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Comparative Performance Evaluation of Indian Mid-Cap Mutual Funds: Evidence from Risk and Return Measures.

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ABSTRACT
The mutual fund industry in India has experienced significant growth over the past decade, leading to increased investor interest in equity-oriented investment avenues, particularly mid-cap mutual funds. Given the higher growth potential and relatively greater volatility associated with mid-cap investments, a comprehensive evaluation of their performance is essential for informed investment decision-making. The present study evaluates the performance of ten selected mid-cap mutual funds in India over the period 2017–2026 using a combination of return, risk-adjusted performance, portfolio characteristics, and fund strength indicators. The study is based on secondary data collected from reliable sources, including Value Research, the Association of Mutual Funds in India (AMFI), and the respective Asset Management Companies. Performance was assessed using established measures such as Annual Return, Compound Annual Growth Rate (CAGR), Excess Return, Standard Deviation, Beta, Alpha, Sharpe Ratio, Sortino Ratio, and Assets Under Management (AUM). In addition, a Composite Mutual Fund Performance Score (CMFPS) was developed by integrating Return Performance, Risk-Adjusted Performance, Portfolio Quality, and Fund Strength into a single evaluation framework. The findings reveal considerable variation in the performance of the selected mutual funds and indicate that no individual performance measure is sufficient to evaluate overall fund efficiency. The CMFPS provides a comprehensive basis for comparing and ranking mutual funds by simultaneously considering multiple dimensions of performance. The study offers useful insights for investors, financial advisors, and researchers by proposing a holistic framework for mutual fund performance evaluation.

Keywords: Mid-Cap Mutual Funds, Mutual Fund Performance, Risk-Adjusted Performance, Net Asset Value (NAV), Portfolio Evaluation, Assets Under Management (AUM)

INTRODUCTION

1.1 Background of the Study

Mutual funds have become one of the most significant financial intermediaries in modern capital markets by enabling investors to participate in diversified portfolios managed by professional fund managers. They offer several advantages, including portfolio diversification, liquidity,

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professional investment management, and risk reduction, making them an attractive investment avenue for both retail and institutional investors. At the global level, the growth of the mutual fund industry has been closely associated with financial market development, investor protection, and the increasing demand for professionally managed investment products (Khorana, Servaes, & Tufano, 2005).

In India, the mutual fund industry has witnessed remarkable expansion during the last decade due to rising financial awareness, technological advancements, regulatory initiatives, and increasing participation of retail investors. According to the Association of Mutual Funds in India (AMFI), the industry's Assets Under Management (AUM) increased from approximately ₹13.81 trillion in June 2016 to over ₹82 trillion in June 2026, reflecting nearly six-fold growth over ten years. Similarly, the number of investor folios has grown substantially, indicating increasing confidence in mutual fund investments and wider participation across different investor segments.

Among the various categories of equity mutual funds, mid-cap mutual funds have gained considerable importance because they primarily invest in medium-sized companies with strong growth potential. These companies generally possess greater expansion opportunities than mature large-cap firms while offering relatively lower risk than many small-cap companies. Consequently, mid-cap mutual funds have become an attractive investment option for investors seeking long-term capital appreciation with an acceptable level of market risk. The continued increase in investor inflows into mid-cap funds further reflects the growing confidence of investors in this segment of the equity market.

The increasing popularity of mid-cap mutual funds has also intensified the need for systematic performance evaluation. Investors and financial advisors require reliable evidence to determine whether fund managers are capable of generating superior returns while efficiently managing investment risk. Over the years, several risk-adjusted performance measures, including Sharpe Ratio, Treynor Ratio, Jensen's Alpha, Beta, and Standard Deviation, have been widely adopted for evaluating mutual fund performance. These measures provide valuable insights into different dimensions of investment performance; however, each evaluates only a specific aspect of fund efficiency and therefore cannot independently present a complete assessment of overall performance (Sharpe, 1966; Jensen, 1968).

Furthermore, recent developments in the mutual fund industry indicate that fund evaluation should extend beyond conventional return and risk measures. Portfolio composition, diversification, earnings quality, valuation characteristics, and fund growth represented by Assets Under Management (AUM) also influence the long-term competitiveness and sustainability of mutual funds. Therefore, a comprehensive evaluation framework that integrates these multiple

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dimensions is likely to provide a more balanced assessment of fund performance than relying on a single financial indicator.

Against this background, the present study undertakes a comparative evaluation of selected Indian mid-cap mutual funds during the period 2017–2026 using established risk and return measures together with portfolio characteristics and fund strength indicators. In addition, the study develops a Composite Mutual Fund Performance Score (CMFPS) that integrates multiple dimensions of performance into a unified framework to facilitate a comprehensive comparison and overall ranking of the selected mutual funds.

2. LITERATURE REVIEW

Treynor (1965) introduced the Treynor Ratio, which measures excess return per unit of systematic risk (beta). The study emphasized that performance evaluation should consider both returns and market risk. Based on CAPM and portfolio theory, Treynor showed that higher risk-adjusted returns indicate better performance than absolute returns alone. The study established beta as a key measure of systematic risk and laid the foundation for later performance metrics. The Treynor Ratio remains widely used and is applied in this study to assess the market risk efficiency of selected mid-cap mutual funds.

Sharpe (1966) introduced the Sharpe Ratio as a comprehensive measure of mutual fund performance by relating excess return to total portfolio risk, measured by standard deviation. The study argued that investors should evaluate investment performance based on the return earned for each unit of total risk undertaken rather than considering returns in isolation. By analysing the performance of mutual funds, Sharpe demonstrated that risk-adjusted measures provide a more meaningful comparison among investment portfolios. The Sharpe Ratio has since become one of the most widely accepted indicators for evaluating mutual fund performance and is used in the present study to assess the overall risk-adjusted efficiency of the selected mid-cap mutual funds.

Jensen (1968) developed Jensen's Alpha to evaluate the ability of fund managers to generate returns above those predicted by the Capital Asset Pricing Model (CAPM). The study examined the performance of mutual funds after adjusting for systematic risk and concluded that most fund managers were unable to consistently outperform the market after accounting for risk. Jensen's Alpha became an important measure of managerial performance by quantifying abnormal returns attributable to investment skill rather than market movements. In the present study, Jensen's Alpha is used to evaluate the stock selection ability and value addition of the selected mid-cap mutual funds.

Fama (1972) proposed a comprehensive framework for evaluating portfolio performance by decomposing investment returns into components attributable to diversification, risk

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management, and security selection ability. The study extended earlier performance measures by demonstrating that overall portfolio performance should be interpreted through multiple dimensions rather than a single indicator. Fama's framework highlighted the importance of distinguishing between returns generated through market movements and those resulting from managerial skill. The multidimensional approach suggested by Fama continues to influence modern performance evaluation and supports the comprehensive assessment framework adopted in the present study.

Khorana, Servaes, and Tufano (2005) examined the determinants of mutual fund industry growth across 56 countries using cross-country secondary data. The study found that stronger legal systems, better investor protection, lower transaction costs, and higher income levels significantly contributed to the development of the mutual fund industry. It concluded that both institutional quality and economic factors play an important role in expanding mutual fund markets. The findings demonstrate that a well-developed mutual fund industry depends not only on investment performance but also on a supportive financial environment. This study provides international context for understanding the growth and importance of mutual funds in emerging economies such as India.

Bollen and Busse (2005) investigated the persistence of mutual fund performance using daily return data and quarterly evaluation periods. The study reported that top-performing funds generated superior abnormal returns in the subsequent quarter; however, this persistence disappeared over longer evaluation horizons. The authors concluded that mutual fund performance persistence is primarily a short-term phenomenon and is better identified using high-frequency data rather than annual observations. Their findings emphasize the importance of selecting appropriate evaluation periods when assessing fund performance and highlight that superior performance may not be sustained over the long run.

Ferreira, Keswani, Miguel, and Ramos (2013) analysed equity mutual funds across multiple countries to identify the determinants of fund performance and investor flows. Using an international dataset, the study found that fund size, expenses, market characteristics, and institutional quality significantly influenced mutual fund performance and investment decisions. The results also indicated that country-specific regulatory and economic conditions affect fund behaviour and investor confidence. The study highlighted that mutual fund performance should be evaluated within a broader institutional and market environment rather than relying solely on traditional risk and return measures.

Cremers and Petajisto (2009) introduced the concept of Active Share to measure the degree to which mutual fund portfolios differ from their benchmark indices. Using U.S. equity mutual fund data, the study found that funds with higher Active Share generally achieved superior long-term

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performance compared to closely benchmarked portfolios. The authors argued that evaluating fund performance requires consideration of portfolio composition in addition to conventional return and risk measures. The study reinforced the importance of portfolio characteristics in explaining investment performance and supported the use of multidimensional evaluation frameworks.

Mishra and Ahuja (2016) evaluated the performance of 47 Indian equity mutual funds during distinct bull and bear market phases between 2008 and 2014. The study employed risk-adjusted performance measures, including the Sharpe Ratio, Treynor Ratio, Sortino Ratio, Information Ratio, Jensen's Alpha, and market timing models. The findings revealed that mutual fund performance varied significantly across different market conditions. While several funds demonstrated stock selection ability during bullish periods, most fund managers failed to exhibit consistent market timing skills. The study concluded that mutual fund performance should be assessed using multiple risk-adjusted measures rather than relying solely on returns, thereby highlighting the importance of comprehensive performance evaluation.

Gowri and Deo (2016) analysed the performance of equity-oriented mutual fund schemes in India using risk-adjusted evaluation techniques. The study compared fund returns with the benchmark index and risk-free rate by applying the Sharpe Ratio, Treynor Ratio, and Jensen's Alpha. The results indicated that several schemes underperformed the benchmark after adjusting for risk, suggesting that higher returns alone do not necessarily indicate superior fund performance. The authors emphasized the importance of evaluating mutual funds through established risk-adjusted measures to obtain a more realistic assessment of investment efficiency.

Rehmani (2018) compared the performance of selected public and private sector equity mutual funds in India over the period 2010–2017. Using monthly NAV data, the study evaluated fund performance through risk-return analysis and risk-adjusted measures, including the Sharpe Ratio, Treynor Ratio, Jensen's Measure, and Sharpe Differential Measure. The findings showed that private sector mutual funds generally outperformed public sector schemes in terms of both return generation and risk-adjusted performance. The study also observed that small-cap and mid-cap schemes delivered comparatively superior performance during the study period.

Naveen and Mallikarjunappa (2021) evaluated the performance of selected Indian equity diversified mutual funds, including large-cap, mid-cap, multi-cap, and small-cap schemes, during the COVID-19 period. The study applied Standard Deviation, Beta, Sharpe Ratio, Treynor Ratio, and Jensen's Alpha to analyse risk-adjusted performance. The findings indicated that mutual fund performance differed across fund categories, with several mid-cap schemes demonstrating relatively better risk-adjusted returns despite heightened market volatility. The authors concluded

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that multiple performance measures should be used simultaneously to obtain a comprehensive assessment of mutual fund performance under changing market conditions.

Sharma and Tripathi (2023) compared the performance of Indian large-cap, mid-cap, and small-cap mutual funds through Systematic Investment Plans (SIPs). The study assessed annual returns along with Standard Deviation, Beta, Sharpe Ratio, Treynor Ratio, and Jensen's Alpha over different investment horizons. The results showed that mid-cap and small-cap funds offered higher return potential but were accompanied by greater volatility than large-cap schemes. The authors emphasized that investors should evaluate both return and risk before selecting mutual fund schemes and recommended the use of multiple risk-adjusted measures for fund comparison.

Sawant, Amonkar, and Rodrigues e Melo (2023) examined the performance of Indian mutual funds using traditional risk–return relationship models. The study employed Sharpe Ratio, Treynor Ratio, Jensen's Alpha, Beta, and benchmark-based evaluation to compare mutual fund performance. The findings revealed that no single performance measure adequately captures overall fund efficiency, as different indicators provide different perspectives on return generation and risk exposure. The authors recommended the combined use of multiple performance measures to support informed investment decisions and improve the evaluation of mutual fund schemes.

The reviewed literature demonstrates that mutual fund performance has been extensively examined using traditional risk-adjusted measures such as the Treynor Ratio, Sharpe Ratio, Jensen's Alpha, Beta, and Standard Deviation. While the foundational studies established the theoretical framework for performance evaluation, subsequent international and Indian empirical studies have primarily focused on comparing mutual funds based on individual risk and return measures. Recent studies have further emphasized the importance of benchmark comparison and risk-adjusted evaluation under varying market conditions.

Overall, the literature provides a strong theoretical and empirical foundation for evaluating mutual fund performance. The present study builds upon these established approaches by applying multiple performance measures together with portfolio characteristics and fund strength indicators to provide a comprehensive comparative evaluation of selected Indian mid-cap mutual funds.

Research Gap

The performance of mutual funds has been extensively examined in both developed and emerging markets using a variety of traditional risk and return measures. Early studies primarily relied on performance indicators such as the Sharpe Ratio, Treynor Ratio, and Jensen's Alpha to evaluate the ability of fund managers to generate superior returns after adjusting for risk

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(Treynor, 1965; Sharpe, 1966; Jensen, 1968). These measures have remained the foundation of mutual fund performance evaluation and continue to be widely adopted in empirical research.

Subsequent studies on the Indian mutual fund industry have largely focused on comparing the performance of equity-oriented mutual funds using individual performance measures or benchmark-based analysis. Researchers have evaluated mutual funds in terms of return generation, volatility, market risk, and risk-adjusted performance under different market conditions (Bansal & Garg, 2020; Deb, Banerjee, & Chakrabarti, 2021). Although these studies have provided valuable evidence regarding the relative performance of different fund categories, most of them have assessed performance using isolated financial indicators rather than an integrated evaluation framework.

Moreover, relatively limited attention has been given to incorporating portfolio characteristics and fund strength indicators into mutual fund performance assessment. Variables such as portfolio diversification, average market capitalisation, portfolio valuation, earnings growth, and Assets Under Management (AUM) provide important information regarding the quality, sustainability, and operational strength of a mutual fund. However, these variables have generally been examined separately or have received comparatively less emphasis in comprehensive performance evaluation studies (Elton, Gruber, & Blake, 2012).

Another important limitation in the existing literature is the absence of a unified framework that simultaneously evaluates multiple dimensions of mutual fund performance. Most previous studies have interpreted individual measures independently, making it difficult for investors to obtain an overall assessment of fund quality. As investment decisions are influenced by several interrelated factors, relying on a single performance indicator may not adequately reflect the overall efficiency and competitiveness of a mutual fund.

To address these gaps, the present study develops a Composite Mutual Fund Performance Score (CMFPS) by integrating four key dimensions of mutual fund evaluation: Return Performance**,** Risk-Adjusted Performance, Portfolio Quality, and Fund Strength. The study applies this framework to ten selected Indian mid-cap mutual funds over the period **2017–2026**, providing a comprehensive comparative evaluation that extends beyond conventional single-measure performance assessment. By combining established financial performance measures with portfolio and fund-level characteristics, the study offers a more holistic approach to mutual fund evaluation and contributes to the existing literature on mutual fund performance analysis.

Objectives of the Study

The present study is guided by the following objectives:

- To evaluate the performance of selected mid-cap mutual funds in India using risk and return measures during the period 2017–2026.

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- To compare the performance of the selected mid-cap mutual funds with the benchmark index and assess their risk-adjusted performance, portfolio characteristics, and fund strength.
- To develop a Composite Mutual Fund Performance Score (CMFPS) for providing a comprehensive ranking of the selected mid-cap mutual funds.

Significance of the Study

The evaluation of mutual fund performance has become increasingly important as investors seek investment avenues that provide superior returns while maintaining an acceptable level of risk. With the growing popularity of mid-cap mutual funds in India, investors require reliable and comprehensive performance assessment methods to make informed investment decisions. This study contributes to the existing literature by providing a comparative evaluation of selected mid-cap mutual funds using multiple dimensions of performance, including return generation, risk-adjusted efficiency, portfolio characteristics, and fund strength.

Unlike many previous studies that rely on individual performance indicators, the present study develops a Composite Mutual Fund Performance Score (CMFPS) by integrating four key dimensions: Return Performance, Risk-Adjusted Performance, Portfolio Quality, and Fund Strength. The proposed framework provides a holistic assessment of mutual fund performance and facilitates a more meaningful comparison among the selected schemes.

The findings of the study are expected to benefit **investors** by helping them identify funds that consistently perform well across multiple performance dimensions rather than on a single financial indicator. The results may also assist financial advisors and portfolio managers in selecting suitable mid-cap mutual funds based on a comprehensive performance evaluation. Furthermore, the study provides useful insights for Asset Management Companies (AMCs) by highlighting the factors that contribute to superior fund performance and long-term competitiveness.

From an academic perspective, the study extends the literature on mutual fund performance evaluation by introducing a structured composite evaluation framework that can be adapted for analysing other categories of mutual funds. Consequently, the study contributes to both investment practice and future research by demonstrating a more comprehensive approach to evaluating mutual fund performance in the Indian context.

3. RESEARCH METHODOLOGY

3.1 Research Design

The present study adopts a quantitative, analytical, and comparative research design to evaluate the performance of selected mid-cap mutual funds in India. The analysis is based entirely on secondary data collected from reliable financial sources and examines the performance of ten selected mid-cap mutual fund schemes over the period 2017–2026. The study employs a

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comparative approach to assess differences in fund performance using established risk and return measures, portfolio characteristics, and fund growth indicators.

To provide a comprehensive evaluation, the study analyses each mutual fund through multiple dimensions, including return performance, risk-adjusted performance, portfolio quality, and fund strength. Traditional performance measures such as Annual Return, Compound Annual Growth Rate (CAGR), Sharpe Ratio, Sortino Ratio, Alpha, Beta, Standard Deviation, Excess Return, and Assets Under Management (AUM) are used to assess different aspects of fund performance. In addition, a Composite Mutual Fund Performance Score (CMFPS) is developed by integrating these measures into a single evaluation framework, enabling an overall ranking of the selected mutual funds.

The study follows a descriptive and comparative analytical framework rather than a predictive approach. The findings are interpreted using descriptive statistics, comparative performance analysis, correlation analysis, and the Composite Mutual Fund Performance Score to provide a holistic assessment of the selected mid-cap mutual funds.

3.2 Data Source and Sample Selection

The present study is based exclusively on secondary data collected from reliable and publicly available sources. Data relating to the annual performance, portfolio characteristics, risk measures, and Assets Under Management (AUM) of the selected mutual funds were compiled primarily from Value Research, supported by information obtained from the Association of Mutual Funds in India (AMFI) and the official factsheets published by the respective Asset Management Companies (AMCs). The benchmark return data were collected for the BSE 150 MidCap Total Return Index (TRI), which served as the reference index for evaluating the relative performance of the selected mutual funds. The study covers the period from 2017 to 2026, enabling an assessment of fund performance across different market conditions over a ten-year horizon.

A purposive sampling technique was adopted for the selection of mutual fund schemes. Initially, a broad list of open-ended mid-cap equity mutual funds operating in India was reviewed. Based on data availability and consistency, ten schemes were selected for detailed analysis. The selection was guided by the following criteria: (i) availability of continuous data for the entire study period (2017–2026); (ii) active operation throughout the study period; (iii) availability of complete information on return, risk, portfolio composition, and AUM; and (iv) representation of well-established fund houses within the Indian mutual fund industry. These criteria ensured consistency and comparability across all selected schemes.

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Table 3.1 **Selected Mid-Cap Mutual Funds Included in the Study**

S. No.	Mutual Fund Scheme	Fund House
1	Motilal Oswal Midcap Fund	Motilal Oswal Mutual Fund
2	Nippon India Growth Fund	Nippon India Mutual Fund
3	HDFC Mid-Cap Opportunities Fund	HDFC Mutual Fund
4	ICICI Prudential Midcap Fund	ICICI Prudential Mutual Fund
5	Quant Mid Cap Fund	Quant Mutual Fund
6	Invesco India Mid Cap Fund	Invesco Mutual Fund
7	HSBC Midcap Fund	HSBC Mutual Fund
8	Sundaram Mid Cap Fund	Sundaram Mutual Fund
9	Tata Mid Cap Growth Fund	Tata Mutual Fund
10	UTI Mid Cap Fund	UTI Mutual Fund

Study Period: 2017–2026 (10 Years)

Benchmark Index: BSE 150 MidCap Total Return Index (TRI)

3.3 Variables Used in the Study

To evaluate the performance of the selected mid-cap mutual funds, the study employed a set of return, risk, portfolio, and fund growth variables. These variables were selected based on their widespread use in mutual fund performance evaluation and their relevance to the objectives of the study. Table 3.2 presents the variables used along with their description and purpose.

Table 3.2 **Variables Used in the Study**

Category	Variable	Symbol	Purpose
Return Performance	Annual Return (%)	AR	Measures the yearly return generated by each mutual fund.
	Compound Annual Growth Rate (%)	CAGR	Measures the annualized growth of investment over the study period.
	Benchmark Return (%)	BR	Represents the annual return of the BSE 150 MidCap TRI used for comparison.
	Excess Return (%)	ER	Indicates the fund's performance relative to the benchmark.
Risk Measures	Standard Deviation	SD	Measures the volatility of fund returns.
	Beta	β	Measures the sensitivity of the fund to

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			market movements.
	Alpha	α	Measures the fund manager's ability to generate returns above the benchmark.
	Sharpe Ratio	SR	Evaluates return generated per unit of total risk.
	Sortino Ratio	SoR	Evaluates return generated per unit of downside risk.
Portfolio Characteristics	Number of Stocks	NS	Indicates the level of portfolio diversification.
	Average Market Capitalization	AMC	Represents the average size of companies included in the portfolio.
	Portfolio Price-to-Earnings Ratio	P/E	Reflects the valuation level of the portfolio.
	Three-Year Earnings Growth (%)	EG	Indicates the historical earnings growth of portfolio companies.
Fund Strength	Average Assets Under Management	Avg. AUM	Represents the average operational size of the fund.
	AUM Compound Annual Growth Rate	AUM CAGR	Measures the annualized growth in assets under management.
Composite Measure	Composite Mutual Fund Performance Score	CMFPS	Provides an integrated evaluation of overall fund performance by combining the selected performance dimensions.

3.4 Analytical Framework

The analytical framework adopted in this study was designed to provide a comprehensive evaluation of the performance of the selected mid-cap mutual funds. Initially, the annual return of each scheme was computed for the study period (2017–2026), followed by the estimation of the Compound Annual Growth Rate (CAGR) to assess long-term growth. The annual returns of the selected mutual funds were then compared with the BSE 150 MidCap Total Return Index (TRI) to estimate the benchmark return and excess return, thereby evaluating the ability of each scheme to outperform the market.

The risk profile of the selected mutual funds was examined using widely accepted risk-adjusted performance measures, namely Standard Deviation, Beta, Alpha, Sharpe Ratio, and Sortino Ratio**.** These measures enabled an assessment of return generation in relation to both total risk and downside risk, while also evaluating the fund manager's ability to generate excess returns over the benchmark. In addition, portfolio characteristics, including the number of stocks,

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average market capitalisation, portfolio price-to-earnings ratio, and three-year earnings growth, were analysed to understand the investment quality and diversification of the selected schemes. Fund strength was further assessed using Average Assets Under Management (AUM) and AUM Compound Annual Growth Rate (AUM CAGR), which indicate the operational scale and growth of each fund.

To facilitate a comprehensive comparison, the study developed a Composite Mutual Fund Performance Score (CMFPS) by integrating four major dimensions: Return Performance (35%), Risk-Adjusted Performance (35%), Portfolio Quality (15%), and Fund Strength (15%). As the selected indicators were measured in different units and scales, all variables were first normalised using the Min–Max normalization technique to transform them onto a common scale ranging from 0 to 1. The normalised values were then multiplied by their respective weights and aggregated to obtain the final CMFPS for each mutual fund. Based on the composite scores, the selected schemes were ranked from highest to lowest overall performance.

Finally, descriptive statistics, comparative analysis, and Pearson correlation analysis were employed to interpret the performance characteristics and examine the relationships among the selected variables. The analytical framework adopted in this study ensured a balanced evaluation by considering return generation, risk efficiency, portfolio quality, and fund strength simultaneously, thereby providing a more holistic assessment than any single performance measure.

4. RESULT & DISCUSSIONS

This section presents the empirical analysis and interpretation of the performance of the selected mid-cap mutual funds during the study period 2017–2026. The analysis is based on return performance, risk-adjusted performance measures, portfolio characteristics, fund strength indicators, and benchmark comparison. To provide a comprehensive evaluation, the study employs descriptive statistics, comparative analysis, correlation analysis, and the Composite Mutual Fund Performance Score (CMFPS) developed for this research. The findings are presented through tables and figures, followed by concise interpretations to facilitate a systematic comparison of the selected mutual funds and to address the objectives of the study.

Table 4.1 Comparative Performance Summary of the Selected Mid-Cap Mutual Funds

Rank	Fund	Average Annual Return (%)	CAGR (%)	Return Volatility	Average Excess Return (%)	Benchmark Outperformance (Years)	Average AUM (₹ Cr)
1	Invesco India Mid Cap	21.95	17.91	19.91	2.38	5	4141.4

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2	Nippon India Growth Mid Cap	20.91	16.69	21.06	1.33	7	20464.4
3	Quant Mid Cap	20.61	17.84	20.48	1.04	5	3095
4	Motilal Oswal Midcap	20.34	16.32	26.18	0.76	6	12088.5
5	HDFC Mid Cap	19.56	15.62	19.63	-0.02	6	48422.7
6	HSBC Midcap	19.4	14.21	21.79	-0.17	5	8153.6
7	Tata Mid Cap	19.34	14.51	20.81	-0.23	4	2538.6
8	ICICI Prudential Midcap	18.68	14.63	19.04	-0.9	5	4047.4
9	Sundaram Mid Cap	16.98	12.7	20.19	-2.6	4	8886.5
10	UTI Mid Cap	16.79	12.31	21.03	-2.78	1	7665.5

Source: Computed by researcher

Figure 4.1 Ranking of Funds based on their Average Annual Return and Compound Annual Growth Rate (CAGR)

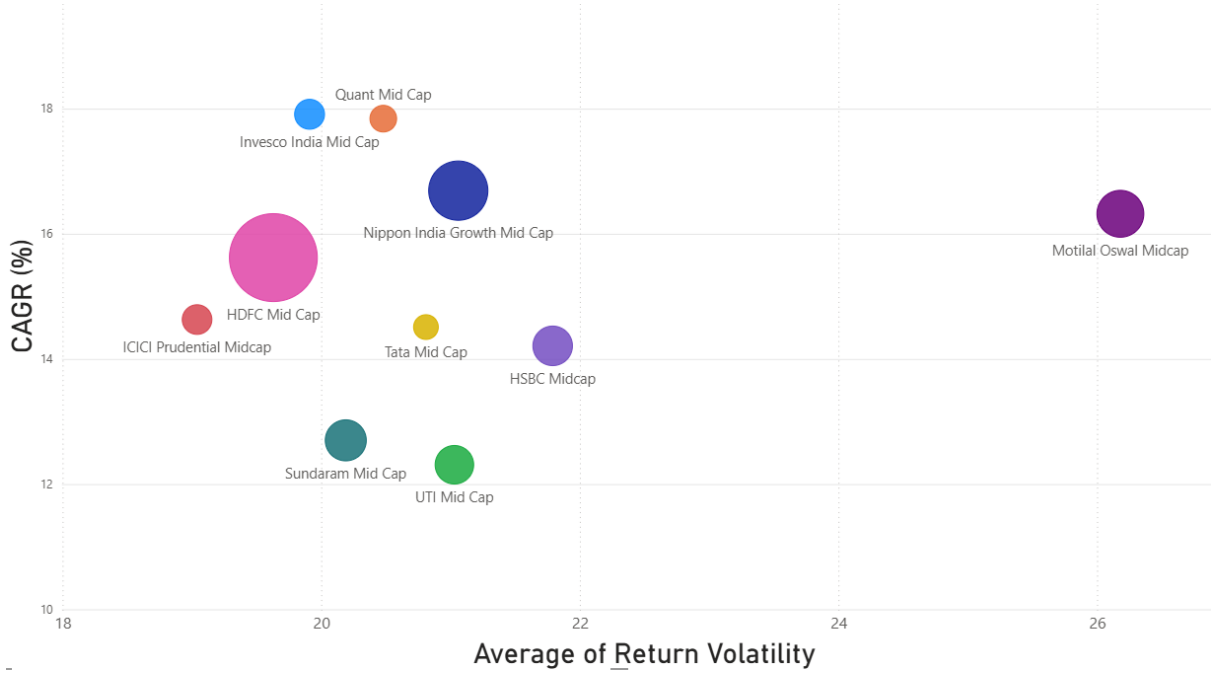

Table 4.1 presents a comparative summary of the selected mid-cap mutual funds based on their average annual return, compound annual growth rate (CAGR), return volatility, average excess return over the benchmark, benchmark outperformance frequency, and average assets under

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management (AUM). These indicators provide an overall picture of the historical performance and consistency of the selected schemes during the study period.

The comparative analysis shows noticeable differences in the performance of the selected mid-cap mutual funds over the study period. Some schemes generated consistently higher average annual returns, while others achieved comparatively modest returns but maintained lower volatility. This indicates that higher returns were not always accompanied by proportionately higher investment risk. The comparison of CAGR highlights the long-term wealth creation potential of the selected funds. Funds with higher CAGR values demonstrate stronger capital appreciation over the study period, making them more attractive for long-term investors. However, CAGR should be interpreted together with return volatility because a fund may achieve high growth while exposing investors to greater fluctuations. The analysis of average excess return provides evidence of the ability of each fund to outperform its benchmark index. Funds that generated positive excess returns over a greater number of years can be considered relatively more successful in delivering value beyond the benchmark. Conversely, funds with lower or negative excess returns indicate comparatively weaker benchmark performance.

The comparison of average AUM reveals considerable variation in the size of the selected schemes. Larger AUM generally reflects stronger investor confidence and greater market acceptance, although it does not necessarily guarantee superior investment performance. Therefore, fund size should be interpreted as an indicator of investor preference rather than as a direct measure of performance.

Overall, the results suggest that no single fund dominates across all performance indicators. Some schemes perform better in terms of returns, while others exhibit greater stability or stronger benchmark outperformance. This highlights the importance of evaluating mutual funds using multiple performance measures rather than relying solely on annual returns.

Table 4.2 Descriptive Statistics of Annual Returns of the Selected Mid-Cap Mutual Funds.

S.No.	Fund	Mean Return (%)	Median Return (%)	Minimum Return (%)	Maximum Return (%)	Range (%)	Standard Deviation (%)	Coefficient of Variation	CAGR (%)
1	Invesco India Mid Cap	21.95	17.81	-3.59	46.86	50.45	19.91	0.907	17.91
2	Nippon India Growth Mid Cap	20.91	15.2	-10.2	49.76	59.96	21.06	1.007	16.69

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3	Quant Mid Cap	20.61	20.02	-4.46	53.85	58.31	20.48	0.994	17.84
4	Motilal Oswal Midcap	20.34	11.46	-11.47	58.26	69.73	26.18	1.287	16.32
5	HDFC Mid Cap	19.56	17.84	-10.14	45.45	55.59	19.63	1.004	15.62
6	HSBC Midcap	19.4	17.19	-11.17	53.66	64.83	21.79	1.123	14.21
7	Tata Mid Cap	19.34	15.97	-12.18	50.95	63.13	20.81	1.076	14.51
8	ICICI Prudential Midcap	18.68	16.07	-9.7	46.16	55.86	19.04	1.02	14.63
9	Sundaram Mid Cap	16.98	9.54	-14.77	41.78	56.55	20.19	1.19	12.7
10	UTI Mid Cap	16.79	13.51	-14.09	44.44	58.53	21.03	1.253	12.31

Source: Computed by researcher

Figure 4.2

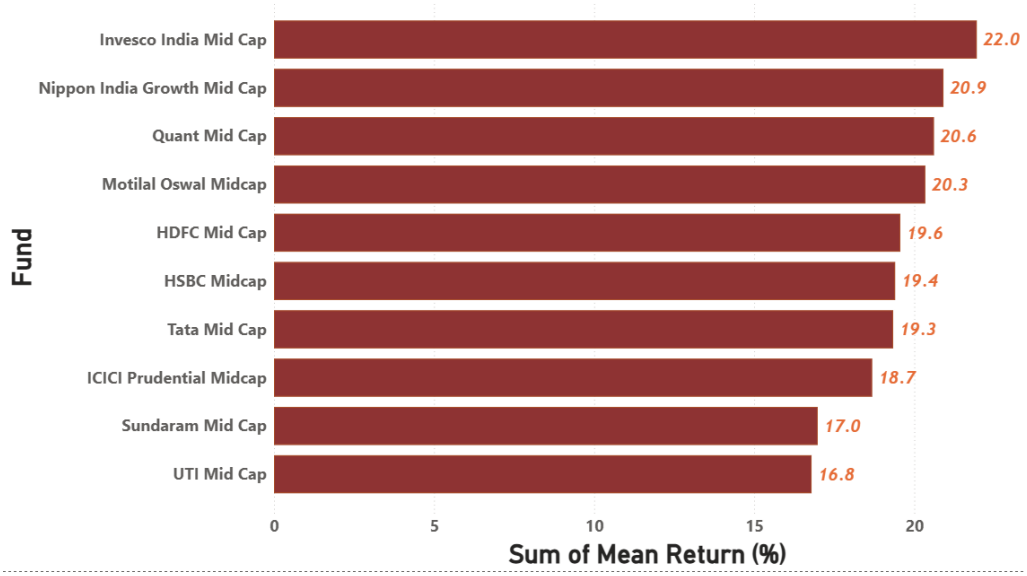

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Table 4.2 presents the descriptive statistics of the annual returns of the selected mid-cap mutual funds during the period 2017–2026. The statistical measures provide an overview of the return performance and variability of each fund over the ten-year study period.

The mean annual return reflects the average yearly performance achieved by each fund during the study period and serves as the primary indicator of long-term return performance. Funds with higher mean returns generated superior average annual gains, whereas those with lower mean returns delivered comparatively modest performance over the same period. The **median return** complements the mean by indicating the central tendency of annual returns without being unduly influenced by exceptionally high or low observations. A small difference between the mean and median suggests relatively stable return behaviour, while a larger difference indicates that one or more extreme annual returns affected the average performance.

The minimum and maximum annual returns highlight the range of performance experienced by each fund across different market conditions. The minimum return represents the weakest annual performance, whereas the maximum return reflects the best-performing year. Together, these measures demonstrate the extent to which returns fluctuated during the study period. The range and standard deviation provide insights into return volatility. Funds with lower standard deviation and a narrower range exhibited relatively more stable annual performance, while those with higher values experienced greater fluctuations in returns. Since mid-cap funds generally invest in companies with higher growth potential, some degree of return volatility is expected.

The coefficient of variation (CV) measures the amount of risk undertaken for each unit of average return. A lower CV indicates greater return efficiency because the fund generated relatively higher returns with lower variability. Consequently, the coefficient of variation is particularly useful for comparing funds that differ in both average return and volatility. The compound annual growth rate (CAGR) reflects the long-term growth achieved by each fund over the study period by considering the cumulative change in NAV from the beginning to the end of the analysis period. Funds with higher CAGR values demonstrate stronger long-term wealth creation potential and are generally more attractive for investors with extended investment horizons.

Overall, the descriptive statistics indicate that the selected mid-cap mutual funds differ not only in their average annual returns but also in the consistency and variability of those returns. Therefore, fund performance should be evaluated using a combination of return and risk measures rather than relying solely on average returns. This finding provides the foundation for the subsequent analyses of benchmark outperformance, risk-adjusted performance, portfolio characteristics, and the Composite Mutual Fund Performance Score (CMFPS), which together offer a comprehensive evaluation of the selected funds.

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Table 4.3 Comparative Analysis of Benchmark Return and Excess Return of the Selected Mid-Cap Mutual Funds

S.No.	Fund	Average Annual Return (%)	Average Benchmark Return (%)	Average Excess Return (%)	Years Outperformed Benchmark	Years Underperformed Benchmark	Benchmark Outperformance (%)	Rank (Avg Excess Return)
1	Invesco India Mid Cap	21.95	19.57	2.38	5	5	50	1
2	Nippon India Growth Mid Cap	20.91	19.57	1.33	7	3	70	2
3	Quant Mid Cap	20.61	19.57	1.04	5	5	50	3
4	Motilal Oswal Midcap	20.34	19.57	0.76	6	4	60	4
5	HDFC Mid Cap	19.56	19.57	-0.02	6	4	60	5
6	HSBC Midcap	19.4	19.57	-0.17	5	5	50	6
7	Tata Mid Cap	19.34	19.57	-0.23	4	6	40	7
8	ICICI Prudential Midcap	18.68	19.57	-0.9	5	5	50	8
9	Sundaram Mid Cap	16.98	19.57	-2.6	4	6	40	9
10	UTI Mid Cap	16.79	19.57	-2.78	1	9	10	10

Source: Computed by scholar

Figure 4.3: Comparative Analysis of Average Annual Return of Selected Funds and Average Benchmark Return

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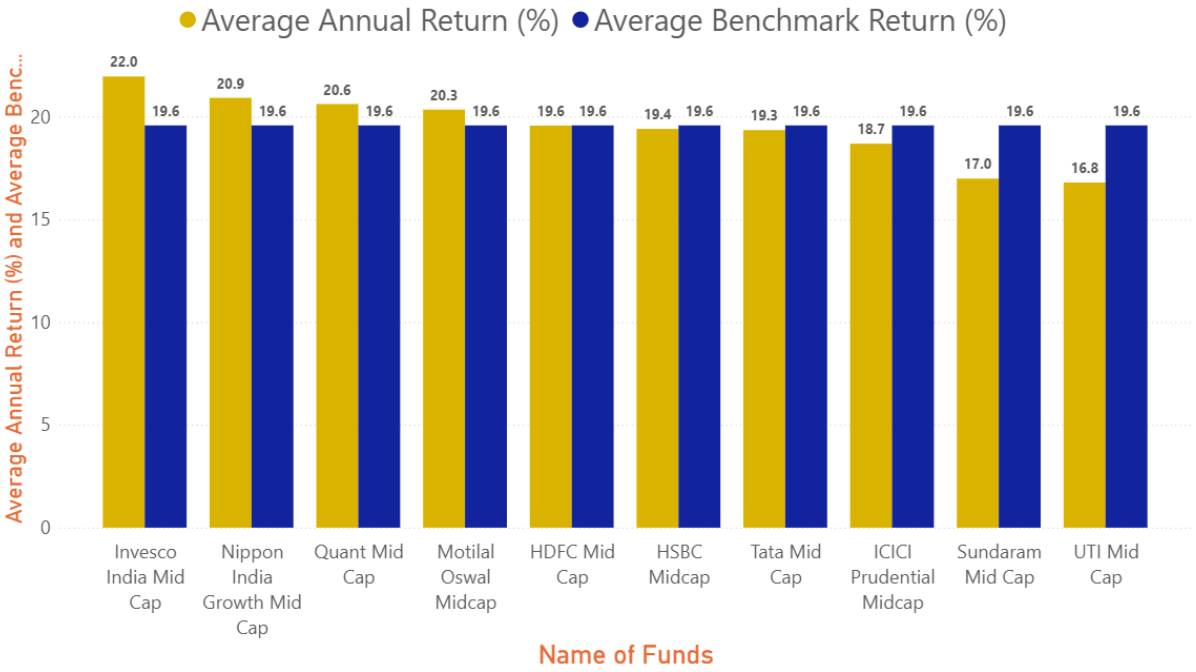

Table 4.3 compares the annual performance of the selected mid-cap mutual funds with the BSE 150 MidCap TRI benchmark over the period 2017–2026. Benchmark comparison is an important indicator of active fund management because it assesses whether a fund generated returns beyond those available from the broader mid-cap market.

The average annual return represents the overall return earned by each fund during the study period, whereas the average benchmark return reflects the corresponding average performance of the benchmark index. The difference between these two values, referred to as the average excess return, indicates the extent to which a fund added or failed to add value relative to its benchmark. Funds with a positive average excess return consistently delivered returns above the benchmark on average, suggesting comparatively stronger investment performance and effective portfolio management. In contrast, funds with negative average excess returns were unable to match the benchmark over the study period, indicating relatively weaker performance.

The years outperformed benchmark and years underperformed benchmark provide an additional measure of performance consistency. A fund may record a high average excess return because of one or two exceptional years, but a higher frequency of benchmark outperformance indicates that the fund generated superior returns across different market conditions rather than relying on isolated periods of strong performance.

The benchmark outperformance percentage further simplifies the comparison by expressing the proportion of years in which each fund exceeded the benchmark. Funds with higher percentages

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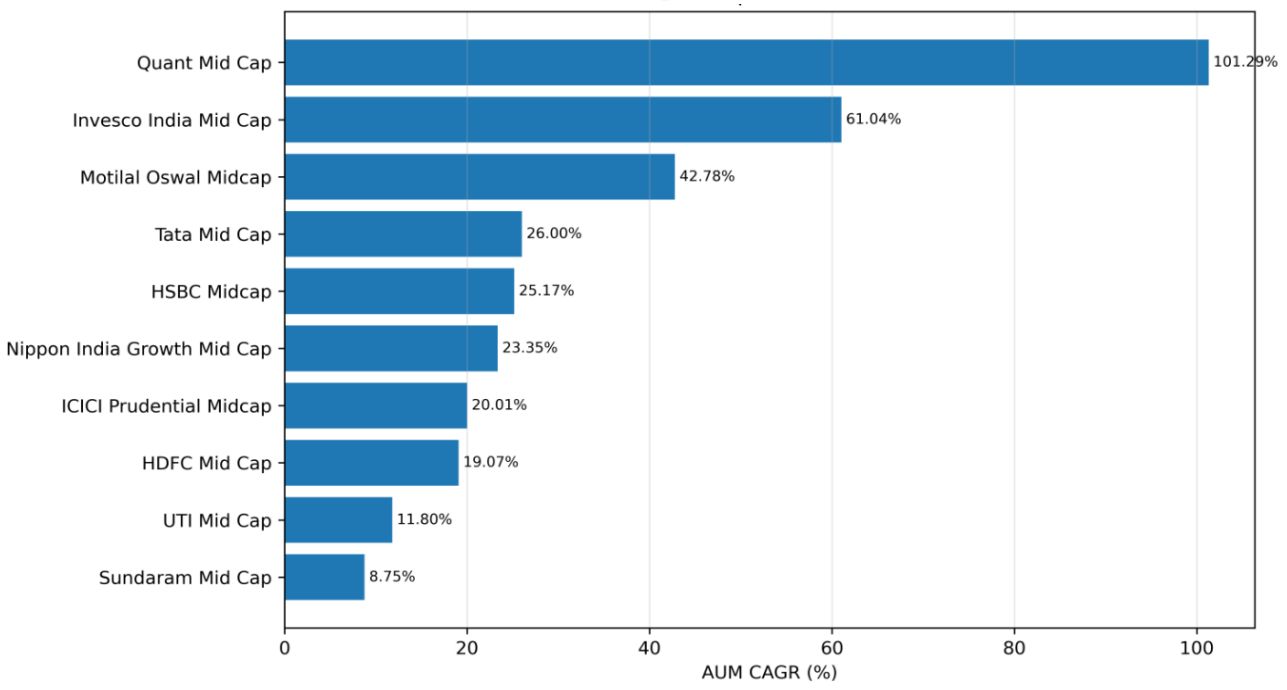
demonstrate greater consistency in outperforming the market, which is an important consideration for long-term investors seeking sustained performance rather than occasional high returns. The ranking based on average excess return provides a relative assessment of the selected funds from the perspective of value added over the benchmark. Since the benchmark represents the general performance of the mid-cap equity market, a higher ranking indicates a greater ability of the fund manager to generate returns beyond market performance through security selection and portfolio management.

Overall, the benchmark comparison reveals that the selected funds differ not only in the magnitude of their returns but also in their ability to consistently outperform the benchmark index. Therefore, benchmark outperformance should be considered alongside return volatility, risk-adjusted measures, portfolio characteristics, and fund size before drawing conclusions regarding the overall performance of a mutual fund. These findings form an important component of the Composite Mutual Fund Performance Score (CMFPS), where benchmark outperformance contributes to the return performance dimension of the evaluation framework.

Figure 4.4: Growth in AUM of Selected Mid-Cap Mutual Funds



Source: Compiled by the researcher

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Table 4.4 Comparative Analysis of Risk-Adjusted Performance Measures of the Selected Mid-Cap Mutual Funds

S.No.	Mutual Fund	SD	Beta	Sharpe	Sortino	Alpha	R^2	Alpha Sign.	Efficiency
1	Motilal Oswal Midcap	20.27	0.96	0.65	0.87	0.25	0.73	Positive	Moderate
2	Invesco India Mid Cap	19.57	1.02	1.01	1.24	5.95	0.88	Positive	High
3	Nippon India Growth Mid Cap	17.91	0.97	0.92	1.22	3.31	0.96	Positive	Moderate
4	HDFC Mid Cap	15.51	0.84	0.92	1.11	2.83	0.95	Positive	Moderate
5	HSBC Midcap	19.91	1.04	1.05	1.22	6.78	0.89	Positive	High
6	ICICI Prudential Midcap	18.63	1	0.98	1.4	4.67	0.94	Positive	Moderate
7	Sundaram Mid Cap	17.31	0.94	0.92	1.1	3.06	0.97	Positive	Moderate
8	Tata Mid Cap	16.62	0.91	0.79	1.01	0.76	0.97	Positive	Moderate
9	UTI Mid Cap	17.44	0.95	0.53	0.68	-3.62	0.96	Positive	Moderate
10	Quant Mid Cap	18.68	0.93	0.62	0.94	-1.01	0.81	Negative	Moderate

Source: Computed by researcher

Table 4.4 presents a comparative assessment of the risk-adjusted performance of the selected mid-cap mutual funds using six widely accepted performance indicators, namely Standard Deviation, Beta, Sharpe Ratio, Sortino Ratio, Alpha and R^2. Unlike the previous tables that focused primarily on return performance, this table evaluates how efficiently each fund generated returns after considering different dimensions of investment risk.

The Standard Deviation values indicate that the selected funds differed in the extent of fluctuations experienced during the study period. Funds with comparatively lower standard deviation exhibited more stable return behaviour, whereas funds with higher values experienced greater volatility. Since mid-cap funds generally invest in companies with relatively higher growth potential, a moderate degree of volatility is expected; however, lower volatility is generally preferable when comparable returns are achieved.

The Beta values reveal the sensitivity of each fund to movements in the benchmark index. Most of the selected funds reported beta values close to one, suggesting that their return movements broadly followed the performance of the mid-cap market. Funds with comparatively lower beta

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values indicate slightly lower systematic risk, while those with values closer to one reflect stronger responsiveness to market movements.

The Sharpe Ratio evaluates the return earned for every unit of total risk undertaken. Funds reporting comparatively higher Sharpe ratios generated better risk-adjusted returns, indicating greater efficiency in converting investment risk into return. Conversely, lower Sharpe ratios suggest that the additional risk assumed by the fund was not translated into proportionately higher returns.

The Sortino Ratio provides a more focused assessment by considering only downside volatility. Funds with higher Sortino ratios demonstrated better downside risk management and generated superior returns relative to harmful fluctuations. This measure is particularly useful for long-term investors because it emphasizes protection against negative return movements rather than overall volatility.

The Alpha values indicate the ability of fund managers to generate returns beyond those expected based on the level of market risk. Positive alpha values suggest effective active portfolio management and value addition beyond benchmark expectations, whereas negative alpha values indicate relatively weaker active performance after adjusting for market exposure.

The R^2 values show the extent to which each fund's performance is explained by the benchmark index. Higher R^2 values indicate that fund returns closely tracked benchmark movements, whereas comparatively lower values suggest that a greater proportion of return variation was influenced by fund-specific investment decisions.

Overall, the analysis demonstrates that the selected mid-cap mutual funds exhibit distinct risk profiles despite operating within the same investment category. Some funds achieved stronger risk-adjusted performance through higher Sharpe, Sortino and Alpha values, while others displayed relatively lower volatility or closer alignment with the benchmark. These findings reinforce that investment decisions should not be based solely on return performance. Instead, risk-adjusted measures provide a more comprehensive assessment of fund quality by evaluating both the magnitude of returns and the level of risk undertaken to achieve them. Therefore, these indicators will be incorporated into the Composite Mutual Fund Performance Score (CMFPS), where they will collectively contribute to the overall evaluation of the selected mutual funds rather than being interpreted in isolation.

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Table 4.5: Comparative Analysis of Portfolio Characteristics of the Selected Mid-Cap Mutual Funds

Mutual Fund	No. of Stocks	Avg. Market Cap (₹ Cr.)	Portfolio P/E	Portfolio P/B	3-Year Earnings Growth (%)	Equity Allocation (%)	Cash Allocation (%)	Portfolio Observation
Motilal Oswal Midcap	29	86237	45.4	5.16	49.55	97.11	2.89	Concentrated, High earnings growth
Invesco India Mid Cap	44	66868	47.21	4.78	9.85	99.36	0.64	Concentrated, Stable earnings growth
Nippon India Growth Mid Cap	97	75364	28.66	4.06	41.38	97.67	2.32	Highly diversified, High earnings growth
HDFC Mid Cap	76	57672	25.54	3.39	9.58	92.06	7.94	Moderately diversified, Stable earnings growth
HSBC Midcap	81	62274	44.38	5.82	79.08	98.97	1.05	Highly diversified, High earnings growth
ICICI Prudential Midcap	80	65599	28.28	4.32	46.33	97.9	2.1	Highly diversified, High earnings growth

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Sundaram Mid Cap	76	64751	35.06	4.65	51.66	96.31	2.53	Moderately diversified, High earnings growth
Tata Mid Cap	66	70553	32.86	3.98	16.43	99.25	0.75	Moderately diversified, Moderate earnings growth
UTI Mid Cap	92	56780	32.73	4.17	29.34	99.06	0.94	Highly diversified, Moderate earnings growth
Quant Mid Cap	23	80654	33.8	4.09	33.37	84.44	11.16	Concentrated, Moderate earnings growth

Source: Computed by researcher

Table 4.5 compares the portfolio characteristics of the selected mid-cap mutual funds to understand how differences in portfolio construction may influence long-term performance. Although all the schemes belong to the same investment category, the composition of their portfolios varies considerably in terms of diversification, company size, valuation, earnings growth, and asset allocation. The number of stocks held by each fund reflects its diversification strategy. Funds with a larger number of holdings are generally more diversified, thereby reducing company-specific risk, while funds with fewer holdings adopt a more concentrated approach that may increase both return potential and portfolio risk.

The average market capitalization indicates the average size of the companies included in each portfolio. Variations in this measure suggest that fund managers differ in their preference for relatively larger or smaller companies within the mid-cap universe. Such differences can influence both growth opportunities and risk exposure. The portfolio P/E ratio provides insight into the valuation of the underlying investments. Comparatively higher P/E ratios suggest that the portfolio is tilted towards companies with stronger market expectations for future earnings,

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whereas lower P/E ratios may indicate investments in relatively more conservatively valued companies.

The portfolio P/B ratio, while presented for completeness, serves as an additional valuation indicator and supports the interpretation of investment style. However, because it overlaps with other valuation measures, it will not be incorporated into the Composite Mutual Fund Performance Score (CMFPS). The three-year earnings growth reflects the historical earnings expansion of the portfolio companies. Funds with higher earnings growth are generally exposed to businesses demonstrating stronger operational performance and future growth potential, whereas comparatively lower values indicate more moderate earnings expansion. The equity allocation confirms that all selected schemes maintain a predominantly equity-oriented investment strategy, consistent with their classification as mid-cap equity funds. Differences in cash allocation are relatively small and mainly reflect liquidity management decisions rather than fundamental differences in investment strategy. For this reason, cash allocation will be discussed descriptively but excluded from the composite performance framework.

Overall, the portfolio characteristics reveal that the selected funds differ not only in return and risk performance but also in their investment philosophy and portfolio construction. These structural differences help explain why funds within the same category may generate different long-term outcomes. Accordingly, the selected portfolio variables will contribute to the Portfolio Quality dimension of the Composite Mutual Fund Performance Score (CMFPS), enabling a more comprehensive assessment of overall fund performance.

Table 4.6: Comparative Analysis of Assets Under Management (AUM) and Fund Growth of the Selected Mid-Cap Mutual Funds

S.No.	Mutual Fund	Initial AUM (₹ Cr.)	Final AUM (₹ Cr.)	Average AUM (₹ Cr.)	Absolute AUM Growth (₹ Cr.)	Growth Multiple (×)	AUM CAGR (%)	Observation	Growth Rank
1	Quant Mid Cap	15	8138	3095	8123	542.53	101.29	Exceptional asset growth	1
2	Invesco India Mid Cap	189	13767	4141.4	13578	72.84	61.04	Exceptional asset growth	2
3	Motilal Oswal Midcap	1520	37474	12088.5	35954	24.65	42.78	Exceptional asset growth	3
4	Tata Mid	733	5868	2538.6	5135	8.01	26	Strong asset	4

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	Cap							growth	
5	HSBC Midcap	2036	15352	8153.6	13316	7.54	25.17	Strong asset growth	5
6	Nippon India Growth Mid Cap	7437	49169	20464.4	41732	6.61	23.35	Moderate asset growth	6
7	ICICI Prudential Midcap	1519	7846	4047.4	6327	5.17	20.01	Moderate asset growth	7
8	HDFC Mid Cap	20959	100858	48422.7	79899	4.81	19.07	Moderate asset growth	8
9	UTI Mid Cap	4441	12122	7665.5	7681	2.73	11.8	Steady asset growth	9
10	Sundaram Mid Cap	6593	14026	8886.5	7433	2.13	8.75	Steady asset growth	10

Source: Computed by researcher

Table 4.6 presents a comparative analysis of the Assets Under Management (AUM) of the selected mid-cap mutual funds over the period 2017–2026. AUM is widely regarded as an indicator of the scale of a mutual fund and reflects the total market value of assets managed on behalf of investors. Although a larger AUM does not necessarily imply superior investment performance, sustained growth in AUM generally indicates increasing investor confidence, continued inflows, and the expanding market acceptance of a fund. The comparison between the initial and final AUM demonstrates the extent to which each fund expanded during the study period. While all selected schemes recorded growth in assets, the magnitude of growth differed considerably across funds. These differences indicate variations in investor participation, market performance, and the ability of fund managers to attract and retain investments over time.

The average AUM provides an overall measure of the operational scale of each fund throughout the study period rather than at a single point in time. Funds with higher average AUM maintained a consistently larger asset base, whereas comparatively smaller funds remained more limited in scale despite positive growth.

The absolute AUM growth highlights the increase in assets managed over the ten-year period, reflecting both appreciation in portfolio value and net investor inflows. However, because larger funds naturally tend to experience greater absolute increases, this measure should be interpreted alongside the growth multiple and AUM CAGR. The growth multiple indicates how many times

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a fund's assets increased during the study period, providing a relative measure of expansion that is independent of the fund's initial size. Similarly, the AUM CAGR measures the annualized growth rate of assets, enabling a fair comparison among funds with different starting AUM levels. Funds with higher AUM CAGR values demonstrate stronger long-term expansion greater consistency in asset accumulation.

Rank	Mutual Fund	Return Performance (35%)	Risk-Adjusted Performance (35%)	Portfolio Quality (15%)	Fund Strength (15%)	CMFPS (100%)	Performance Category
1	Nippon India Growth Mid Cap	29.55	23.19	11.04	4.11	67.89	Good
2	Invesco India Mid Cap	32.08	25.68	2.36	4.5	64.62	Good
3	HDFC Mid Cap	21.84	20.77	6.55	8.34	57.5	Good
4	HSBC Midcap	17.65	26.78	7.88	2.25	54.56	Average
5	ICICI Prudential Midcap	15.85	26.65	9.27	1.16	52.93	Average
6	Quant Mid Cap	27.43	10.98	6.64	7.59	52.65	Average
7	Motilal Oswal Midcap	25.58	10.27	6.52	4.32	46.69	Average
8	Tata Mid Cap	16.46	17.47	6.79	1.4	42.12	Average
9	Sundaram Mid Cap	5.61	21.68	8.07	1.04	36.41	Below Average
10	UTI Mid Cap	0	8.01	7.07	1.09	16.17	Below Average

Table 4.7: Composite Mutual Fund Performance Score (CMFPS) and Overall Ranking
Source: Computed by researcher

Table 4.7 presents the Composite Mutual Fund Performance Score (CMFPS) developed in this study to provide an integrated evaluation of the selected mid-cap mutual funds. Unlike traditional performance assessments that rely on a single indicator, the CMFPS combines four

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complementary dimensions—return performance, risk-adjusted performance, portfolio quality, and fund strength—into a unified evaluation framework. This approach provides a more balanced assessment by recognising that superior mutual fund performance depends not only on higher returns but also on efficient risk management, sound portfolio construction, and sustained growth in assets under management.

The Return Performance dimension evaluates each fund based on average annual return, compound annual growth rate (CAGR), average excess return, and benchmark outperformance percentage. Funds with stronger long-term return generation and greater ability to outperform the benchmark received higher scores under this dimension. The Risk-Adjusted Performance dimension incorporates Sharpe Ratio, Sortino Ratio, Alpha, Standard Deviation, and Beta. This dimension rewards funds that generated competitive returns while maintaining favourable risk characteristics. By considering both return efficiency and investment risk, the analysis provides a more comprehensive assessment than return measures alone.

The Portfolio Quality dimension assesses the structural characteristics of the underlying portfolios using the number of stocks, average market capitalisation, portfolio P/E ratio, and three-year earnings growth. These indicators capture diversification, company size, valuation, and growth potential, thereby reflecting the overall quality of portfolio construction. As agreed, Portfolio P/B Ratio and Cash Allocation were intentionally excluded from the CMFPS because they provide overlapping information and would add unnecessary complexity without materially improving the composite evaluation. The Fund Strength dimension evaluates the operational scale and growth of each scheme through Average AUM and AUM CAGR. Although fund size is not a direct indicator of investment performance, sustained asset growth generally reflects investor confidence and the ability of a fund to attract and retain capital over time.

The final CMFPS represents the weighted combination of these four dimensions after normalising all indicators to a common scale. This methodology enables a fair comparison across variables measured in different units and avoids undue influence from any single metric. The resulting rankings therefore reflect the overall performance profile of each fund rather than its standing on an isolated measure.

Overall, the CMFPS demonstrates that the selected mid-cap mutual funds differ substantially in their overall performance when return, risk, portfolio characteristics, and fund strength are evaluated together. The framework provides a holistic basis for comparison and supports more balanced investment decisions than approaches based solely on historical returns or individual risk measures. Consequently, the CMFPS serves as the principal evaluation framework of this study and forms the basis for the overall ranking and concluding discussion.

Table 4.8 Correlation Matrix of Selected Performance Variables of the Mid-Cap Mutual Funds

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Correlation	Average Return	CAGR	Average Excess Return	Average AUM	Sharpe Ratio	Standard Deviation	Alpha	Expense Ratio	Earnings Growth
Average Return	1	0.952	1	0.064	0.239	0.405	0.356	-0.646	-0.251
CAGR	0.952	1	0.951	0.076	0.083	0.35	0.196	-0.494	-0.318
Average Excess Return	1	0.951	1	0.062	0.238	0.405	0.356	-0.647	-0.251
Average AUM	0.064	0.076	0.062	1	0.17	-0.55	0.075	-0.11	-0.284
Sharpe Ratio	0.239	0.083	0.238	0.17	1	0.064	0.973	-0.17	0.189
Standard Deviation	0.405	0.35	0.405	-0.55	0.064	1	0.282	-0.106	0.543
Alpha	0.356	0.196	0.356	0.075	0.973	0.282	1	-0.227	0.28
Expense Ratio	-0.646	-0.494	-0.647	-0.11	-0.17	-0.106	-0.227	1	0.265
Earnings Growth	-0.251	-0.318	-0.251	-0.284	0.189	0.543	0.28	0.265	1

Source: Computed by the researcher

Table 4.8 presents the Pearson correlation matrix for the principal performance variables included in the study. The analysis helps to identify the direction and strength of the relationships among return, risk, fund characteristics, and growth-related variables. Unlike the earlier tables, which compared individual indicators separately, the correlation matrix provides an integrated view of how these variables move together across the selected mid-cap mutual funds.

The relationships between Average Return, CAGR, and Average Excess Return indicate whether funds delivering higher annual returns also demonstrated stronger long-term growth and benchmark outperformance. Positive correlations among these variables would suggest that higher-return funds were generally successful in sustaining their performance over time. The association between Sharpe Ratio and Average Return reflects whether higher returns were accompanied by improved risk-adjusted performance. A positive relationship would indicate that funds generating superior returns also used risk more efficiently, whereas a weak relationship would suggest that higher returns were achieved without a proportionate improvement in risk-adjusted efficiency.

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The relationship between Standard Deviation and Average Return provides insight into the traditional risk–return trade-off. A positive correlation would imply that funds assuming greater volatility tended to earn higher returns, while a weak or negative correlation would suggest that higher risk did not necessarily translate into superior performance within the selected sample. The correlation involving Average AUM helps evaluate whether larger funds consistently generated stronger returns or better risk-adjusted performance. Since AUM primarily reflects investor confidence and fund size rather than investment skill, any observed relationship should be interpreted as an association rather than evidence of causation. Similarly, the relationships involving Alpha, Expense Ratio, and Three-Year Earnings Growth provide additional evidence regarding the influence of active management, operating costs, and portfolio fundamentals on overall fund performance. These correlations offer useful insights into the structural characteristics associated with comparatively stronger-performing funds.

Figure 4.5 Correlation Matrix

Variable 1	Alpha	Average AUM	Average Excess Return	Average Return	CAGR	Earnings Growth	Expense Ratio	Sharpe Ratio	Standard Deviation
Alpha	1.00	0.08	0.36	0.36	0.20	0.28	-0.23	0.97	0.28
Average AUM	0.08	1.00	0.06	0.06	0.08	-0.28	-0.11	0.17	-0.55
Average Excess Return	0.36	0.06	1.00	1.00	0.95	-0.25	-0.65	0.24	0.41
Average Return	0.36	0.06	1.00	1.00	0.95	-0.25	-0.65	0.24	0.41
CAGR	0.20	0.08	0.95	0.95	1.00	-0.32	-0.49	0.08	0.35
Earnings Growth	0.28	-0.28	-0.25	-0.25	-0.32	1.00	0.27	0.19	0.54
Expense Ratio	-0.23	-0.11	-0.65	-0.65	-0.49	0.27	1.00	-0.17	-0.11
Sharpe Ratio	0.97	0.17	0.24	0.24	0.08	0.19	-0.17	1.00	0.06
Standard Deviation	0.28	-0.55	0.41	0.41	0.35	0.54	-0.11	0.06	1.00

Overall, the correlation analysis provides an important exploratory assessment of the relationships among the selected variables and serves as a foundation for deciding whether further multivariate analysis is appropriate. The findings should be interpreted cautiously because the analysis is based on 10 fund-level observations, which is suitable for identifying patterns but limits the strength of statistical inference.

5. CONCLUSION AND IMPLICATIONS

5.1 Major Findings of the Study

The study evaluated the performance of ten selected mid-cap mutual funds in India over the period 2017–2026 using return, risk-adjusted performance, portfolio characteristics, and fund strength indicators. The findings revealed considerable variation in fund performance across the selected evaluation measures, indicating that superior returns alone do not necessarily reflect

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overall fund efficiency. While some funds consistently outperformed the benchmark and demonstrated better risk-adjusted returns, others performed well only on specific performance parameters. The analysis also showed that portfolio characteristics and Assets Under Management (AUM) contributed to the overall assessment of fund performance. The Composite Mutual Fund Performance Score (CMFPS) developed in this study successfully integrated these dimensions into a single evaluation framework, enabling a comprehensive comparison and ranking of the selected mutual funds. Overall, the findings suggest that a multidimensional approach provides a more balanced and reliable assessment of mutual fund performance than the use of any individual performance measure.

5.2 Conclusion

The present study provides a comprehensive evaluation of the performance of selected mid-cap mutual funds in India during the period 2017–2026 by employing a combination of traditional risk and return measures, portfolio characteristics, and fund strength indicators. The findings demonstrate that mutual fund performance cannot be adequately assessed using a single financial indicator, as each performance measure captures a different dimension of fund efficiency. Therefore, a multidimensional approach is essential for obtaining a balanced and reliable assessment of mutual fund performance.

The Composite Mutual Fund Performance Score (CMFPS) developed in this study offers an integrated framework for evaluating mutual funds by combining return performance, risk-adjusted performance, portfolio quality, and fund strength into a single composite measure. This approach facilitates a more meaningful comparison among mutual funds and provides a comprehensive basis for performance ranking. The study concludes that integrating multiple performance dimensions improves the effectiveness of mutual fund evaluation and supports more informed investment decisions. Overall, the findings contribute to the existing literature on mutual fund performance evaluation and provide a practical framework that can be adapted for assessing other categories of mutual funds in future research.

5.3 Practical Implications

The findings of this study have practical implications for multiple stakeholders in the mutual fund industry. For **investors**, the study demonstrates that investment decisions should not be based solely on historical returns, but should also consider risk-adjusted performance, portfolio quality, and fund strength. The Composite Mutual Fund Performance Score (CMFPS) developed in this study provides a comprehensive framework that can assist investors in comparing and selecting mutual funds more effectively. Financial advisors and portfolio managers may use the findings to recommend suitable mid-cap mutual funds based on a multidimensional evaluation rather than relying on a single performance indicator. The study may also help Asset

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Management Companies (AMCs) identify the factors contributing to superior fund performance and improve portfolio management strategies. Furthermore, the proposed framework can serve as a useful reference for researchers undertaking comparative studies on other categories of mutual funds.

5.4 Limitations of the Study

The study is subject to certain limitations. First, the analysis is confined to ten selected mid-cap mutual funds and may not represent the performance of the entire mutual fund industry in India. Second, the study relies exclusively on secondary data collected from publicly available sources, and its findings depend on the accuracy and completeness of the reported information. Third, the evaluation covers the period 2017–2026**,** and the results may vary under different market conditions or over alternative time horizons. Finally, the study focuses on selected performance indicators and does not consider behavioural, macroeconomic, or qualitative factors that may also influence mutual fund performance.

5.5 Scope for Future Research

Future studies may extend the present research by including a larger sample of mutual funds and examining other categories such as large-cap, small-cap, flexi-cap, hybrid, sectoral, or index funds. Comparative analyses across different market cycles or international markets may provide additional insights into mutual fund performance. Researchers may also incorporate macroeconomic variables**,** behavioural finance factors**, or** machine learning-based performance evaluation models to enhance the analytical framework. In addition, the Composite Mutual Fund Performance Score (CMFPS) proposed in this study may be refined by assigning alternative weights or incorporating additional performance indicators to evaluate its applicability across different investment categories and market environments.

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