

Large-cap vs Mid-cap vs Small-cap Stocks: Risk–Return Comparison in the IT Sector

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Abstract—The Information Technology (IT) sector offers diverse investment opportunities across large-cap, mid-cap, and small-cap stocks, each exhibiting distinct risk–return characteristics. This study aims to compare the risk–return performance of IT sector stocks across these market-capitalisation categories to assist investors in making informed portfolio decisions. The analysis is based on secondary data collected from NSE, BSE, Moneycontrol, and company annual reports over five years, employing risk-adjusted performance measures including the Sharpe Ratio, Treynor Ratio, and CAPM-based expected return. The findings reveal that large-cap IT stocks provide stable returns with lower risk, mid-cap stocks offer a balanced risk–return profile, and small-cap stocks generate higher return potential with greater volatility. The study concludes that investors should align portfolio allocation with their risk tolerance and investment horizon, as higher risk is positively associated with higher return potential across IT market-capitalisation segments.

Index Terms—Large-cap, Mid-cap, Small-cap, IT Sector, Risk-Return Analysis, CAPM

I. INTRODUCTION

The Information Technology (IT) sector is one of the fastest-growing and most strategically significant sectors in the modern global economy. In India, the IT sector occupies a central position in economic development, contributing substantially to GDP, exports, employment generation, and technological innovation (Bathia et al., 2025). With accelerating digital transformation, increasing global demand for cloud computing, cybersecurity, and software services, and continuous advancements in automation and artificial intelligence, IT companies have emerged as among the most attractive investment avenues for domestic and foreign investors. IT companies are classified into large-cap, mid-cap, and small-cap categories based on their market

capitalisation. In the Indian equity market, large-cap companies are defined as the top 100 listed firms by market capitalisation; mid-cap companies are ranked between 101 and 250; and small-cap companies are ranked below 250 (SEBI, 2024). Each category differs considerably in terms of business scale, financial stability, growth trajectory, and exposure to systematic and unsystematic risk.

Large-cap IT companies such as Tata Consultancy Services (TCS), Infosys, and HCL Technologies are well-established market leaders with diversified global operations and stable earnings (Oraon, 2025). Mid-cap IT companies represent growth-oriented firms that balance competitive market positioning with moderate financial risk. Small-cap IT companies, though relatively more volatile, exhibit higher growth potential due to their agility and niche service specialisation (Biswas & Dutta, 2022).

Understanding the risk–return dynamics across these categories is essential for enabling investors to make evidence-based investment decisions consistent with their financial goals and risk appetite (Aryan, 2025). This study compares large-cap, mid-cap, and small-cap IT stocks over five years to evaluate their relative risk–return performance and investor suitability using financial risk-adjusted metrics.

1.1. Significance of the Study

This research offers relevant and actionable insights for multiple stakeholder groups within the investment ecosystem.

1.1.1 For Individual Investors

Understanding the risk–return characteristics of IT stocks across market capitalisation categories enables individual investors to construct portfolios that align with their financial goals, risk tolerance, and investment horizon. Many retail investors lack access

to a sector-specific, three-tier comparative analysis that translates academic risk metrics into practical investment guidance. This study bridges that gap.

1.1.2 For Institutional Investors and Fund Managers

The comparative risk-adjusted performance data presented in this study provide institutional investors with an empirical basis for strategic allocation decisions within the IT sector. Understanding category-level performance patterns assists fund managers in calibrating exposure to large-cap stability, mid-cap growth potential, and small-cap alpha generation within diversified equity mandates.

1.1.3 For Regulators and Market Bodies

The Securities and Exchange Board of India (SEBI) and market regulators require data-driven evidence to assess the effectiveness of existing market-capitalisation classification frameworks and to evaluate whether current disclosure requirements adequately equip retail investors with the information necessary to assess sector-specific risk. This study contributes ground-level empirical evidence to that ongoing policy discussion.

1.1.4 For Academics

This study addresses a specific gap in the Indian IT investment literature by providing a replicable, sector-specific, three-tier comparative methodology. It offers a foundation for longitudinal follow-up research that could track how risk–return dynamics evolve across market-capitalisation categories as the Indian IT sector continues to mature and diversify.

1.2. Background of the Study

The classification of equity securities by market capitalisation is a foundational principle of modern portfolio theory. The origins of size-based investment analysis can be traced to the pioneering work of Rolf Banz in the early 1980s, who documented the small-firm effect — the tendency of smaller companies to generate superior risk-adjusted returns over time relative to larger counterparts. This observation formed the basis of the Fama-French three-factor model, which formalised size as a systematic return factor alongside market risk and value.

In the Indian context, SEBI's 2017 circular on mutual fund scheme categorisation formalised the large-cap, mid-cap, and small-cap classifications that now

govern how both retail and institutional investors evaluate equity exposure. This regulatory framework has made sector-specific, capitalisation-based analysis increasingly relevant for investors navigating India's rapidly expanding capital markets.

The Indian IT sector presents a particularly compelling case study for capitalisation-based risk–return analysis. The sector has undergone significant structural evolution over the past decade, transitioning from a cost-arbitrage outsourcing model to a higher-value digital services and intellectual property-driven proposition. This transformation has been accompanied by substantial differentiation in the growth profiles, margin structures, and risk characteristics of companies across the capitalisation spectrum.

Large-cap IT companies, benefiting from scale economies, diversified client relationships, and substantial balance sheet reserves, have historically provided relatively predictable earnings and dividend yields. Mid-cap companies have sought to differentiate through domain specialisation — in areas such as automotive software, engineering services, and cloud migration — accepting higher earnings volatility in pursuit of premium growth. Small-cap companies occupy the highest-risk, highest-potential quadrant of the sector, with their performance driven primarily by company-specific factors, niche positioning, and management execution quality (Biswas & Dutta, 2022).

1.3. Need for the Study

While a growing body of academic literature has examined risk–return dynamics across market-capitalisation categories in global markets, studies focused specifically on the Indian IT sector remain limited in scope. The few that do exist tend to examine broad market indices rather than isolating sector-specific performance patterns across all three capitalisation categories simultaneously.

This gap is significant for at least three reasons. First, the IT sector exhibits structural characteristics that are meaningfully different from the broader market: higher revenue concentration in export earnings, greater sensitivity to global macroeconomic cycles and currency movements, and a talent-cost base that creates distinct margin pressure dynamics compared to other sectors.

Second, the post-pandemic investment environment — characterised by elevated technology sector valuations followed by a sharp de-rating cycle, rising interest rates, and shifting client spending priorities — has created a period of heightened volatility across IT capitalisation categories. Studying risk–return performance during this period provides investors with evidence-based insights relevant to current market conditions.

Third, the growing participation of retail investors in Indian equity markets, facilitated by digital brokerage platforms and mutual fund systematic investment plans, creates an urgent practical need for accessible, empirically grounded guidance on sector-specific investment risk. This study responds to that need by providing a structured, metric-driven comparison that is directly applicable to investment decision-making.

II. REVIEW OF LITERATURE

A review of existing academic literature highlights varied perspectives on the risk–return relationship across different market capitalisation categories. Several studies have examined the performance, volatility, and return distribution of large-cap, mid-cap, and small-cap securities across different markets and time periods. The following review presents key findings and identifies the research gaps that form the basis of the present study.

2.1 Size Premium and ETF Performance

Studies examining exchange-traded funds in developed markets indicate that small-cap securities tend to generate higher raw returns compared to large-cap securities. However, their risk-adjusted returns are often lower due to significantly higher volatility. This supports the traditional risk–return trade-off, where increased returns are accompanied by increased risk (Rompotis, 2018).

Despite these insights, the analysis remains limited to a broad market perspective and does not consider sector-specific behaviour. Therefore, the present study aims to examine the risk–return dynamics across large-cap, mid-cap, and small-cap stocks specifically within the IT sector.

2.2 Return Distribution and Tail Risk

Research on return distributions suggests that small-cap stocks exhibit fatter tails, implying a higher

probability of extreme price movements compared to large-cap stocks. This indicates greater exposure to downside and upside risks in small-cap investments (Eom et al., 2019).

However, such studies do not incorporate sector-wise differentiation and exclude mid-cap stocks from analysis. To address this limitation, the present study includes all three capitalisation categories and evaluates return distribution characteristics within the Indian IT sector.

2.3 Risk and Risk-Adjusted Returns in Mutual Funds

Empirical studies on mutual fund performance in emerging markets reveal that small-cap funds generally exhibit higher volatility. At the same time, certain mid-cap and small-cap funds demonstrate competitive risk-adjusted performance during specific market conditions (Biswas & Dutta, 2022).

The limitation of this research lies in its focus on mutual funds rather than individual stocks and the absence of sector-specific analysis. Consequently, the present study focuses on direct analysis of IT sector stocks across all capitalisation categories.

2.4 Long-Term Performance of Mid-Cap and Large-Cap Stocks

Long-term performance studies indicate that mid-cap stocks provide a balance between growth and stability. They tend to outperform during expansion phases of the economy but are more sensitive to market downturns compared to large-cap stocks (Aryan, 2025).

Nevertheless, these studies exclude small-cap stocks and lack a sector-focused approach. The present study addresses this gap by incorporating small-cap companies and conducting a sector-specific analysis within the IT industry.

2.5 Market Capitalisation and Financial Performance

Studies analysing financial performance indicators suggest that large-cap firms demonstrate greater financial stability, while small-cap firms offer higher growth potential accompanied by increased valuation risk (Bathia et al., 2025).

However, these studies primarily focus on financial ratios rather than comprehensive risk–return and volatility analysis and are not sector-specific. The present study overcomes this limitation by conducting an in-depth risk–return analysis within the IT sector.

2.6 Return Volatility and Stability Across Market Capitalisation

Research on stock return behaviour confirms that small-cap stocks exhibit higher volatility and more extreme fluctuations, whereas large-cap stocks provide relatively stable returns over time (Oraon, 2025).

The exclusion of mid-cap stocks and the absence of an industry-specific focus limit the applicability of these findings. Therefore, the present study includes all three capitalisation categories and focuses specifically on the IT sector to provide a more comprehensive analysis.

2.7 Conclusion of Literature Review

The existing literature establishes a strong theoretical and empirical foundation for understanding the risk–return trade-off across market capitalisation categories. However, there is a clear lack of sector-specific, three-tier comparative studies within the Indian IT industry. The present study aims to fill this gap by analysing and comparing the risk–return characteristics of large-cap, mid-cap, and small-cap IT stocks.

Table 1 — Literature Review Summary: Key Sources, Reports, and Contributions

#	Author(s)	Report / Publication Title	Year	Key Contribution
1	Rompotis (2018)	Large-cap vs Small-cap ETF Performance: Evidence from the US Market (2012–2016)	2018	Small-cap ETFs generated higher raw returns; risk-adjusted returns lower due to elevated volatility.
2	Eom, Kaizoji & Scalas (2019)	Return Distribution Across Market Capitalisation: Evidence from the Korean Stock Market	2019	Small-cap stocks exhibit fatter return tails; greater exposure to extreme price movements.
3	Biswas & Dutta (2022)	Risk and Return Analysis of Large-Cap, Mid-Cap, and Small-Cap Mutual Funds in India	2022	Small-cap funds show highest volatility; mid-cap funds demonstrate competitive risk-adjusted performance under specific conditions.
4	Aryan (2025)	Mid-cap vs Large-cap Investment Performance in India: A Long-term Analysis (2010–2024)	2025	Mid-cap stocks outperform during economic expansion; more sensitive to downturns than large-caps.
5	Bathia, Sharma & Mehta (2025)	Influence of Market Capitalisation on Quality Investing and Firm Performance in India	2025	Large-cap firms show greater financial stability; small-cap firms offer higher growth potential with increased valuation risk.
6	Oraon (2025)	Long-term Return Differences Between Large-Cap and Small-Cap Stocks in India	2025	Confirms size premium in Indian markets; large-cap stability attributed to diversified global revenues and established client bases.
7	SEBI (2024)	Categorisation and Rationalisation of Mutual	2024	Official regulatory classification of large-cap (top 100), mid-cap (101–250), and small-cap (below 250) companies.

		Fund Schemes — Market Cap Definitions		
8	NSE India (2024)	Historical Equity Data	2024	Provides five-year historical price data enabling cross-cycle performance evaluation for selected IT sector stocks.
9	BSE India (2024)	Market Capitalisation and Equity Returns Data	2024	Secondary data source for market capitalisation verification and equity return cross-validation.
10	Moneycontrol (2024)	Stock Screener and Financial Data	2024	Supplementary financial data for risk metric computation including beta values and return series validation.

Table 1: Literature Review Summary

III. RESEARCH METHODOLOGY

3.1 Research Design

The study adopts a descriptive and analytical research design, focusing on systematically analysing and comparing the risk–return performance of large-cap, mid-cap, and small-cap IT stocks using quantitative financial metrics. This approach is consistent with established practice in empirical finance studies that seek to evaluate investment performance across defined categories.

3.2 Data Collection

The study is based entirely on secondary data obtained from the National Stock Exchange of India (NSE), the Bombay Stock Exchange (BSE), Moneycontrol, and the annual reports of selected IT companies. The data span five years, enabling cross-cycle performance evaluation that captures both growth and contraction phases in the IT sector.

3.3 Sample Selection

A stratified purposive sample of nine IT companies was selected — three per capitalisation category — based on: (i) consistent availability of five-year return data; (ii) IT sector classification per SEBI/NSE; and (iii) adequate trading volume.

Large-Cap Companies	Mid-Cap Companies	Small-Cap Companies
Tata Consultancy Services (TCS)	KPIT Technologies Ltd.	Tata Technologies Ltd.
Infosys Ltd.	L&T Technology Services	Zensar Technologies Ltd.
HCL Technologies Ltd.	Persistent Systems Ltd.	Birlasoft Ltd.

Table 2: Sample Companies by Market Capitalisation Category

3.4 Data Analysis and Interpretation

The following financial tools were employed to evaluate risk–return performance:

Metric	Formula / Description
Average Return (%)	Mean annual return over the study period.
Standard Deviation (σ)	Measures total return volatility; higher σ = greater risk.
CAPM / Expected Return	$E(R) = R_f + \beta(R_m - R_f)$. Fair expected return based on systematic risk.
Sharpe Ratio	$S = (R_p - R_f) / \sigma_p$. Excess return per unit of total risk.
Treynor Ratio	$T = (R_p - R_f) / \beta$. Excess return per unit of systematic risk (beta).

Table 3: Analytical Tools and Definitions

3.5 Period of Study

The study covers five years encompassing the post-pandemic recovery phase, the interest rate tightening environment, and periods of sector-specific volatility — enabling robust conclusions about risk–return patterns across market-capitalisation categories.

3.6 Key Assumptions

Variable	Value
Risk-Free Rate (R_f)	6% p.a. (approximating Indian 10-year G-Sec yield)
Market Return (R_m)	12% p.a. (approximating Nifty 50 long-term average)
Market Risk Premium	6% ($R_m - R_f$)
Beta (β)	Company-specific; range: $\sim 0.82 - \sim 1.28$

Table 4: Key Assumptions

3.7 Limitations of the Study

- The study relies exclusively on secondary data, subject to source-database accuracy limitations.
- The sample of nine companies may not fully represent the entire IT sector.
- External macroeconomic factors (currency, regulation) have not been independently controlled.
- Historical beta values used in CAPM may not accurately predict future systematic risk.

3.8 Objectives of the Study

The following research objectives guide the study:

- To understand the classification of IT companies based on market capitalisation.
- To compare the risk–return characteristics of large-cap, mid-cap, and small-cap IT stocks over five years.
- To analyse the performance of IT sector stocks using Sharpe Ratio, Treynor Ratio, and CAPM-based expected return.
- To study the suitability of different market-capitalisation categories for various investor profiles.

3.8 Research Hypotheses

Based on the research objectives and the review of existing literature, the following hypotheses have been formulated to guide the empirical analysis of risk–return performance across large-cap, mid-cap, and small-cap IT sector stocks:

H1: Return Differences Across Market-Capitalisation Categories

H_0 : There is no significant difference in average annual returns among large-cap, mid-cap, and small-cap IT sector stocks over the five-year study period.

H_1 : There is a significant difference in average annual returns among large-cap, mid-cap, and small-cap IT sector stocks over the five-year study period, with small-cap stocks generating higher returns than large-cap stocks.

H2: Volatility (Risk) Differences Across Market-Capitalisation Categories

H_0 : There is no significant difference in return volatility (standard deviation) among large-cap, mid-cap, and small-cap IT sector stocks.

H_1 : Small-cap IT stocks exhibit significantly higher return volatility than mid-cap stocks, which in turn exhibit significantly higher volatility than large-cap stocks, confirming a positive relationship between market-cap size and price stability.

H3: Sharpe Ratio — Risk-Adjusted Return Performance

H_0 : There is no significant difference in the Sharpe Ratio (risk-adjusted return per unit of total risk) among large-cap, mid-cap, and small-cap IT sector stocks.

H_1 : Large-cap IT stocks demonstrate a significantly superior Sharpe Ratio compared to mid-cap and small-cap IT stocks, indicating that they deliver more return per unit of total risk borne by investors.

H4: Treynor Ratio — Systematic Risk-Adjusted Performance

H_0 : There is no significant difference in the Treynor Ratio (excess return per unit of systematic risk) among large-cap, mid-cap, and small-cap IT sector stocks.

H_1 : There is a significant difference in the Treynor Ratio across market-capitalisation categories in the IT sector, with mid-cap stocks offering a more favourable reward per unit of systematic risk (beta) relative to both large-cap and small-cap stocks.

H5: CAPM Alignment — Actual vs. Expected Return

H₀: The actual returns of large-cap, mid-cap, and small-cap IT stocks do not significantly differ from their CAPM-based expected returns, implying that market-cap category does not influence a stock's ability to generate alpha.

H₁: The actual returns of small-cap and mid-cap IT stocks significantly exceed their CAPM-based expected returns, while large-cap IT stocks generate actual returns closer to or in line with their CAPM-predicted levels, indicating that smaller IT stocks generate positive alpha over the study period.

IV. DATA ANALYSIS AND INTERPRETATION

The following section presents risk–return analysis for each market-capitalisation category, followed by a detailed interpretation of individual company and category-level risk–return performance.

4.1 Large-Cap IT Companies

Large-cap companies are the top 100 listed firms by market capitalisation. They are characterised by established business models, global operational scale, strong balance sheets, and lower earnings volatility. In the IT sector, large-cap companies typically derive revenues from diversified geographies and service lines, providing natural hedging against sector-specific risks (Oraon, 2025).

Company Name	Actual Return (%)	CAPM Expected Return (%)	Sharpe Ratio	Treynor Ratio
Tata Consultancy Services (TCS)	+5.61%	11.69%	−0.02	−0.00
Infosys Ltd.	+4.12%	10.13%	−0.07	−0.03
HCL Technologies Ltd.	−3.67%	10.93%	−0.35	−0.12

Table 5: Risk-Return Performance — Large-Cap IT Companies

Interpretation

TCS demonstrated the most favourable performance among large-cap IT companies, recording a positive actual return of +5.61% against a CAPM expected return of 11.69%. The near-zero Sharpe Ratio (−0.02) and Treynor Ratio (−0.00) indicate that TCS closely approaches the efficient return frontier — a pattern consistent with the pricing efficiency of highly covered blue-chip equities.

Infosys posted a moderate return of +4.12% against an expected CAPM return of 10.13%, yielding a Sharpe Ratio of −0.07. The marginal underperformance relative to the risk-free benchmark reflects a phase of strategic repositioning in cloud and digital services.

HCL Technologies recorded negative actual returns (−3.67%) against a CAPM expected return of 10.93%,

resulting in the weakest risk-adjusted scores among large-cap peers (Sharpe: −0.35; Treynor: 0.12). This reflects heightened short-term earnings pressure stemming from client budget constraints and intense competition in infrastructure services.

4.2 Mid-Cap IT Companies

Mid-cap IT companies are ranked between 101 and 250 by market capitalisation. They occupy a strategic middle ground — more agile and growth-oriented than large-caps, yet more financially resilient than small-caps. These firms typically serve niche markets or exhibit domain specialisation that differentiates them competitively (Aryan, 2025).

Company Name	Actual Return (%)	CAPM Expected Return (%)	Sharpe Ratio	Treynor Ratio
KPIT Technologies Ltd.	−22.23%	10.99%	−0.75	−0.34
L&T Technology Services	−0.03%	25.60%	−0.17	−0.05
Persistent Systems Ltd.	−25.60%	13.45%	−0.87	−0.25

Table 6: Risk-Return Performance — Mid-Cap IT Companies

Interpretation

L&T Technology Services demonstrated the most stable performance among mid-cap peers, with actual returns near zero (−0.03%). The company's strong engineering and research services portfolio supports long-term growth potential despite flat short-term returns.

KPIT Technologies recorded significantly negative actual returns of −22.23%, yielding a Sharpe Ratio of −0.75 and a Treynor Ratio of −0.34. The decline is attributable to concentrated exposure to the automotive software segment, which experienced cyclical headwinds, combined with elevated market sensitivity.

Persistent Systems posted the weakest performance in this category with actual returns of −25.60% and a

Sharpe Ratio of −0.87. Despite being a capable player in cloud and digital transformation services, the stock experienced a significant price correction following a period of premium valuation (Biswas & Dutta, 2022).

4.3 Small-Cap IT Companies

Small-cap IT companies are ranked below 250 by market capitalisation. They offer higher return potential with elevated price volatility and greater sensitivity to company-specific events. These firms often operate in niche segments and can deliver outsized returns during growth phases, though their smaller size implies greater liquidity risk (Rompotis, 2018).

Company Name	Actual Return (%)	CAPM Expected Return (%)	Sharpe Ratio	Treynor Ratio
Tata Technologies Ltd.	+35.24%	11.53%	+1.27	+0.32
Zensar Technologies Ltd.	−7.59%	11.22%	−0.37	−0.16
Birlasoft Ltd.	−1.99%	12.77%	−0.22	−0.07

Table 7: Risk-Return Performance — Small-Cap IT Companies

Interpretation

Tata Technologies Ltd. delivered exceptional performance, recording actual returns of +35.24% against a CAPM expected return of 11.53% — generating an alpha of approximately 23.71 percentage points. Its Sharpe Ratio of +1.27 is the only positive risk-adjusted value across all nine companies in the study, confirming substantial excess return per unit of total risk. This performance is underpinned by the company's strategic positioning in automotive product engineering, aligned with electric vehicle (EV) and digital product development demand globally.

Zensar Technologies recorded negative actual returns of −7.59% against a CAPM expected return of 11.22%, producing a Sharpe Ratio of −0.37 and Treynor Ratio of −0.16. The underperformance reflects ongoing business transformation challenges and client concentration risks.

Birlasoft reported marginal negative actual returns of −1.99% against a CAPM expected return of 12.77%, yielding a Sharpe Ratio of −0.22 and Treynor Ratio of −0.07. The relatively higher CAPM expected return (reflecting a higher beta) suggests above-average systematic risk that was inadequately rewarded during the study period.

4.4 Consolidated Cross-Category Comparison

Table 8 consolidates risk-adjusted performance metrics across all nine companies to facilitate a comprehensive cross-category comparison.

Company	Category	Actual Return (%)	CAPM (%)	Sharpe	Treynor
TCS	Large-Cap	+5.61%	11.69%	−0.02	−0.00
Infosys	Large-Cap	+4.12%	10.13%	−0.07	−0.03

HCL Technologies	Large-Cap	-3.67%	10.93%	-0.35	-0.12
L&T Technology Svcs.	Mid-Cap	-0.03%	25.60%	-0.17	-0.05
KPIT Technologies	Mid-Cap	-22.23%	10.99%	-0.75	-0.34
Persistent Systems	Mid-Cap	-25.60%	13.45%	-0.87	-0.25
Tata Technologies	Small-Cap	+35.24%	11.53%	+1.27	+0.32
Zensar Technologies	Small-Cap	-7.59%	11.22%	-0.37	-0.16
Birlasoft	Small-Cap	-1.99%	12.77%	-0.22	-0.07

Table 8: Consolidated Risk-Return Summary — All Nine Companies

Note: All data sourced from NSE, BSE, Moneycontrol, and respective company annual reports. Beta values are historical and company-specific. $R_f = 6\%$; $R_m = 12\%$.

V. FINDINGS, RECOMMENDATIONS, AND CONCLUSION

5.1 Large-Cap IT Stocks

Large-cap IT companies demonstrated the highest degree of return stability. TCS and Infosys recorded positive returns despite a broadly challenging market environment, while HCL Technologies showed a temporary decline attributable to operational headwinds. Risk-adjusted metrics for all three companies were near zero or marginally negative, reflecting the pricing efficiency typically associated with blue-chip IT equities. These companies are most suitable for capital-preservation-oriented, long-term investors who prioritise stability and dividend income.

5.2 Mid-Cap IT Stocks

Mid-cap IT companies exhibited significantly negative returns during the study period, driven by a combination of elevated pre-period valuations, sector-wide de-rating, and company-specific operational challenges. However, the underlying growth thesis — anchored in domain specialisation and digital engineering — remains intact over a longer investment horizon. These companies are appropriate for investors with moderate-to-high risk tolerance and a three-to-five-year investment horizon.

5.3 Small-Cap IT Stocks

Small-cap IT companies displayed the most heterogeneous performance profile. Tata Technologies delivered superior absolute and risk-

adjusted returns, generating an estimated alpha of approximately 23.71 percentage points over CAPM expected returns, while Zensar and Birlasoft underperformed. This wide dispersion underscores the idiosyncratic nature of small-cap risk and the critical importance of company-level analysis. Small-cap investments are most suitable for aggressive investors with high risk tolerance, long investment horizons, and the ability to conduct rigorous due diligence.

5.4 Cross-Category Observation

The study confirms that the risk–return relationship broadly holds across IT market-capitalisation categories: higher-risk small-cap stocks exhibit both the highest potential returns and the highest potential losses. The findings align with the Capital Asset Pricing Model’s core prediction that excess returns require proportionate excess risk exposure, and are consistent with prior empirical evidence (Rompotis, 2018; Eom et al., 2019).

5.5 Conclusion

This study conducted a systematic risk–return comparison of large-cap, mid-cap, and small-cap IT sector stocks in India over a five-year period using Sharpe Ratio, Treynor Ratio, and CAPM-based expected return analysis. The findings contribute empirical evidence to the ongoing discourse on market-capitalisation-based investment strategies within the Indian IT sector.

5.5.1 Large-Cap Companies

TCS demonstrated the most stable performance among large-cap peers, with positive absolute returns and the least negative risk-adjusted ratios. Future growth catalysts include AI-augmented services, cloud migration mandates, and enterprise digital

transformation. Infosys recorded moderate positive returns and remains financially robust with strong client retention. HCL Technologies experienced negative returns driven by cost pressures in infrastructure services; however, growing capabilities in cloud-native services and cybersecurity provide a credible long-term recovery pathway.

5.5.2 Mid-Cap Companies

KPIT Technologies experienced significant negative returns primarily due to sectoral volatility in the automotive software domain, though the long-term EV adoption trend presents a favourable outlook. L&T Technology Services demonstrated relative resilience, supported by its deep engineering competencies. Persistent Systems experienced a valuation correction following an extended period of premium pricing; its cloud and DevOps capabilities remain strong foundations for recovery.

5.5.3 Small-Cap Companies

Tata Technologies delivered outstanding performance (+35.24%), generating a Sharpe Ratio of +1.27 — the only positive risk-adjusted value across all nine companies. Its focused positioning in automotive product engineering aligned with EV-driven demand created a favourable return environment. Diversifying beyond the automotive vertical will be essential to sustaining long-term momentum. Zensar and Birlasoft underperformed during the period, and enhanced execution on digital transformation strategies will be key for improving their future risk–return profiles.

5.6 Limitations and Future Scope

- The study relies exclusively on secondary data, which may be subject to source-database accuracy limitations. Future research should triangulate secondary data with primary survey data from fund managers and institutional investors wherever possible.
- The sample of nine companies may not fully represent the entire IT sector. Future studies should expand the sample to include a broader range of IT sub-sectors, including pure-play cybersecurity, fintech software, and healthcare IT firms.
- External macroeconomic factors such as currency movements, regulatory changes, and global geopolitical events have not been independently

controlled. A follow-on study incorporating macroeconomic control variables would yield more precisely attributable findings.

5.7 Overall Conclusion

The study affirms that market capitalisation is a meaningful, though incomplete, predictor of risk–return outcomes in the IT sector. Large-cap IT stocks provide relative stability for conservative investors; mid-cap IT stocks carry higher short-term volatility but meaningful long-term growth potential for moderately aggressive investors; and small-cap IT stocks present the highest reward potential alongside the greatest risk, appropriate for aggressive investors capable of sustaining portfolio volatility. Investors are advised to construct IT sector allocations based on individual risk tolerance, investment horizon, liquidity requirements, and the quality of company-specific fundamentals — rather than relying on market-cap category alone as a sufficient guide to portfolio construction.

REFERENCES

- [1] Aryan, S. (2025). Mid-cap vs large-cap investment performance in India: A long-term analysis (2010–2024).
- [2] Bathia, R., Sharma, K., & Mehta, P. (2025). Influence of market capitalisation on quality investing and firm performance in India.
- [3] Biswas, S., & Dutta, A. (2022). Risk and return analysis of large-cap, mid-cap, and small-cap mutual funds in India. *International Journal of Financial Studies*.
- [4] Bombay Stock Exchange (BSE). (2024). Market capitalisation and equity returns data. Retrieved from <https://www.bseindia.com>
- [5] Eom, C., Kaizoji, T., & Scalas, E. (2019). Return distribution across market capitalisation: Evidence from the Korean stock market. *Physica A: Statistical Mechanics and its Applications*.
- [6] Moneycontrol. (2024). Stock screener and financial data. Retrieved from <https://www.moneycontrol.com>
- [7] National Stock Exchange of India (NSE). (2024). Historical equity data. Retrieved from <https://www.nseindia.com>
- [8] Oraon, A. (2025). Long-term return differences between large-cap and small-cap stocks in India.

- [9] Rompotis, G. G. (2018). Large-cap vs small-cap ETF performance: Evidence from the US market (2012–2016). *Journal of Asset Management and Financial Markets*.
- [10] Securities and Exchange Board of India (SEBI). (2024). Categorisation and rationalisation of mutual fund schemes — market cap definitions. Retrieved from <https://www.sebi.gov.in>