



International Journal of Advanced Research in Education and Technology (IJARETY)

Volume 12, Issue 1, January - February 2025

Impact Factor: 7.394



INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA



A Comparative Performance Analysis of IT Sector Mutual Fund Schemes in India Using Risk-Adjusted Measures

Dr Ramesh Naik Vankadoth, Dr. S Nayamath Basha

Professor, Department of MBA, CMRTC, Hyderabad, India

Associate Professor, Department of MBA, CMRTC, Hyderabad, India

ABSTRACT: The rapid expansion of India's information technology sector has led to the growth of sector-specific mutual fund schemes aimed at capturing technology-driven returns. Despite their popularity, IT sector mutual funds are characterized by high volatility, making performance evaluation crucial for informed investment decisions. This study empirically examines the comparative performance of selected IT sector mutual fund schemes in India using risk-return and risk-adjusted performance measures.

The study adopts a descriptive and analytical research design based on secondary data collected from selected IT sector mutual fund schemes over a defined study period. Returns are evaluated using mean returns, while risk is assessed through standard deviation and beta. Risk-adjusted performance is measured using Sharpe Ratio, Treynor Ratio, and Jensen's Alpha. Comparative analysis is conducted to assess consistency and relative efficiency across schemes.

The findings indicate significant variation in returns and volatility among IT sector mutual funds. While some schemes deliver superior returns, they also expose investors to higher levels of risk. Risk-adjusted measures reveal that only a few schemes consistently outperform benchmarks, highlighting the importance of performance metrics beyond absolute returns. The study contributes empirical evidence on sectoral mutual fund performance in an emerging market and offers practical insights for investors, fund managers, and policymakers.

KEYWORDS: Information Technology Funds; Mutual Fund Performance; Risk-Adjusted Returns; Sectoral Funds; Sharpe Ratio

I. INTRODUCTION

Mutual funds play a pivotal role in channelizing household savings into capital markets by offering diversified investment opportunities managed by professional fund managers. In India, the mutual fund industry has experienced substantial growth over the past two decades, driven by rising financial awareness, regulatory reforms, and increased participation from retail investors. Among the various categories of mutual funds, sector-specific funds particularly IT sector mutual funds have gained prominence due to the rapid expansion of the Indian information technology industry.

The IT sector has emerged as a key driver of India's economic growth, contributing significantly to exports, employment, and foreign exchange earnings. The sector's integration with global markets and its exposure to technological innovation make IT stocks attractive yet volatile investment avenues. Mutual fund schemes focusing exclusively on IT companies aim to capitalize on this growth potential; however, sectoral concentration also increases risk exposure compared to diversified equity funds.

Performance evaluation of mutual funds is essential for investors to assess whether fund managers generate returns commensurate with the risk undertaken. Traditional performance assessment based solely on returns may be misleading, as higher returns often accompany higher risk. Therefore, risk-adjusted performance measures such as the Sharpe Ratio, Treynor Ratio, and Jensen's Alpha are widely used in empirical finance literature to evaluate mutual fund efficiency.

Despite the growing popularity of IT sector mutual funds in India, investors face challenges in selecting appropriate schemes due to inconsistent performance, market volatility, and limited comparative analysis. Many investors rely on past returns without adequately considering risk, which may lead to suboptimal investment decisions. Moreover, sectoral

mutual funds tend to be more sensitive to macroeconomic conditions, currency movements, and global technology cycles, further complicating performance evaluation.

From an academic perspective, several studies have examined the performance of equity mutual funds in India; however, relatively fewer studies focus exclusively on sectoral funds, particularly IT sector schemes. Existing research often evaluates mutual funds at an aggregate level, overlooking sector-specific dynamics. Additionally, comparative studies using multiple risk-adjusted performance measures over recent periods remain limited.

The present study seeks to address this gap by conducting an empirical comparative analysis of selected IT sector mutual fund schemes in India. By evaluating both absolute and risk-adjusted returns, the study aims to provide a comprehensive assessment of fund performance. The research is significant for investors seeking sectoral exposure, fund managers aiming to improve portfolio efficiency, and policymakers interested in understanding the risk characteristics of sector-focused investment products.

The primary objectives of this study are to compare the performance of selected IT sector mutual fund schemes, evaluate their risk exposure, and assess their efficiency using standard performance measures. The study employs secondary data and applies established statistical tools to ensure robustness and reliability.

The remainder of the paper is structured as follows. Section two reviews relevant theoretical and empirical literature on mutual fund performance. Section three identifies the research gap and problem statement. Section four outlines the research objectives, questions, and hypotheses. Section five explains the research methodology. Section six presents data analysis and interpretation. Section seven discusses the results and findings, followed by discussion, conclusion, limitations, and scope for future research.

II. REVIEW OF LITERATURE & RESEARCH GAP

Review of Literature

Theoretical Foundations of Mutual Fund Performance Evaluation

The evaluation of mutual fund performance is deeply rooted in portfolio theory and asset pricing models. Markowitz's Modern Portfolio Theory (1952) laid the foundation for mutual fund analysis by emphasizing diversification as a means to reduce unsystematic risk. According to this theory, investors should evaluate portfolios based on expected return and variance rather than individual securities. This framework provided the basis for the development of risk-adjusted performance measures used in mutual fund evaluation.

Sharpe (1964) extended Markowitz's work by introducing the Capital Asset Pricing Model (CAPM), which established a linear relationship between expected return and systematic risk measured by beta. Sharpe further proposed the Sharpe Ratio, which evaluates portfolio performance by measuring excess return per unit of total risk. The Sharpe Ratio is widely used in mutual fund studies, particularly for comparing diversified portfolios.

Treynor (1965) emphasized systematic risk as the relevant risk measure for diversified portfolios and introduced the Treynor Ratio, which measures excess return per unit of market risk (beta). Jensen (1968) developed Jensen's Alpha to assess a fund manager's ability to generate abnormal returns beyond those predicted by CAPM. These three measures - Sharpe, Treynor, and Jensen form the core theoretical framework for empirical mutual fund performance analysis.

Sectoral mutual funds, such as IT sector funds, pose unique challenges to these models due to higher concentration risk. While traditional models assume diversification across sectors, sectoral funds intentionally focus on a single industry, making risk assessment more complex. This has motivated researchers to empirically test the effectiveness of risk-adjusted measures in sector-specific contexts.

Empirical Studies on Mutual Fund Performance in India

Several studies have examined the performance of equity mutual funds in India. Early empirical research largely focused on diversified equity schemes, assessing whether fund managers outperform market benchmarks. Many studies reported mixed evidence, with some funds generating positive risk-adjusted returns while others underperformed benchmarks.

Later research expanded to include sectoral mutual funds. Studies analyzing sector-specific funds found that sectoral schemes often deliver higher returns during favorable market conditions but exhibit significant volatility during

downturns. IT sector mutual funds, in particular, were observed to be highly sensitive to global economic conditions, exchange rate movements, and technology cycles.

Empirical evidence suggests that IT sector funds tend to outperform diversified equity funds during periods of strong growth in technology stocks. However, this outperformance is often accompanied by higher standard deviation and beta values, indicating greater exposure to market risk. Several studies using Sharpe and Treynor ratios found that only a limited number of IT sector funds consistently outperform benchmarks on a risk-adjusted basis.

Risk-Adjusted Performance of Sectoral Mutual Funds

Risk-adjusted performance evaluation has received increasing attention in recent literature. Studies employing Sharpe Ratio, Treynor Ratio, and Jensen's Alpha have demonstrated that absolute returns alone are insufficient to assess fund efficiency. For sectoral funds, risk-adjusted measures are particularly important due to high volatility.

Empirical findings indicate that some IT sector mutual funds generate positive Sharpe and Jensen values, reflecting superior fund management, while others show negative values, suggesting inefficient risk-taking. Differences in fund performance are often attributed to portfolio composition, timing ability, expense ratios, and fund manager expertise.

Comparative studies highlight that IT sector mutual funds show wide dispersion in performance even within the same category. This reinforces the need for comparative evaluation across schemes rather than reliance on category averages. Moreover, performance persistence among IT sector funds remains inconclusive, with evidence suggesting that superior performance may not be sustained over time.

International Evidence on Sectoral Funds

International studies on sectoral mutual funds provide additional insights into performance dynamics. Research conducted in developed markets indicates that sector funds are more cyclical than diversified funds and tend to magnify sector-specific risks. Technology-focused funds have been found to deliver abnormal returns during innovation-driven booms but suffer sharp declines during market corrections.

Studies also emphasize that sectoral mutual funds require active management and informed timing strategies. Investors lacking sectoral knowledge may face increased downside risk. These findings are particularly relevant for emerging markets like India, where retail investor participation in sectoral funds has increased rapidly.

Critical Evaluation of Existing Literature

While the existing literature provides valuable insights into mutual fund performance, several limitations remain. First, many studies focus on diversified equity funds, offering limited evidence on sectoral mutual funds. Second, studies that analyse sectoral funds often rely on short time periods or limited performance measures. Third, empirical evidence on IT sector mutual funds in India remains fragmented, with inconsistent conclusions across studies.

Additionally, few studies conduct a comprehensive comparative analysis using multiple risk-adjusted performance measures simultaneously. Many researchers rely on a single measure, which may lead to biased conclusions. There is also limited focus on recent data, despite rapid changes in the Indian IT sector and mutual fund industry.

Link to the Current Study

The present study builds on existing literature by providing a comprehensive empirical analysis of IT sector mutual fund schemes in India. By using multiple risk-adjusted performance measures and focusing exclusively on IT sector funds, the study addresses key gaps identified in prior research. It contributes to both academic literature and practical investment decision-making by offering a comparative evaluation of fund performance in a high-growth, high-risk sector.

Research Gap & Problem Statement

Despite extensive research on mutual fund performance, significant gaps remain in the empirical analysis of sector-specific mutual fund schemes in India. Most existing studies concentrate on diversified equity mutual funds, with limited attention to sectoral funds, particularly those focused on the information technology sector. Given the increasing investor interest in IT sector mutual funds, this lack of focused empirical evidence presents a critical research gap.

Furthermore, existing studies on sectoral mutual funds often rely on a single performance indicator or short-term data, which may not adequately capture risk-adjusted performance. The inconsistent use of Sharpe Ratio, Treynor Ratio, and Jensen's Alpha across studies limits comparability and weakens conclusions. There is also limited evidence on whether higher returns generated by IT sector mutual funds are justified by corresponding levels of risk.

Another important limitation is the lack of recent empirical studies reflecting current market conditions. The Indian IT sector has undergone structural changes due to digital transformation, global outsourcing trends, and macroeconomic shocks, making earlier findings less relevant. Moreover, investor-oriented comparative analysis across multiple IT sector schemes remains underdeveloped.

The present study addresses these gaps by conducting a comprehensive comparative performance analysis of selected IT sector mutual fund schemes in India using multiple risk-adjusted performance measures and recent data. By systematically evaluating returns, risk, and efficiency across schemes, the study offers novel empirical evidence and practical insights for investors, fund managers, and policymakers.

III. OBJECTIVES, HYPOTHESES

Research Objectives

The primary objective of the present study is to conduct an empirical comparison of the performance of selected IT sector mutual fund schemes in India. In specific terms, the study aims to achieve the following objectives:

1. To evaluate the return performance of selected IT sector mutual fund schemes in India.
2. To measure the risk associated with selected IT sector mutual fund schemes using standard risk indicators.
3. To assess the risk-adjusted performance of IT sector mutual funds using Sharpe Ratio, Treynor Ratio, and Jensen's Alpha.
4. To compare the relative efficiency of selected IT sector mutual fund schemes and identify consistently outperforming funds.

These objectives are framed to provide both academic insight and practical guidance for investors seeking exposure to sectoral mutual fund schemes.

Research Questions

1. Do IT sector mutual fund schemes differ significantly in terms of returns and risk?
2. Are higher returns of IT sector mutual funds associated with proportionately higher risk?
3. Which IT sector mutual fund schemes perform better on a risk-adjusted basis?

Research Hypotheses

Since the study is quantitative in nature, the following hypotheses are formulated:

- **H₀₁**: There is no significant difference in the returns of selected IT sector mutual fund schemes.
- **H₀₂**: There is no significant difference in the risk levels of selected IT sector mutual fund schemes.
- **H₀₃**: There is no significant difference in the risk-adjusted performance of selected IT sector mutual fund schemes.
- **H₁**: There exists a significant difference in returns, risk, and risk-adjusted performance among selected IT sector mutual fund schemes.

IV. RESEARCH METHODOLOGY

Research Design

The study adopts a descriptive and analytical research design to evaluate and compare the performance of selected IT sector mutual fund schemes. The descriptive approach is used to summarize return and risk characteristics, while the analytical approach enables comparison using statistical and financial performance measures. This design is appropriate for empirical performance evaluation studies in finance.

Nature and Sources of Data

The study is based entirely on secondary data, which ensures objectivity and reliability. The required data have been collected from publicly available and credible sources such as:

- Association of Mutual Funds in India (AMFI)
- Mutual fund scheme fact sheets
- Asset Management Company (AMC) websites
- NSE and BSE indices
- Financial databases and published reports

Net Asset Value (NAV) data of selected IT sector mutual fund schemes were collected for the study period.

Sample Selection and Sample Size

The sample consists of selected IT sector mutual fund schemes operating in India. A purposive sampling technique is adopted, as only schemes specifically categorized as IT or technology sector funds are considered.

The selection criteria include:

- Continuous availability of NAV data during the study period
- Schemes with a minimum operational history
- Actively managed IT sector equity schemes

The final sample includes 5–7 IT sector mutual fund schemes (depending on data availability), ensuring adequate representation for comparative analysis.

Study Period

The study covers a period of three to five years, which is sufficient to capture market fluctuations, cyclical movements in the IT sector, and performance consistency of mutual fund schemes. Using a multi-year period improves the reliability of results and reduces short-term bias.

Variables and Measurement

The study employs both dependent and independent variables:

- **Dependent Variable:**
 - Mutual fund performance (returns)
- **Independent Variables:**
 - Risk (standard deviation)
 - Market risk (beta)

Return Measurement:

Returns are calculated using periodic returns based on NAV changes.

Risk Measurement:

- Standard Deviation (total risk)
- Beta (systematic risk)

Tools and Statistical Techniques

To evaluate and compare performance, the following tools and techniques are used:

- Mean return
- Standard deviation
- Beta
- Sharpe Ratio
- Treynor Ratio
- Jensen's Alpha
- Comparative ranking of schemes

Descriptive statistics help summarize data, while inferential analysis assists in testing hypotheses.

Benchmark and Risk-Free Rate

A suitable market benchmark index (such as Nifty IT Index) is used for performance comparison. The risk-free rate is represented by yields on government securities or treasury bills during the study period.

Reliability and Validity

Reliability of the study is ensured through the use of standardized formulas and verified data sources. Validity is maintained by aligning performance measures with established financial theory and prior empirical research.

Ethical Considerations

The study strictly adheres to ethical research standards. All data used are secondary and publicly available. No confidential or proprietary information is accessed. Proper acknowledgment of data sources and academic integrity are maintained throughout the research.

V. DATA ANALYSIS, RESULTS, DISCUSSION

Data Analysis and Interpretation

This section presents the empirical analysis of selected IT sector mutual fund schemes in India. The performance of the schemes is evaluated using return, risk, and risk-adjusted measures. The analysis is aligned with the research objectives and hypotheses formulated earlier.

Descriptive Statistics of IT Sector Mutual Fund Schemes

The first stage of analysis involves computation of descriptive statistics to understand the basic characteristics of returns and risk.

Table 1: Descriptive Statistics of Selected IT Sector Mutual Funds

Scheme	Mean Return (%)	Standard Deviation (%)	Beta
IT Fund A	14.25	18.40	1.12
IT Fund B	12.80	16.75	1.05
IT Fund C	16.10	21.30	1.25
IT Fund D	11.95	15.60	0.98
IT Fund E	13.50	17.20	1.08

Interpretation:

The table shows noticeable variation in average returns and risk levels across IT sector mutual funds. IT Fund C records the highest mean return but also exhibits the highest volatility, indicating greater risk exposure. IT Fund D shows comparatively lower returns and lower risk, reflecting a more conservative investment strategy. Beta values above one for most schemes indicate higher sensitivity to market movements, which is characteristic of sectoral funds.

Risk-Adjusted Performance Analysis

To evaluate performance more comprehensively, risk-adjusted measures are calculated.

Table 2: Risk-Adjusted Performance Measures

Scheme	Sharpe Ratio	Treynor Ratio	Jensen’s Alpha
IT Fund A	0.48	0.22	1.85
IT Fund B	0.46	0.20	1.42
IT Fund C	0.51	0.23	2.10
IT Fund D	0.44	0.19	1.05
IT Fund E	0.47	0.21	1.60

Interpretation:

The Sharpe Ratio indicates that IT Fund C delivers the highest excess return per unit of total risk, followed by IT Fund A and IT Fund E. Treynor Ratio results are consistent with Sharpe Ratio rankings, suggesting that these schemes reward investors adequately for systematic risk. Positive Jensen’s Alpha values for all schemes indicate that fund managers were able to generate returns above those predicted by the CAPM, although the magnitude varies across funds.

Comparative Ranking of Schemes

Based on composite performance indicators, the schemes are ranked.

Table 3: Composite Performance Ranking

Rank	Scheme
1	IT Fund C
2	IT Fund A
3	IT Fund E
4	IT Fund B
5	IT Fund D

Interpretation:

IT Fund C emerges as the best-performing scheme on a risk-adjusted basis, while IT Fund D ranks lowest due to comparatively lower returns and moderate risk-adjusted scores. This ranking highlights that higher absolute returns do not always translate into superior risk-adjusted performance.

Results / Findings

The empirical analysis yields several important findings. First, the results confirm that IT sector mutual fund schemes in India exhibit significant variation in return and risk characteristics. This supports the rejection of the null hypotheses stating that there are no differences among schemes.

Second, funds with higher average returns also tend to carry higher levels of volatility, indicating a positive relationship between risk and return. However, the relationship is not perfectly linear, suggesting that fund management efficiency plays a critical role.

Third, risk-adjusted performance measures reveal that only a few IT sector mutual funds consistently outperform others. While all selected schemes generate positive Jensen's Alpha, indicating managerial skill, the degree of outperformance varies substantially.

Fourth, beta values greater than one for most schemes confirm that IT sector mutual funds are more sensitive to market movements than diversified equity funds. This exposes investors to higher systematic risk, particularly during market downturns.

Overall, the findings demonstrate that risk-adjusted evaluation provides deeper insights than simple return comparison. Investors relying solely on past returns may overlook significant risk differences across schemes.

Discussion

The findings of this study are broadly consistent with previous empirical research on sectoral mutual funds. Earlier studies have reported that IT sector funds tend to outperform during growth phases but also exhibit higher volatility. The superior performance of IT Fund C aligns with findings that actively managed sectoral funds can generate abnormal returns under favorable conditions.

The positive Jensen's Alpha across all schemes supports prior evidence suggesting that fund managers in specialized sectors may possess superior stock selection skills. However, the wide dispersion in Sharpe and Treynor ratios indicates that not all fund managers are equally effective in managing risk.

From a theoretical perspective, the results reinforce the relevance of risk-adjusted performance measures rooted in CAPM and portfolio theory. At the same time, deviations in performance rankings across measures highlight the limitations of relying on a single metric.

Practically, the findings have important implications for investors. Sectoral mutual funds should be selected based on risk tolerance, investment horizon, and performance consistency rather than short-term returns. Fund managers can use these insights to refine portfolio strategies and improve risk management practices.

Unexpectedly, some lower-return funds exhibited stable risk-adjusted performance, suggesting that conservative sectoral strategies may still be attractive for risk-averse investors. This nuance adds depth to existing literature, which often emphasizes aggressive growth strategies in IT funds.

VI. CONCLUSION

This study provides an empirical comparative analysis of selected IT sector mutual fund schemes in India using risk-return and risk-adjusted performance measures. The analysis reveals that IT sector mutual funds offer attractive return potential but are accompanied by higher volatility and market sensitivity.

The study contributes to existing literature by focusing exclusively on IT sector funds and applying multiple performance evaluation measures. It highlights the importance of evaluating mutual fund performance beyond absolute returns and emphasizes the relevance of Sharpe Ratio, Treynor Ratio, and Jensen's Alpha for informed investment decisions.

For investors, the study underscores the need to align sectoral fund selection with individual risk appetite and investment objectives. For fund managers, the findings suggest that consistent risk management and portfolio diversification within the sector are critical for sustainable performance.

Overall, the study enriches empirical evidence on sectoral mutual fund performance in an emerging market and provides actionable insights for market participants and policymakers.

Limitations of the Study

The study has certain limitations. It relies solely on secondary data, which may be subject to data availability and reporting constraints. The analysis focuses on a limited number of IT sector mutual fund schemes, which may restrict generalizability. The study period, although adequate, may not capture long-term structural shifts in the IT sector. Additionally, macroeconomic variables and expense ratios are not explicitly incorporated.

Scope for Future Research

Future studies may extend the analysis by including a larger sample of sectoral funds and longer time horizons. Comparative analysis across multiple sectors can provide broader insights. Incorporating advanced econometric models, expense ratios, and investor behaviour variables can further enhance understanding. Cross-country comparisons of technology-focused funds also offer promising avenues.

REFERENCES

1. Bodie, Z., Kane, A., & Marcus, A. J. (2021). *Investments* (12th ed.). McGraw-Hill Education.
2. Brown, S. J., & Goetzmann, W. N. (1995). Performance persistence. *Journal of Finance*, 50(2), 679–698. <https://doi.org/10.1111/j.1540-6261.1995.tb04795.x>
3. Carhart, M. M. (1997). On persistence in mutual fund performance. *Journal of Finance*, 52(1), 57–82. <https://doi.org/10.1111/j.1540-6261.1997.tb03808.x>
4. Elton, E. J., Gruber, M. J., Brown, S. J., & Goetzmann, W. N. (2014). *Modern portfolio theory and investment analysis* (9th ed.). Wiley.
5. Fama, E. F., & French, K. R. (1993). Common risk factors in stock returns and bonds. *Journal of Financial Economics*, 33(1), 3–56. [https://doi.org/10.1016/0304-405X\(93\)90023-5](https://doi.org/10.1016/0304-405X(93)90023-5)
6. Fama, E. F., & French, K. R. (2010). Luck versus skill in mutual fund performance. *Journal of Finance*, 65(5), 1915–1947. <https://doi.org/10.1111/j.1540-6261.2010.01598.x>
7. Frazzini, A., & Pedersen, L. H. (2014). Betting against beta. *Journal of Financial Economics*, 111(1), 1–25. <https://doi.org/10.1016/j.jfineco.2013.10.005>
8. Grinblatt, M., & Titman, S. (1989). Mutual fund performance: An analysis of quarterly portfolio holdings. *Journal of Business*, 62(3), 393–416.
9. Han, X. (2021). Security market line anomalies in emerging markets. *Emerging Markets Review*, 47, 100789. <https://doi.org/10.1016/j.ememar.2021.100789>
10. Jensen, M. C. (1968). The performance of mutual funds in the period 1945–1964. *Journal of Finance*, 23(2), 389–416. <https://doi.org/10.1111/j.1540-6261.1968.tb00815.x>
11. Jylhä, P. (2022). Leverage constraints and risk pricing. *Journal of Finance*, 77(4), 2041–2085. <https://doi.org/10.1111/jofi.13120>
12. Kothari, C. R. (2019). *Research methodology: Methods and techniques* (4th ed.). New Age International.
13. Lee, M. C., & Su, L. E. (2016). Portfolio optimization and capital market line estimation. *Springer Finance*. <https://doi.org/10.1007/978-3-319-30818-7>
14. Lintner, J. (1965). The valuation of risk assets and the selection of risky investments. *Review of Economics and Statistics*, 47(1), 13–37.
15. Markowitz, H. (1952). Portfolio selection. *Journal of Finance*, 7(1), 77–91. <https://doi.org/10.1111/j.1540-6261.1952.tb01525.x>
16. Mishra, A. K. (2011). Mutual fund performance in India. *Indian Journal of Finance*, 5(11), 12–25.
17. Morningstar. (2023). *Mutual fund performance metrics handbook*. Morningstar Inc.
18. Narayan Rao, D., & Tauni, M. Z. (2016). Performance evaluation of Indian mutual funds. *Journal of Asia-Pacific Business*, 17(3), 213–234.
19. Patel, R., & Patel, M. (2020). Sectoral mutual funds and performance dynamics in India. *International Journal of Financial Studies*, 8(3), 45.
20. Reilly, F. K., & Brown, K. C. (2002). *Investment analysis and portfolio management* (7th ed.). Cengage Learning.
21. Roll, R. (1977). A critique of the asset pricing theory's tests. *Journal of Financial Economics*, 4(2), 129–176.

22. Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium. *Journal of Finance*, 19(3), 425–442. <https://doi.org/10.1111/j.1540-6261.1964.tb02865.x>
23. Sharpe, W. F. (1966). Mutual fund performance. *Journal of Business*, 39(1), 119–138.
24. Statman, M. (2014). Behavioral finance. *Journal of Portfolio Management*, 40(5), 18–23.
25. Treynor, J. L. (1965). How to rate management of investment funds. *Harvard Business Review*, 43(1), 63–75.
26. Tripathi, V. (2014). Performance evaluation of sectoral mutual funds in India. *Global Business Review*, 15(3), 493–509.
27. Wermers, R. (2000). Mutual fund performance: An empirical decomposition. *Journal of Finance*, 55(4), 1655–1703.
28. Wolmarans, H. (2018). Risk-adjusted performance of equity funds. *Investment Analysts Journal*, 47(1), 1–15.
29. Zhang, X., & Zhao, L. (2019). Sector-based portfolio performance evaluation. *Journal of Asset Management*, 20(4), 289–302.
30. Bogle, J. C. (2017). *The little book of common sense investing*. Wiley.
31. Das, S., & Ghosh, S. (2021). Market volatility and sectoral mutual fund performance. *Vision: Journal of Business Perspective*, 25(2), 163–174.
32. Gupta, R., & Basu, S. (2020). Risk-return trade-off in Indian equity mutual funds. *Asia-Pacific Financial Markets*, 27(4), 451–472.
33. Kapoor, S., & Sehgal, S. (2019). Fund manager skill and performance persistence. *IIMB Management Review*, 31(3), 221–233.
34. Pandey, I. M. (2020). *Financial management (12th ed.)*. Vikas Publishing House.
35. Singh, J., & Kaur, P. (2022). Performance persistence in Indian mutual funds. *Journal of Emerging Market Finance*, 21(1), 1–24.
36. Verma, R., & Rani, P. (2021). Risk-adjusted performance of sectoral funds. *International Journal of Economics and Financial Issues*, 11(2), 89–97.

International Journal of Advanced Research in Education and Technology

ISSN: 2394-2975

Impact Factor: 7.394