp(Y)**	**Rm(X)**	**X^2**	**XY**
2016	-5.45	-3.94	15.52	21.473
2017	11.22	3.11	9.67	34.89
2018	46.29	28.26	798.62	1308.15
2019	-0.92	3.14	9.85	-3.01
2020	11.09	11.82	139.71	131.08
	62.23	**42.39**	**973.37**	**1492.58**

Table No.5.4

$$\beta = \frac{5*1492.58 - (42.39*62.23)}{5*973.37 - (42.39)^2}$$

$$= 1.57$$

❖ **Calculation of standard Deviation of Nippon India Banking Fund**

X(Rp)	$(X-\bar{X})$	$(X-\bar{X})^2$
-5.45	-17.89	320.05
11.22	-1.22	1.48
46.29	33.85	1145.82
-0.92	-13.36	178.48
11.09	-1.35	1.82
12.44		1647.65

Table No.5.5

$$\sigma = \sqrt{\frac{\sum (x-\bar{x})^2}{n}}$$

=18.15

INTERPRETATION

In the case of Nippon India Banking Fund, the beta co-efficient is **1.57**.So beta of this fund is higher than the beta of market index. So this fund is more risky. Here standard deviation of Axis Blue Chip Fund is 18.15.

❖ **Calculation Beta Co-efficient of Invesco India Financial Services Fund**

Year	**Rp(Y)**	**Rm(X)**	**X^2**	**XY**
2016	-0.23	-3.94	15.52	0.90
2017	11.90	3.11	9.67	37.00
2018	49.30	28.26	798.62	1393.21
2019	2.05	3.14	9.85	6.43
2020	22.06	11.82	139.71	260.74
	85.08	**42.39**	**973.37**	**1698.28**

Table No.5.6

$\beta = \frac{5*1698.28-(42.39*85.08)}{5*973.37-(42.39)^2} = 1.59$

❖ **Calculation of standard Deviation of Invesco India Financial Services Fund**

X(Rp)	$(X-\bar{X})$	$(X-\bar{X})^2$
-0.23	-17.24	297.21
11.90	-5.11	26.11
49.30	32.29	1049.11
2.05	-14.96	223.80

22.06	5.05	25.50
17.01		**1621.73**

$$\sigma = \sqrt{\frac{\Sigma\ [x - \bar{x}]^2}{n}}$$

SD = 18.00

INTERPRETATION

The Invesco India Financial Services Fund have a beta of **1.59.** So the fund's beta co-efficient is higher than the market index. So this fund is high risky. The standard deviation of Invesco

India Financial Services Fund Fund is 18.00

❖ **Calculation Beta Co-efficient of SBI Banking and Financial Services Fund**

Year	**Rp(Y)**	**Rm(X)**	**X^2**	**XY**
2016	-9.42	-3.94	15.52	37.11
2017	17.03	3.11	9.67	52.96
2018	43.39	28.26	798.62	1226.20
2019	11.60	3.14	9.85	36.42
2020	21.20	11.82	139.71	250.58
	83.8	**42.39**	**973.37**	**1603.27**

Table No.5.8

$$\beta = \frac{5*1603.27 - (42.39*83.8)}{5*973.37 - (42.39)^2}$$

$$= 1.45$$

❖ **Calculation of standard Deviation of SBI Banking and Financial Services Fund**

X(Rp)	(X-X¯)	(X-X¯)^2
-9.42	**-26.18**	**685.39**
17.03	**0.27**	**0.07**
43.39	**26.63**	**709.15**
11.60	**-5.16**	**26.62**
21.20	**4.44**	**19.71**
16.76		**1440.94**

Table No.5.9

SD=16.97 INTERPRETATION

The SBI Banking And Financial Services Fund has a beta of 1.45. So the beta of stock is more than the beta of market. So this fund have high risky as compared to the beta of other funds.

The standard deviations of SBI Banking and Financial Services Fund **16.97**.

❖ **Calculation Beta Co-efficient of UTI Banking and Financial Services Fund**

Year	**Rp(Y)**	**Rm(X)**	**X^2**	**XY**
2016	-10.66	-3.94	15.52	42.00
2017	13.51	3.11	9.67	42.01
2018	45.51	28.26	798.62	1286.11
2019	-5.25	3.14	9.85	-16.48
2020	11.74	11.82	139.71	138.76
	54.85	**42.39**	**973.37**	1492.4

Table No.5.10

$$\beta = \frac{5*1492.4-(42.39*54.85)}{5*973.37-(42.39)^2}$$

$$= 1.67$$

❖ **Calculation of standard Deviation of UTI Banking and Financial Services Fund**

X(Rp)	(X-X¯)	(X-X¯)^2
-10.66	-21.63	467.85
13.51	2.54	6.45
45.51	34.54	1193.01
-5.25	-16.22	263.08
11.74	0.77	0.59
10.97		1930.98

Table No.5.11

SD = 19.65

INTERPRETATION

The UTI Banking and Financial Services Fund has a beta of 1.67. So the beta of stock is more than the beta of market. So this fund have high risky as compared to the beta of other funds. The standard deviations of UTI Banking and Financial Services Fund is **19.65**.

❖ **Calculation Beta Co-efficient of Franklin Build India Fund**

Year	**Rp(Y)**	**Rm(X)**	**X^2**	**XY**
2016	3.32	-3.94	15.52	-13.08
2017	9.37	3.11	9.67	29.14
2018	44.51	28.26	798.62	1257.85
2019	-8.92	3.14	9.85	-28.00
2020	7.41	11.82	139.71	87.58
	55.69	**42.39**	**973.37**	**1333.49**

Table No.5.12

$\beta = \frac{5*1333.49-(42.39*55.69)}{5*973.37-(42.39)^2}$

$= 1.40$

❖ **Calculation of standard Deviation of Franklin Build India Fund**

X(Rp)	$(X-\bar{X})$	$(X-\bar{X})^2$
3.32	**-7.81**	**60.99**
9.37	**-1.76**	**3.09**
44.51	**33.38**	**1114.22**
-8.92	**-20.05**	**402.00**
7.41	**-3.72**	**13.83**
11.13		**1594.13**

Table No.5.13

SD = 17.85

INTERPRETATION

The Franklin Build India Fund has a beta of 1.40. So the beta of stock is more than the beta of market. So this fund have high risky as compared to the beta of other funds. The standard deviations of Franklin Build India Fund is 17.85

❖ **Calculation Beta Co-efficient of L&T Infrastructure Fund**

Year	**Rp(Y)**	**Rm(X)**	**X^2**	**XY**
2016	6.94	-3.94	15.52	-27.34
2017	8.40	3.11	9.67	26.12
2018	60.66	28.26	798.62	1714.25
2019	-16.20	3.14	9.85	-50.86
2020	-2.29	11.82	139.71	-27.06

	57.51	**42.39**	**973.37**	**1635.11**

Table No.5.14

$\beta = \frac{5*1333.49-(42.39*55.69)}{5*973.37-(42.39)^2}$

$= 1.40$

❖ **Calculation of standard Deviation of L&T Infrastructure Fund**

X(Rp)	$(X-\bar{X})$	$(X-\bar{X})^2$
6.94	**-4.56**	**20.79**
8.40	**-3.1**	**9.61**
60.66	**49.16**	**2416.70**
-16.20	**-27.7**	**767.29**
-2.29	**-13.79**	**190.16**
11.50		**3404.55**

Table No.5.15

SD = 26.09

INTERPRETATION

The L&T Infrastructure Fund has a beta of 1.40 . So the beta of stock is more than the beta of market. So this fund have high risky,The standard deviations of L&T Infrastructure Fund is 26.09

❖ **Calculation Beta Co-efficient of Kotak Infrastructure and Economic Reform Fund**

Year	**Rp(Y)**	**Rm(X)**	**X^2**	**XY**
2016	-2.10	-3.94	15.52	8.27
2017	10.63	3.11	9.67	33.05
2018	46.66	28.26	798.62	1318.61

2019	-18.32	3.14	9.85	-57.52
2020	4.75	11.82	139.71	56.14
	41.62	**42.39**	**973.37**	**1358.55**

Table No.5.16

$$\beta = \frac{5*1358.55-(42.39*41.62)}{5*973.37-(42.39)^2}$$

$$= 1.63$$

❖ **Calculation of standard Deviation of Kotak Infrastructure and Economic Reform Fund**

X(Rp)	$(X-\bar{X})$	$(X-\bar{X})^2$
-2.10	**-10.42**	**108.57**
10.63	**2.31**	**5.33**
46.66	**38.34**	**1469.95**
-18.32	**-26.64**	**709.68**
4.75	**-3.57**	**12.74**
8.32		**2306.27**

Table No.5.17

SD = 21.47

INTERPRETATION

The Kotak Infrastructure and Economic Reform Fund of 1.63 . So the beta of stock is more than the beta of market. So this fund have high risky, the standard deviations of Kotak Infrastructure and Economic Reform Fund is 21.47.

❖ **Calculation Beta Co-efficient of Invesco India Infrastructre Fund**

Year	**Rp(Y)**	**Rm(X)**	**X^2**	**XY**
2016	-0.87	-3.94	15.52	3.42

2017	1.74	3.11	9.67	5.41
2018	49.96	28.26	798.62	1411.86
2019	-14.17	3.14	9.85	-44.49
2020	7.57	11.82	139.71	89.47
	44.23	**42.39**	**973.37**	**1465.67**

Table No.5.18

$\beta = \frac{5*1465.67-(42.39*44.23)}{5*973.37-(42.39)^2}$

$= 1.77$

❖ **Calculation of standard Deviation of Invesco India Infrastructre Fund**

X(Rp)	$(X-\bar{X})$	$(X-\bar{X})^2$
-0.87	**-9.71**	**94.28**
1.74	**-7.1**	**50.41**
49.96	**41.12**	**1690.85**
-14.17	**-23.01**	**529.46**
7.57	**-1.27**	**1.61**
8.84		**2366.61**

Table No.5.19

SD = 21.75

INTERPRETATION

The Invesco India Infrastructre Fund of 1.77. So the beta of stock is more than the beta of market. So this fund have high risky,The standard deviations of Invesco India Infrastructre Fund is 21.75.

❖ **Calculation Beta Co-efficient of Aditya Birla Sun Life Infrastructure Fund**

Year	**Rp(Y)**	**Rm(X)**	**X^2**	**XY**
2016	-1.17	-3.94	15.52	4.60
2017	1.63	3.11	9.67	5.06
2018	52.57	28.26	798.62	1485.62
2019	-21.24	3.14	9.85	-66.69
2020	-3.39	11.82	139.71	-40.06
	28.4	**42.39**	**973.37**	**1388.53**

Table No.5.20

$\beta = \frac{5*1388.53-(42.39*28.4)}{5*973.37-(42.39)^2}$

$= 1.86$

❖ **Calculation of standard Deviation of Aditya Birla Sun Life Infrastructure Fund**

X(Rp)	$(X-\bar{X})$	$(X-\bar{X})^2$
-1.17	**-6.85**	**46.92**
1.63	**-4.05**	**16.40**

52.57	**46.89**	**2198.67**
-21.24	**-26.92**	**724.68**
-3.39	**-9.07**	**82.26**
5.68		**3068.93**

Table No.5.21

SD = 24.77

INTERPRETATION

The Aditya Birla Sun Life Infrastructure Fund of 1.86 . So the beta of stock is more than the beta of market. So this fund have high risky, The standard deviations of Aditya Birla Sun Life Infrastructure Fund is 24.77.

CALCULATION OF SHARPE'S INDEX

Sharpe's Ratio = $\frac{(Rp-Rf)}{S.D}$

Where, Rp is the realized return on the portfolio.

Rf is the risk free rate of return.

S.D is the standard deviation of the fund.

FUND NAME	Rp	Rf	S.D	SHARPE'S INDEX
Banking sector				
ICICI Prudential banking and financial services fund	14.92	7.2	18.31	0.4216
Nippon India Banking Fund	12.44	7.2	18.15	0.2887
Invesco India Financial Service fund	17.01	7.2	18.00	0.545
SBI Banking and Financial Service Fund	16.76	7.2	16.97	0.5633
UTI Banking and Financial Service Fund	10.97	7.2	19.65	0.1918
Infrastructure sector				
Franklin Build India Fund	11.13	7.2	17.85	0.2201
L&T Infrastructure Fund	11.50	7.2	26.09	0.1648
Kotak Infrastructure and Economic Reform Fund	8.32	7.2	21.47	0.0521
Invesco India Infrastructure Fund	8.84	7.2	21.75	0.0754
Aditya Birla Sun Life Infrastructure Fund	5.68	7.2	24.77	-0.061

Table No.5.22

RANKING BASED ON SHARPE'S INDEX

FUND NAME	SHARPE'S INDEX	RANK
ICICI Prudential banking and financial services fund	0.4216	3
Nippon India Banking Fund	0.2887	4
Invesco India Financial Service fund	0.545	2
SBI Banking and Financial Service Fund	0.5633	1
UTI Banking and Financial Service Fund	0.1918	6
Franklin Build India Fund	0.2201	5
L&T Infrastructure Fund	0.1648	7
Kotak Infrastructure and Economic Reform Fund	0.0521	9
Invesco India Infrastructure Fund	0.0754	8
Aditya Birla Sun Life Infrastructure Fund	-0.061	10

Table No.5.23

INTERPRETATION

As per Sharper's performance measurement for the selected banking and Infrastructure equity funds the SBI Banking and Financial Service Fund is performing better than other funds followed by Invesco India Financial Service fund ,ICICI Prudential banking and financial services fund, Nippon India Banking Fund in the banking industry. And Franklin Build India Fund is leading in the infrastructure industry followed by L&T Infrastructure Fund and Invesco India Infrastructure Fund. The Aditya Birla Sun Life Infrastructure Fund is lagging behind.

CALCULATION OF TREYNOR'S INDEX

Treynor's Ratio = $\frac{(Rp-Rf)}{\beta}$

Where

Rp is the realized return on the portfolio.

Rf is the risk free rate of return.

β is the beta coefficient of the portfolio.

FUND NAME	Rp	Rf	Beta	TREYNOR'S INDEX
Banking sector				
ICICI Prudential banking and financial services fund	14.92	7.2	1.49	5.1812
Nippon India Banking Fund	12.44	7.2	1.57	3.3375
Invesco India Financial Service fund	17.01	7.2	1.59	6.1698
SBI Banking and Financial Service Fund	16.76	7.2	1.45	6.5931
UTI Banking and Financial Service Fund	10.97	7.2	1.67	2.2574
Infrastructure sector				
Franklin Build India Fund	11.13	7.2	1.40	2.8071
L&T Infrastructure Fund	11.50	7.2	1.40	3.0714
Kotak Infrastructure and Economic Reform Fund	8.32	7.2	1.63	0.6871
Invesco India Infrastructure Fund	8.84	7.2	1.77	0.9265
Aditya Birla Sun Life Infrastructure Fund	5.68	7.2	1.86	-0.8172

Table No.5.24

FUND NAME	TREYNOR'S INDEX	RANK
ICICI Prudential banking and financial services fund	5.1812	3
Nippon India Banking Fund	3.3375	4
Invesco India Financial Service fund	6.1698	2
SBI Banking and Financial Service Fund	6.5931	1
UTI Banking and Financial Service Fund	2.2574	7
Franklin Build India Fund	2.8071	6
L&T Infrastructure Fund	3.0714	5
Kotak Infrastructure and Economic Reform Fund	0.6871	9
Invesco India Infrastructure Fund	0.9265	8
Aditya Birla Sun Life Infrastructure Fund	-0.8172	10

Table No.5.25

RANKING BASED ON TREYNOR'S INDEX
INTERPRETATION

On the basis of Treynor's performance measurement**,** SBI Banking and Financial Service Fund shows high performance followed by Invesco India Financial Service fund , ICICI Prudential banking and financial services fund in banking industry and L&T Infrastructure Fund is in front of other funds in infrastructure industry. Aditya Birla Sun Life Infrastructure Fund plan is lagging behind.

PERFORMANCE ANALYSIS OF EQUITY FUNDS

FUND NAME	Rp	Rf	Sd	Beta	**Sharper's Ratio**	**Treynor's Ratio**
Banking sector						
ICICI Prudential banking and financial services fund	14.92	7.2	18.31	1.49	0.4216	5.1812
Nippon India Banking Fund	12.44	7.2	18.15	1.57	0.2887	3.3375
Invesco India Financial Service fund	17.01	7.2	18.00	1.59	0.545	6.1698
SBI Banking and Financial Service Fund	16.76	7.2	16.97	1.45	0.5633	6.5931
UTI Banking and Financial Service Fund	10.97	7.2	19.65	1.67	0.1918	2.2574
Infrastructure sector						
Franklin Build India Fund	11.13	7.2	17.85	1.40	0.2201	2.8071

L&T Infrastructure Fund	11.50	7.2	26.09	1.40	0.1648	3.0714
Kotak Infrastructure and Economic Reform Fund	8.32	7.2	21.47	1.63	0.0521	0.6871
Invesco India Infrastructure Fund	8.84	7.2	21.75	1.77	0.0754	0.9265
Aditya Birla Sun Life Infrastructure Fund	5.68	7.2	24.77	1.86	-0.061	-0.8172

Table No.5.26

INTERPRETATION

When examining the investment in terms of its return by adjusting its risk it is found that SBI Banking and Financial Service Fund gives the maximum returns in the market with an Rp of 16.76, followed by Invesco India Financial Service fund (Rp-17.01). The fund which gives the least return is Aditya Birla Sun Life Infrastructure Fund.

SBI Banking and Financial Service Fund stands first in both Sharper's Index and Treynor's Index. Both in case of Sharper's index and Treynor's index, Aditya Birla Sun Life Infrastructure Fund lagging the behind.

COMPARISON ON PERFORMANCE OF BANKING AND INFRASTUCTURE SECTOR EQUITY FUNDS

FUND NAME	Rp	Rf	Sd	Beta	Sharper's Ratio	Treynor's Ratio
Banking sector	14.42	7.2	18.21	1.55	0.4020	4.70
Infrastructure sector	9.09	7.2	22.38	1.612	0.0902	1.33

Table No.5.2 7

INTERPRETATION

As per the calculations banking industry shows more performance than infrastructure industry, since both Sharpe and Treynor's ratio shows banking sector as the best performing sector than the infrastructure industry. The infrastructure shows a beta value of 1.009 which is gradually more risky compared to the banking sector but gives higher return.

CHAPTER 6
FINDINGS OF THE STUDY

FINDINGS

- SBI Banking and Financial Service Fund is the best as per Sharpe measure
- As per Treynor's performance measurement SBI Banking and Financial Service Fund is performing much better than other funds.
- Aditya Birla Sun Life Infrastructure Fund is the least performing fund both in case of Sharpe index and Treynor's index.
- Aditya Birla Sun Life Infrastructure Fund has high beta value (1.86) showing high risk and Franklin Build India Fund and L&T Infrastructure Fund has the lowest beta (1.40) which is less risky to invest.
- SBI Banking and Financial Service Fund has low standard deviation (16.97) showing low variations in returns and L&T Infrastructure Fund has a higher standard deviation (26.09) showing high variations in return with less consistency.
- As per sharpe measure and as per Treynors ratio Invesco India Financial Service fund gets second position and also this fund shows an average beta and standard deviation compared to other fund so it is better for make investments.
- SBI Banking and Financial Service Fund having high Sharpe and Treynor's index, therefore they are the best performer in the market, among selected mutual funds from the banking and infrastructure industry.
- Comparing the banking and infrastructure sector, banking sector performs the best with higher return and infrastructure sector shows less rate of return.
- Banking sector shows less volatile with beta value of 1.55 than infrastructure sector which indicates 1.612 beta value.

RECOMMENDATIONS

- It was observed that as per Sharpe performance measurement for the selected equity funds the Aditya Birla Sun Life Infrastructure Fund and Kotak Infrastructure and Economic Reform Fund is lagging behind. Therefore it is advisable for the investors to make major investments in the performing funds rather than other funds so as to make more returns.

- As per Treynor's performance measurement for the selected public and private sector funds the SBI Banking and Financial Service Fund and Invesco India Financial Service fund is performing much better than other funds. Therefore it is advisable for the investors to make major investments in the performing funds rather than other funds so as to make more returns.

- Based on the Sharpe performance analysis SBI Banking and Financial Service Fund is good and it is highly recommended. And Invesco India Financial Service fund occurs second in the ranking and also it is comparatively low risky fund .
- UTI Banking and Financial Service Fund and Kotak Infrastructure and Economic Reform Fund shows comparatively low fluctuations. So, these funds are best suited to an investor who is averse of risk.
- Investors must be given proper investment guidelines so that they will be aware of the type of schemes they are investing.
- While choosing the schemes, it is better to select the scheme which has good return basis as well as the risk factor involved in it.
- The investors usually evaluate the portfolio on the basis of risk factor. They should be given clear idea about the risk and return.
- Comparing to infrastructure sector banking sector performs the best,but it is not correct for all time because study was conducted among fue funds only

CHAPTER 7
CONCLUSION

This study creates awareness that the mutual funds are worth investment practice. The various schemes of mutual funds provide the investors with a wide range of investments options according to his risk bearing capacities and interest. Besides they also give a handy return to the investors. The project analyses various schemes of different Companies.

In India Mutual funds are playing important role. The mutual fund companies pool the savings of small investors and invest those collected huge amount of funds in different sectors of the economy. They are performing like intermediary between small investor and the Indian capital market. To encounter the competition the different companies are introducing different types of mutual fund schemes with attractive returns and low risk. So it is an advantage to the investors. The rankings given to the mutual funds attract the investment by the investors to the respective funds. For the purpose of ranking the performance of various mutual funds the methods such as Sharpe, Treynor ratios were applied to the various funds in different schemes. The ranks provided for the fund chapter explains relative performance of the schemes.

As per the evaluation and study conducted it is concluded that it doesn't matter whether a fund is banking or infrastructure sector, but the proper analysis and interpretation as well as forecasting of the fund managers regarding each fund makes the investment decision right .

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