"Decoding Performance Dynamics Of Thematic Infrastructure Mutual Funds: Insights Into Sustainable Investing"

Dr. Shikha Rajput*

*Assistant Professor, Shri Ram College of Commerce, University of Delhi, Email: shikha.rajput@srcc.du.ac.in
Orcid id - https://orcid.org/0000-0002-2033-8944

Abstract
This study investigates the performance dynamics of selected thematic infrastructure mutual funds in India, with a particular emphasis on their role in supporting sustainable economic development and entrepreneurial ecosystems. Using a quantitative research design based on secondary data from April 2024 to March 2025, the study evaluates ten open-ended thematic schemes through key financial and risk-adjusted performance indicators, including return, standard deviation, beta, Sharpe ratio, Treynor ratio, Jensen's alpha and Fama decomposition. Beyond financial evaluation, the study situates infrastructure investments within the broader context of sustainability and inclusive growth. Infrastructure-focused mutual funds channel capital into critical sectors such as energy, transportation, and urban development, which are essential for enabling small and medium enterprises (SMEs), fostering innovation, and strengthening entrepreneurial capacity in emerging economies like India. The findings reveal that while all selected funds generated positive returns, top-performing funds such as Invesco India Infrastructure Fund, Franklin Fund (Build India), and DSP Fund (Tiger India) demonstrate superior managerial efficiency and strong selectivity, contributing to sustainable capital allocation. The results highlight the trade-off between risk and return, while also indicating that a significant portion of performance is driven by fund-specific strategies rather than market movements alone. Importantly, the study underscores how thematic infrastructure investments can indirectly support sustainable entrepreneurship by enhancing economic infrastructure and promoting long-term development outcomes. The research contributes to the growing discourse on sustainable finance and its implications for entrepreneurial growth in Asia, offering insights for investors, policymakers, and scholars interested in the intersection of finance, sustainability, and development.

Keywords: Thematic Mutual Funds; Sustainable Finance; Infrastructure Investment; Entrepreneurial Ecosystems; SME Development

INTRODUCTION:

Mutual funds have turned out to be one of the most significant financial instruments to mobilise the savings and channel them towards productive investment activities. They are critical in the formation of capital, financial inclusion and general economic growth in the emerging economies like India. Mutual funds offer the benefits of diversified portfolios that are run by professional fund managers, reduce investment risk for individuals as well as institutional investors and enhance returns. The mutual fund industry has grown significantly over the years and presents a broad choice of schemes that can suit the various preferences and risk profiles of investors. The growing involvement of investors in mutual funds is affected by several behavioural and financial dynamics, such as inflows and outflows of funds and choices of investors (Barber et al., 2016).

Mutual fund investments differ widely in their structure of the investments. As Figure 1 indicates, equity-based schemes are the most preferred investment schemes because they have higher returns but have increased exposure to market risks. This indicates the predisposition of investors towards growth opportunities in spite of the existence of greater volatility.

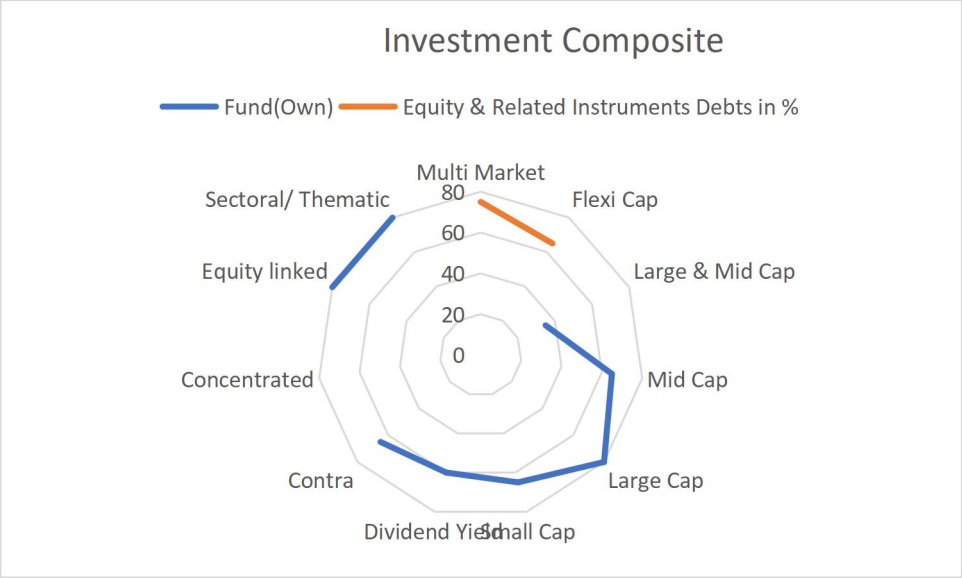

Figure 1. Investment Pattern of Equity Schemes

Unlike the equity schemes, debt-based mutual funds are more focused on stability and consistent issuance of income. Figure 2 shows the trend in investment of the debt fund schemes, which mainly invest in fixed-income securities. Such investments are normally favoured by risk-averse investors and require capital preservation and stable returns, especially where there is uncertainty in the market.

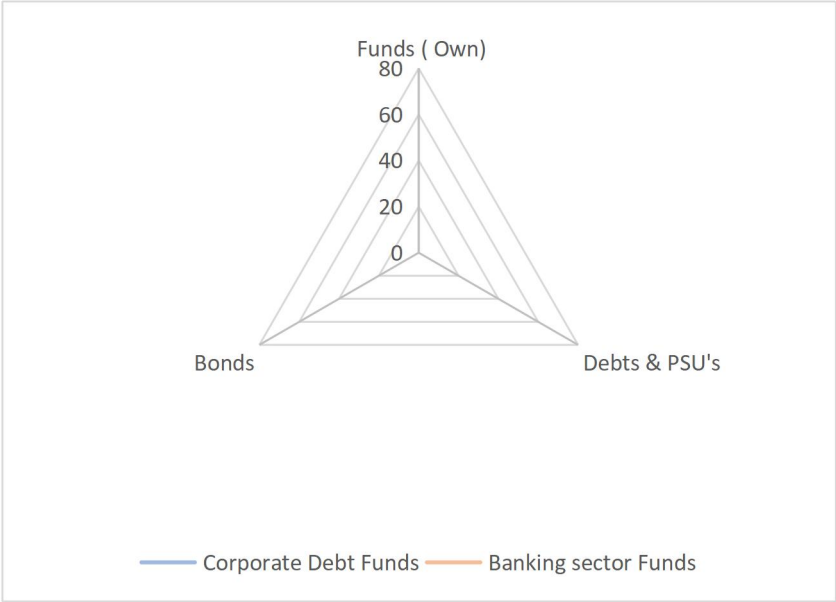

Figure 2. Debt Fund Schemes (Investment Composite)

Hybrid mutual funds are designed to find a balance between risk and performance through the combination of debt & Equity instruments in one portfolio. These schemes are beneficial in terms of diversification because, as indicated in Figure 3, they have a diversification effect of spreading the investments in various asset classes. The strategy allows investors to be risk-averse and, at the same time, be exposed to potential market returns.

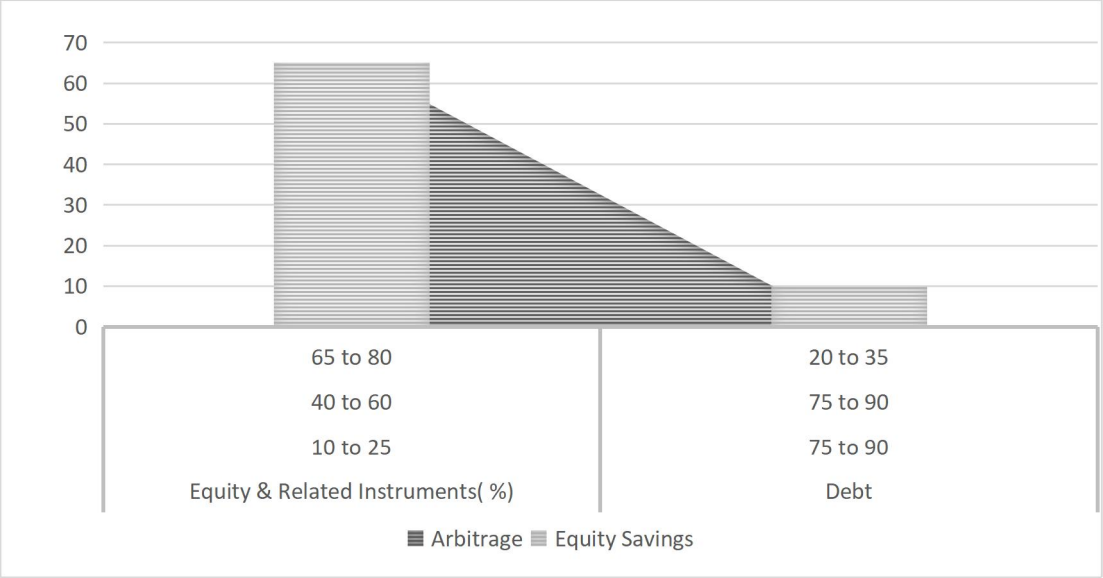

Figure 3. Investment Pattern of Hybrid Schemes

Thematic mutual funds, especially infrastructure funds, have become more popular over the past few years, because they have the potential to achieve greater returns to contribute for the long-term growth of the economy. The sectors in which these funds are invested, like energy, transportation and urban development, are necessary in economic expansion and industrial development. Infrastructure investments help to boost productivity, enhance connectivity, and promote entrepreneurial activities by providing a conducive business environment. Their increasing popularity as thematic investments is a change of preference among investors towards speciality and high-growth industries (Altan, 2022; Bai et al., 2025). In addition, infrastructure development plays a crucial role in strengthening entrepreneurial ecosystems by enabling access to markets, reducing operational constraints, and fostering innovation-driven enterprises. Improved infrastructure facilitates the growth of small and medium enterprises which are central to sustainable entrepreneurship and comprehensive economic expansion in emerging economies.

There is a large literature on the mutual fund performance based on various financial models and risk-return procedures. The most common traditional performance evaluation tools have been Treynor ratio, Sharpe ratio, and the Jensen alpha, which have been extensively utilised to evaluate the efficiency of selected funds in terms of returns versus risk. Empirical research has proven that mutual fund performance differs among schemes based on the composition of the portfolio, market conditions, and fund management strategies (Babbar & Sehgal, 2018; Goel & Ahluwalia, 2021). Further, the studies have also highlighted the role of fund managers' ability to affect performance results, and it is even argued that the best managerial skill may result in a steady outperformance (Berk & van Binsbergen, 2016).

More research has been done on how mutual fund investments relate to market behaviour. The article by (Fama & French, 2016) also reveals how the various risk factors contribute to the explanation of asset returns and therefore the theoretical basis of performance evaluation of funds. In the same manner, studies on portfolio composition and consistency of styles also indicate that the congruence between the stated strategy and actual holdings of a given fund is a key factor in establishing its performance (Sen & Chaudhuri, 2016). These results highlight the role of systematic and non-systematic factors in determining the returns of mutual funds.

The issues of sectoral and thematic funds' performance in the emerging markets have also been explored in recent literature. Research has shown that thematic funds are more likely to be volatile as they have a concentrated method of investment, but can be more successful in generating returns when the market is in a good mood (Trivedi & Raval, 2022). Besides this, investment strategies that are driven by sustainability have attracted attention, and studies have found that investment funds that are oriented towards sustainable goals can compete with others and also help to achieve the economic goals at large (Ielasi & Rossolini, 2019). The increasing importance of thematic and sustainability-based investments makes it important to pay more specific attention to infrastructure-based mutual funds.

Though a lot has been done regarding the evaluation of mutual funds, little has been done concerning thematic infrastructure funds, especially in developing economies such as India. The majority of research focuses on diversified equity or debt funds, thus creating a gap in the comprehension of the

dynamics of sector-specific investment schemes (Ali et al., 2023). In addition, current studies frequently concentrate more on financial performance without properly addressing the wider aspects of such investments in the context of managing capital allocation and economic development.

The increasing importance of infrastructure development in developing economies underscores the need to look at the performance of thematic infrastructure mutual funds on a holistic basis. Investors must be well educated on whether such funds are able to deliver better returns and in a manner that can adequately handle the risks involved. Moreover, we need to determine whether market movements or fund management efficiency of fund managers cause fund performance.

Here, the idea of the current work is to examine the performance of the chosen thematic infrastructure funds in India based on the risk-return trade-off and risk-adjusted parameters. The study aims to assess the efficiency of these funds in terms of their ability to generate yields as compared to the risk involved, the sensitivity of these funds to market movements and how fund managers can create abnormal returns. Using several assessment methods, the research gives a full evaluation of the performance of funds and can help to better understand the thematic investment strategies. Thematic infrastructure investments would enhance the long-term developmental objectives through the support of sectors geared towards inclusive development and resource efficiency, thus bridging financial performance and overall sustainability performance. The research is driven by certain objectives, which are to determine investment performance by using Sharpe and Treynor ratios, to determine the sensitivity of the market by calculating the beta, to determine the efficiency of the manager by using Jensen alpha, and to analyse the components of returns by using advanced performance models. To test these hypotheses, the research is premised on the following hypotheses: first, that the chosen thematic mutual funds do not yield better returns than the market benchmark; second, that the funds are not highly sensitive to the market and produce positive abnormal returns; and third, that the funds returns are not strongly explained by the elements of the performance decomposition model.

RESEARCH METHODOLOGY

Research Design

This research paper will utilise a quantitative research design using secondary data in an effort to depict the performance of thematic infrastructure mutual funds in India. The discussion is aimed at studying the risk-return interaction and evaluating the effectiveness of fund management in terms of the traditional financial performance measurements. Besides financial assessment, the results are analysed on sustainable investment and its consequences to the economic growth of the emerging economies.

Data Source and Sample Selection

The research will solely be based on secondary data to gather information on the subject by using reliable and publicly accessible websites like mutualfundsindia.com and amfiindia.com. Other sources of information are scholarly journals, industrial reports, and government publications to make sure that the information is reliable and consistent. To choose the sample, a purposive sampling method is used that includes 10 open-ended thematic mutual fund schemes that are mostly concentrated on infrastructure and its related industries. Such schemes are chosen on the basis of such factors as at least five years of operation history, the possibility of stable and full data and their suitability to thematic investment strategies. The chosen funds are the key asset management firms that work in India.

Study Period

The time frame of the study is one year, beginning April 2024 and ending March 2025, which could reflect the newest market dynamics and allow assessing the current trends of performance in thematic mutual funds.

Benchmark and Risk-Free Rate

To conduct the performance analysis, the BSE National Index is considered to be the benchmark to reflect the overall market performance, and the 182-day Treasury Bill rate is adopted as the proxy of the risk-free rate. This guarantees conformity to the conventional financial research practices.

Analytical Tools and Techniques

The analysis of the performance of the chosen mutual funds is a combination of financial and statistical measures. The portfolio return (R_p) is determined using the changes in Net Asset Value (NAV) as follows:

$$R_p = \frac{NAV_t - NAV_{t-1}}{NAV_{t-1}}$$

In the same way, the market return (R_m) is calculated using the changes in the benchmark index:

$$R_m = \frac{M.Ind_t - M.Ind_{t-1}}{M.Ind_{t-1}}$$

To quantify the overall risk, we take the standard deviation (σ_p) to express the variation of the portfolio returns around the mean and it is:

$$\sigma_p = \sqrt{\frac{\sum(R_p - AR_p)^2}{N}}$$

Likewise, the standard deviation of the market (σ_m) is calculated as:

$$\sigma_m = \sqrt{\frac{\sum(R_m - AR_m)^2}{N}}$$

In which AR_p and AR_m are the average portfolio return and average market return, respectively, and N is the number of observations.

The systematic risk of the fund can be obtained through the beta coefficient (β_p), which shows how the fund is sensitive to market movements. It is estimated to be:

$$\beta_p = \frac{\sum(er_{mt} - \bar{er}_m)(er_{pt} - \bar{er}_p)}{\sum(er_{mt} - \bar{er}_m)^2}$$

and er_{mt} signifies the additional return on the market portfolio, er_{pt} signifies the additional return on the portfolio, $\bar{er}_m$ and $\bar{er}_p$ present their averages. A beta of more than one implies that it is more volatile than the market, whereas a beta of less than one indicates that it is not that sensitive.

Sharpe ratio (S) is used to compare the risk-adjusted performance of an investment by comparing the surplus return of a given investment to the total risk:

$$S = \frac{R_p - R_f}{\sigma_p}$$

where R_f is the risk-free rate. The Sharpe ratio is high, which shows a superior risk-adjusted performance.

The Treynor ratio (T) shows returns on systematic risk, and is determined as:

$$T = \frac{R_p - R_f}{\beta_p}$$

The measure is used to measure the effectiveness of a given fund in terms of generating returns based on its market risk exposure.

Also, Alpha (α) by Jensen is to gauge the potential of the fund manager to produce abnormal returns, over and above what the market should have done. It is expressed as:

$$R_p - R_f = \alpha + \beta(R_m - R_f) + e_i$$

An alpha above one signifies that there is better management performance and good stock selection. Another study that is Fama Decomposition Model, which breaks down the total return in four parts: risk-free, compensation of systematic risk, insufficient diversification and selectivity. This model gives further explanations of fund performance beginnings and emphasises the role of diversification and managerial prowess.

Additionally, statistical data such as the correlation coefficient (r) are also used in examining the direction & strength of the association between market returns and fund returns. The (R^2) represents the share of fund returns attributed to market movements, and the complement is (1 -R^2), the share of returns due to fund-specific factors and active management. Risk-return efficiency of the chosen schemes is also compared by the coefficient of variation (CV).

Relevance to Sustainable Development

Though the research mainly revolves around financial performance, the results are construed in the wider context of sustainable development and economic growth. Infrastructure mutual funds contribute greatly to the investments of funds in the major sectors, including power, transport and urban development. These investments are indirectly helpful in supporting the entrepreneurial activities, promoting the industrial growth, and the development of small and medium enterprises (SMEs) in the emerging economies such as India.

ANALYSIS AND RESULTS

Performance Analysis of Thematic Mutual Funds

The returns, risk, beta, alpha and risk-adjusted performance measures are used to evaluate the performance of the chosen thematic infrastructure mutual funds. Table 1 shows the results.

Table 1. Performance Measurement of Thematic Schemes

Schemes (Growth)	R	σ	β	α	S	T
Quant Fund – (Infra.)	0.2811	1.1483	0.9949	0.1004	0.1847	0.2132
ICICI Prudential Fund – (Infra.)	0.3613	0.8286	0.7204	0.2114	0.3527	0.4057
Invesco India Fund - (Infra.)	0.4084	0.8876	0.6661	0.2646	0.3824	0.5095
DSP Tiger Fund – Reg	0.3955	0.8988	0.6766	0.2505	0.3632	0.4826
Kotak Fund – (Infrastructure & Economic Reform)	0.3129	0.782	0.6079	0.1756	0.3118	0.4012
Canara Robeco Infrastructure Fund	0.3409	0.8383	0.6874	0.1947	0.3243	0.3955

Nippon India Consumption Fund	0.2515	0.7126	0.5294	0.1231	0.2561	0.3447
Franklin Build Fund	0.412	0.8597	0.7506	0.2587	0.3989	0.4570
BNP Paribas India (Baroda Consumption Fund)	0.2588	0.7186	0.5724	0.1255	0.2641	0.3316
Edelweiss Recently Listed IPO Fund	0.2992	0.8775	0.5302	0.1707	0.2623	0.4342
Market Index (Benchmark)	0.1855	0.8356	1	-	0.1394	0.1165

Return and Risk Analysis

As indicated in Table 1, all the thematic funds that were chosen made positive returns over the period of study. The Franklin Build India Fund had the greatest return (0.412), Invesco Fund (0.4084), and DSP Tiger Fund (0.3955), respectively. Conversely, the BNP Paribas India Fund (0.2588) and the Nippon (Consumption) Fund (0.2515) had lower returns relative to the chosen schemes.

In terms of total risk, which is expressed in terms of standard deviation (σ), Table 1 showed that the Quant Infrastructure Fund (1.1483) had the highest volatility of all the schemes. Invesco fund, DSP Tiger fund, Canara Robeco fund, Franklin Build India fund and Edelweiss fund were found to have a greater risk than the market risk (0.8356). In contrast, ICICI Prudential Fund, Kotak Fund, Nippon India (Consumption) Fund, and BNP Paribas Fund had lower volatility as compared to the market.

Beta Analysis

The values of beta in Table 1 indicate that the beta of all the chosen funds is positive, with a range of 0.5294-0.9949, which represents the direct correlation with the market trends. The Quant Infrastructure Fund (0.9949) showed the highest beta, which means that it is more sensitive to market movements.

Relatively low values of beta were reported by funds like Edelweiss Recently Listed IPO Fund (0.5302), Nippon India Consumption Fund (0.5294), and Baroda BNP Paribas Fund (0.5724), which implies that they have a low systematic risk as compared to other schemes.

Risk-Adjusted Performance – Sharpe Ratio

The values of the Sharpe ratio, as shown in Table 1, show that Franklin Build India Fund (0.3989) had the greatest risk-adjusted return of all the schemes. They are Invesco India Infrastructure Fund (0.3824), DSP India Tiger Fund (0.3632) and ICICI Prudential Infrastructure Fund (0.3527).

Quant Infrastructure Fund (0.1847) had the lowest Sharpe ratio among the funds that were sampled. Table 1 indicates that all schemes have a Sharpe ratio that is greater than the market Sharpe ratio (0.1394).

Treynor Ratio Analysis

The values of the Treynor ratios, as shown in Table 1, show that the Invesco India Infrastructure Fund (0.5095) had the highest value of the Treynor ratio compared to all the schemes. Next is the DSP India Tiger Fund (0.4826), Franklin Build India Fund (0.4570) and Edelweiss Recently Listed IPO Fund (0.4342).

Among those schemes, Baroda BNP Paribas Fund (0.3316) and Nippon India Consumption Fund (0.3447) had rather lower Treynor ratios.

Jensen's Alpha Analysis

All the chosen funds possess positive Jensen alpha values as indicated in Table 1, and this shows that excess returns are generated compared to expected returns by the market. The alpha of the Invesco India Infrastructure Fund (0.2646) was highest, followed by the Franklin Build India Fund (0.2587) and DSP India Tiger Fund (0.2505).

Baroda BNP Paribas Fund (0.1255), Nippon India Consumption Fund (0.1231) and Quant Infrastructure Fund (0.1004) achieved relatively low alpha values.

Fama Decomposition Analysis

Table 2 shows the decomposition of returns using the Fama model that separates total returns into risk-free return, the effect of beta, the effect of divergence and choosiness.

Table 2. Fama Composition of Thematic Fund Return

Schemes (Growth)	Return	Return (Risk - Free)	Beta Impact	Id Impact	Return (due to selectivity)
Quant Fund (Infrastructure)	0.2811	0.069	0.1117	0.0426	0.0578
ICICI Prudential Fund (Infrastructure)	0.3613	0.069	0.0809	0.0305	0.1809
Invesco India Fund (Infrastructure)	0.4084	0.069	0.0748	0.0445	0.2201

DSP India Tiger Fund - Reg	0.3955	0.069	0.0760	0.0448	0.2057
Kotak Infrastructure & Economic Reform Fund	0.3129	0.069	0.0683	0.0368	0.1388
Canara Robeco Fund (Infrastructure)	0.3409	0.069	0.0772	0.0355	0.1592
Nippon India Fund (Consumption)	0.2515	0.069	0.0595	0.0363	0.0867
Franklin Build India Fund	0.412	0.069	0.0843	0.0312	0.2275
BNP Paribas Fund (Baroda consp.)	0.2588	0.069	0.0643	0.0323	0.0932
Edelweiss IPO Fund	0.2992	0.069	0.0595	0.0584	0.1123

The Franklin Build India Fund (0.2275) has had the highest return because of selectivity, followed by the Invesco India Fund (0.2201) and DSP India Tiger Fund (0.2057).
Baroda BNP Paribas Fund (0.0932), Nippon India Consumption Fund (0.0867) and Quant Infrastructure Fund (0.0578) had less selectivity contributions. The Quant Infrastructure Fund has the greatest impact of beta, meaning that it is more affected by systematic risk.

Correlation and Determination Analysis
Table 3 shows the correlation coefficient (r), coefficient of determination (R^2) and its complement ($1-R^2$).

Table 3. Factor Values of Thematic Funds

Schemes by Name (Growth)	**"r"**	**R^2**	**$1- R^2$**
Quant Infra.	0.6315	0.3988	0.6012
ICICI Prudential Fund (Infra.)	0.6925	0.4796	0.5204
Invesco Fund (Infra.)	0.5744	0.3299	0.6701
DSP Tiger Fund - Reg	0.5634	0.3174	0.6826
Kotak Infrastructure & Economic Reform Fund	0.6285	0.3950	0.6050
Canara Robeco Fund (Infra.)	0.6356	0.4040	0.5960
Nippon India Fund (Consumption)	0.6241	0.3895	0.6105
Franklin Build India Fund	0.6805	0.4631	0.5369
BNP Paribas Fund (Consumption)	0.6792	0.4613	0.5387
Edelweiss IPO Fund	0.4589	0.2106	0.7894

The ICICI Prudential Infrastructure Fund (0.6925), as indicated in Table 3, had the highest correlation with the market, with the lowest correlation of the selected schemes recorded in the Edelweiss Recently Listed IPO Fund (0.4589).
The coefficient of determination (R^2) shows that the ICICI Prudential Infrastructure Fund (0.4796) explains the greatest percentage of return variation due to market movements. Conversely, the Edelweiss Recently Listed IPO Fund (0.2106) had the lowest value of R.

The highest and the lowest complement ($1-R^2$) of the Edelweiss Fund (0.7894) and ICICI Prudential Fund (0.5204), respectively, means that non-market aspects differ in their impact on the schemes.

DISCUSSION
The study results indicate that the chosen thematic infrastructure mutual funds differ in the domains of return, risk, and risk-adjusted performance. All the chosen funds had positive returns over the period of study, as shown in Table 1, which reflects positive market conditions and good fund management

practices. Out of the schemes, Franklin Build India Fund, Invesco India Infrastructure Fund and DSP India Tiger Fund proved to be the best in terms of returns. This performance variance of funds is not new, as previous empirical research has indicated that the performance of mutual funds varies depending on fund management strategies, market timing and portfolio composition (Rao & Meerja, 2025; Supriya & Sendhil Kumar, 2019).

The total risk analysis, in terms of standard deviation, reveals that the greater the returns, the greater the volatility in most cases. The standard deviation of Q Infrastructure Fund was the highest, which means that there was a greater variability of returns than with other schemes. On the other hand, the returns of funds such as ICICI Prudential Infrastructure Fund and Kotak Infrastructure Fund were relatively not volatile, meaning that they have more stable returns. This inverse relationship between risk and stability is in conformity with other studies which indicate that funds that have aggressive investment strategies are likely to have high returns but at the same time subject the investors to greater uncertainty (Venkatesh et al., 2020). These findings highlight the importance of setting expectations with respect to returns and risk-taking in the choice of mutual fund schemes.

The beta review additionally shows that all of the chosen funds are positively related to market movements, which means that they are exposed to systematic risk. In comparison, funds with a beta slightly lower than one, like Quant Infrastructure Fund, are highly sensitive to market changes, but funds with a lower beta, like Edelweiss Recently Listed IPO Fund and Nippon India Consumption Fund, demonstrate rather defensive behaviour (Somefun et al., 2023). This difference is an indication of the dissimilarity between fund strategies and their sensitivity to the overall economic factors. Other previous researches have indicated the same, indicating that beta is important in determining the response of funds to the volatility of the market and even to macroeconomic events (Dr. T. Praveen Kumar & Dr. Mohammed Irfan, 2025)

The risk-based performance metrics, particularly the Sharpe and Treynor ratios, can help to reveal more about the effectiveness of fund management. The findings reveal that Franklin Build India Fund and Invesco India Infrastructure Fund always perform better than other schemes in both measures. This implies that these funds are more effective at producing more returns as compared to the risks being taken (Cagnazzo, 2022). Conversely, the Quant Infrastructure Fund has a relatively low Sharpe ratio, meaning that larger volatility will decrease its overall performance, although it produces positive returns. These results back the claim that the analysis of mutual fund performance based only on returns can be deceptive and that risk-adjusted indicators can give a more accurate picture of fund efficiency (Chu et al., 2023).

The findings are also supported through the alpha analysis by Jensen which indicates that all the funds used gave positive abnormal returns during the period of the study. Alpha of funds such as Invesco India Fund, Franklin Build Fund and DSP Tiger Fund is larger, which means that they can better select stocks and manage their portfolios (Sen, 2019). This implies that fund managers have the probable to outsmart the market by investing in a strategic manner. Active management is a proven concept in the literature of increasing returns of a mutual fund, but researchers have found that talented fund managers can increase excess returns by locating underpriced securities and maximising the use of funds in a portfolio (Agarwal et al., 2025).

Fama decomposition analysis offers further information about the sources of fund performance since it decomposes total returns into different parts. The results are also indicative that most of the returns of high-performing funds can be attributed to selectivity, which implies that managerial expertise is a major contributor to performance. Such funds as Franklin Build India Fund and Invesco India Infrastructure Fund registered greater selectivity contributions compared to the others, which registered lower contributions comparatively. These variations imply that there are differences in investment policies, the level of diversification and the way portfolios are built. The results are in line with research that focuses on the effects of the allocation of factors and the strategic changes on the performance of the mutual funds (Jeyaprakash et al., 2025).

In addition, correlation and determination analysis show that there is a moderate to strong connotation between fund returns and market returns. There is a higher correlation coefficient between funds like ICICI Prudential Infrastructure Fund, implying that they are highly reliant on market movements. Conversely, funds having lower R^2 values, like Edelweiss Recently Listed IPO Fund, represent the fact that a higher percentage of their performance is caused by the fund-specific factors as opposed to market trends. This difference is a measure of the active management strategies and diversification practises of funds. Other previous studies have recorded similar results and point out that certain funds are more dependent on performance in the market, whereas others are advantaged by the independent portfolio strategies (Venkatesh et al., 2020). In terms of entrepreneurship and sustainability, the findings imply that the development of entrepreneurial projects via thematic infrastructure funds can be indirectly aided by efficient distribution of capital by empowering the underpinning economic systems. These investments will lead to an enabling environment towards innovation, enterprise

development and sustainable development in the long run.

On the whole, the findings indicate that thematic infrastructure mutual funds vary considerably in terms of their performance depending on the level of risk exposure, efficiency in the management of the funds and the portfolio strategies. Where the funds can balance the risk and returns and show good selectivity, they would perform better than others. The results support the significance of applying several performance evaluation metrics to gauge the efficiency of mutual funds in a holistic approach. They also point out that market-related factors and fund-specific strategies are important in the determinants of mutual fund performance.

CONCLUSION

The study concludes that thematic infrastructure mutual funds in India demonstrate considerable variation in performance in terms of return, risk, and risk-based measures. The analysis reveals that while all selected funds generated positive returns during the study period, certain funds, such as Invesco Fund (infra.), Franklin Fund, and DSP Tiger Fund, consistently outperformed others across multiple performance indicators. These funds exhibited superior risk-adjusted returns, higher alpha values, and stronger selectivity components, indicating effective fund management and efficient portfolio selection strategies. At the same time, the findings highlight that higher returns are often associated with increased volatility, as observed in funds with higher standard deviation and beta values. The study also establishes that most funds maintain a positive relationship with market movements, reflecting their exposure to systematic risk, while variations in correlation and determination coefficients suggest differing degrees of dependence on market and fund-specific factors. The application of multiple evaluation models, including Sharpe ratio, Treynor ratio, Jensen's alpha, and Fama decomposition, provides a comprehensive understanding of fund performance and the underlying drivers of returns. Overall, the results indicate that thematic infrastructure funds can serve as effective investment avenues, provided that investors carefully consider their risk-return profiles and management efficiency. The study emphasises the importance of using diversified performance measures for informed decision-making and contributes to a broader understanding of the dynamics of thematic mutual fund investments in emerging markets like India.

REFERENCES:

1. Agarwal, P. K., Pradhan, H. K., & Saxena, K. (2025). Do Mutual Funds Make Active and Skilled Liquidity Choices in Portfolio Management? Evidence from India. *Emerging Markets Finance and Trade*, *0*(0), 1–15. https://doi.org/10.1080/1540496X.2025.2566224
2. Ali, M. A., Aqil, M., Alam Kazmi, S. H., & Zaman, S. I. (2023). Evaluation of risk adjusted performance of mutual funds in an emerging market. *International Journal of Finance & Economics*, *28*(2), 1436–1449. https://doi.org/10.1002/ijfe.2486
3. Altan, İ. M. (2022). THEMATIC INVESTMENT STRATEGIES: COINTEGRATION RELATIONSHIP BETWEEN ROBOTIC INVESTMENT INDEX AND BIST100. *International Journal of Mechanical Engineering*.
4. Babbar, S., & Sehgal, S. (2018). *Mutual Fund Characteristics and Investment Performance in India—Sonal Babbar, Sanjay Sehgal, 2018*. https://journals.sagepub.com/doi/abs/10.1177/0258042x17745183
5. Bai, J. (Jianqiu), Tang, Y., Wan, C., & Yuksel, H. Z. (2025). *Thematic Concentration and Mutual Fund Performance* (SSRN Scholarly Paper No. 4164823). Social Science Research Network. https://doi.org/10.2139/ssrn.4164823
6. Barber, B. M., Huang, X., & Odean, T. (2016). Which Factors Matter to Investors? Evidence from Mutual Fund Flows. *Review of Financial Studies*, *29*(10), 2600–2642. https://doi.org/10.1093/rfs/hhw054
7. Berk, J. B., & van Binsbergen, J. H. (2016). *Measuring skill in the mutual fund industry—ScienceDirect*. https://www.sciencedirect.com/science/article/abs/pii/S0304405X15000628
8. Cagnazzo, A. (2022). Market-timing performance of mutual fund investors in Emerging Markets. *International Review of Economics & Finance*, *77*, 378–394. https://doi.org/10.1016/j.iref.2021.10.004
9. Chu, N., Dao, B., Pham, N., Nguyen, H., & Tran, H. (2023). *Predicting Mutual Funds' Performance using Deep Learning and Ensemble Techniques* (arXiv:2209.09649). arXiv. https://doi.org/10.48550/arXiv.2209.09649
10. Dr. T. Praveen Kumar & Dr. Mohammed Irfan. (2025). Risk-Adjusted Return Analysis of Mutual Funds: An Empirical Study of the Indian Market. *International Journal of Emerging Technologies and Innovative Research*, 9–15. https://doi.org/10.48175/IJETIR-80002
11. Fama, E. F., & French, K. R. (2016). *Dissecting anomalies with a five-factor model. Review of Financial Studies*. https://papers.ssrn.com/sol3/Delivery.cfm?abstractid=2503174&__cf_chl_tk=f2eVllztbPrfuRIow.jK71ntmFekMCHxrKpaXrGF10g-1776672759-1.0.1.1-yCyx8WtVOxOomCXZV1Nsm0r4uh2Td4TB9izv5rVtAA0
12. Goel, G., & Ahluwalia, E. (2021). Do pricing efficiencies in Indian equity ETF market impact

its performance? *Global Finance Journal*, *49*, 100654. https://doi.org/10.1016/j.gfj.2021.100654

13. Ielasi, F., & Rossolini, M. (2019). *Responsible or Thematic? The True Nature of Sustainability-Themed Mutual Funds*. https://www.mdpi.com/2071-1050/11/12/3304
14. Jeyaprakash, R. A., Balasubramanian, S. A., & Maddikera, V. (2025). *An Empirical study on Mutual fund factor-risk-shifting and its intensity on Indian Equity Mutual funds* (arXiv:2510.19619). arXiv. https://doi.org/10.48550/arXiv.2510.19619
15. Rao, M. M. P., & Meerja, M. S. (2025). A Study on Risk-Return Analysis of Mutual Funds at Kotak Mahindra Bank. *International Journal of Latest Technology in Engineering, Management & Applied Science*, *14*(6), 558–564.
16. Sen, J. (2019). *Stock composition of mutual funds and fund style: A time series decomposition approach towards testing for consistency | International Journal of Business Forecasting and Marketing Intelligence*. https://www.inderscienceonline.com/doi/abs/10.1504/IJBFMI.2018.092781
17. Sen, J., & Chaudhuri, T. D. (2016). *Decomposition of Time Series Data to Check Consistency between Fund Style and Actual Fund Composition of Mutual Funds*. https://doi.org/10.13140/RG.2.2.33048.19206
18. Somefun, K., Perchet, R., Yin, C., & Leote de Carvalho, R. (2023). *Allocating to Thematic Investments: Financial Analysts Journal: Vol 79, No 1*. https://www.tandfonline.com/doi/abs/10.1080/0015198X.2022.2112895
19. Supriya, D., & Sendhil Kumar, M. (2019). *A Study on Comparative Analysis of Mutual Funds and Investor Perception in Livwealthy, Bengaluru*. http://13.232.72.61:8080/jspui/handle/123456789/3384
20. Trivedi, M., & Raval, T. (2022). *AN EMPIRICAL STUDY ON RETAIL INVESTOR'S BEHAVIOUR TOWARDS THEMATIC MUTUAL FUND IN SAURASHTRA*.
21. Venkatesh, D. P., Selvakumar, D. V., ShanthiRevathi, D. D., & Maran, D. K. (2020). A Study on Performance Analysis of Selected Mutual Fund Schemes in India. *Solid State Technology*, *63*(2).