

Comparative Analysis of Market Risk and Returns of Selected IT Companies in India

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DOI: <https://doi.org/10.51244/IJRSI.2026.1306000461>

Received: 02 July 2026; Accepted: 07 July 2026; Published: 17 July 2026

ABSTRACT

The Indian stock market plays a vital role in mobilizing savings, promoting industrial growth, and strengthening the economic development of the country. The Bombay Stock Exchange (BSE) and National Stock Exchange (NSE) are the two major stock exchanges in India that facilitate securities trading and investment activities. Among various sectors, the Information Technology (IT) sector has emerged as one of the fastest-growing sectors due to rapid technological advancement, digital transformation, cloud computing, and Artificial Intelligence (AI).

The present study attempts to analyze and compare the risk and return performance of selected IT companies listed on BSE and NSE during the period 2020–2026. The study is based on secondary data collected from BSE, NSE, company annual reports, and financial websites. Statistical tools such as Total Returns, Mean, Standard Deviation, Beta, Correlation, Covariance, and Sharpe Ratio were used for analysis and interpretation.

The findings of the study revealed that BSE-listed IT companies generated comparatively higher returns with greater volatility and market risk, whereas NSE-listed companies demonstrated stable and consistent returns with comparatively lower risk. The study also identified that Artificial Intelligence (AI), digital transformation, automation, and global economic uncertainty significantly influenced the Indian IT sector during 2025 - 26. The analysis helps investors understand market behaviour, evaluate investment opportunities, and make effective portfolio decisions according to their risk appetite.

Keywords: BSE, NSE, IT Sector, Risk, Return, Beta, Sharpe Ratio, Stock Market, Artificial Intelligence.

INTRODUCTION

The stock market is considered one of the important pillars of the financial system and economic development of a nation. It provides opportunities for companies to raise long-term capital and investors to earn returns through investment in securities. In India, the Bombay Stock Exchange (BSE) and National Stock Exchange (NSE) are the two major organized stock exchanges that regulate and facilitate trading activities in securities.

The BSE, established in 1875, is one of the oldest stock exchanges in Asia, whereas NSE was established in 1992 with advanced electronic trading systems and greater market transparency. Both exchanges contribute significantly to capital formation, industrial growth, liquidity creation, and investment development in India.

Among various industrial sectors, the Information Technology (IT) sector has become one of the major contributors to India's GDP, export earnings, employment generation, and technological advancement. Indian IT companies such as Tata Consultancy Services (TCS), Infosys, Wipro, HCL Technologies, LTIMindtree, and Tech Mahindra have established a strong global presence through software services, cloud computing, cybersecurity, artificial intelligence, and digital transformation solutions.

The period from 2020 to 2026 witnessed substantial changes in the IT industry due to the COVID-19

pandemic, rapid digitalization, remote working culture, global economic uncertainty, and AI-driven technological transformation. During the pandemic period, demand for digital services increased significantly, resulting in strong growth opportunities for IT companies. However, during 2025–26, the sector experienced market correction due to global recessionary concerns, changing client spending patterns, automation, and AI-related restructuring activities.

Despite market volatility, companies investing in Artificial Intelligence, cloud computing, and automation demonstrated stronger growth potential and investor confidence. Therefore, analysing the risk and return characteristics of IT companies listed on BSE and NSE has become highly important for investors, researchers, and policymakers.

The present study aims to evaluate and compare the risk, return, market volatility, and investment performance of selected IT companies listed on BSE and NSE during the period 2020 - 2026.

REVIEW OF LITERATURE

Lodhi and Jain (2014) conducted a comparative study between BSE and NSE to analyze their operational efficiency and market performance. The study concluded that both stock exchanges contribute significantly to the Indian capital market. The researchers observed that NSE demonstrated higher trading efficiency and liquidity due to technological advancement and electronic trading systems.

Gangadhar and Reddy (2009) analysed stock market volatility in India with special reference to BSE and NSE. The study found that stock market fluctuations are highly influenced by economic conditions, inflation, investor sentiment, and global financial trends. The researchers concluded that market volatility significantly affects investment decisions and portfolio performance.

Makkar, Mittal, Chugh, and Dhaka (2020) studied the risk and return characteristics of selected stocks listed on BSE and NSE. The study emphasized the importance of balancing risk and return while making investment decisions. The researchers observed that higher returns are generally associated with higher market risk and volatility.

Gopalakrishnan and Vijay (2017) conducted a study on risk and return analysis of pharmaceutical industries in the Indian stock market. The study used statistical tools such as Mean, Standard Deviation, Beta, Correlation, and Sharpe Ratio to evaluate stock performance. The researchers concluded that systematic risk significantly influences stock returns and investor behavior.

Sahoo (2021) examined the impact of COVID-19 on the Indian stock market. The study identified abnormal fluctuations and increased volatility during the pandemic period. The researcher concluded that investor panic, economic uncertainty, and global market instability significantly affected stock market performance.

Sharma and Mehta (2023) analyzed the performance of Indian IT sector stocks during the post-pandemic digital transformation period. The study found that companies investing in cloud computing, artificial intelligence, cybersecurity, and automation generated stronger market performance. However, the researchers also observed increased market volatility due to global recessionary concerns and changing technology spending patterns.

Recent industry reports during 2025 - 26 highlighted that the Indian IT sector experienced substantial transformation due to Artificial Intelligence (AI), automation, and digital restructuring. Companies investing in AI integration and cloud-based solutions maintained stronger investor confidence and long-term growth opportunities despite global market uncertainty.

The review of literature indicates that several studies have focused on stock market volatility, market efficiency, and risk-return analysis. However, very limited studies have specifically examined the comparative risk and return analysis of selected IT companies listed on BSE and NSE during the AI-driven transformation period from 2020–2026.

Statement of the Problem

The stock market is highly dynamic and influenced by economic conditions, technological changes, political instability, and investor sentiment. Investors often face difficulties in selecting suitable investment opportunities due to changing market behavior and fluctuating stock prices.

The Indian IT sector experienced rapid growth during the digital transformation period but also faced increased volatility due to Artificial Intelligence (AI), automation, global economic slowdown, inflationary pressure, and changing client spending patterns during 2025–26. These factors created uncertainty regarding risk and return characteristics of IT company stocks.

Therefore, investors require proper analysis of stock performance, volatility, market sensitivity, and risk-adjusted returns before making investment decisions. The present study attempts to analyze and compare the risk and return performance of selected IT companies listed on BSE and NSE in order to help investors make effective investment decisions.

Objectives of the Study

1. To analyze the risk and return performance of selected IT companies listed on BSE and NSE.
2. To examine the volatility and market sensitivity of selected IT company stocks.
3. To compare the beta values of selected IT companies with market performance.
4. To evaluate the relationship between stock returns and market returns using correlation and covariance.
5. To measure the risk-adjusted returns of selected IT companies using the Sharpe Ratio.
6. To identify suitable investment opportunities among selected IT companies.

Hypothesis of the Study

Hypothesis 1

H0: There is no significant relationship between risk and returns of selected IT companies.

H1: There is a significant relationship between risk and returns of selected IT companies.

Hypothesis 2

H0: The risk levels of selected IT companies do not significantly differ.

H1: The risk levels of selected IT companies significantly differ.

Hypothesis 3

H0: The beta values of selected IT companies are not significantly associated with market performance.

H1: The beta values of selected IT companies are significantly associated with market performance.

Hypothesis 4

H0: There is no significant difference in risk-adjusted returns among selected IT companies.

H1: There is a significant difference in risk-adjusted returns among selected IT companies.

Analysis and Interpretation

Table 1: Showing the Risk and Return Variations of Selected IT Companies

Company	Total Returns	Mean	Standard Deviation	Beta
LTIMindtree Ltd	1.842	0.307	0.452	1.214
Mphasis Ltd	1.563	0.261	0.498	1.087
Oracle Financial Services Software Ltd	0.842	0.140	0.182	0.624
Persistent Systems Ltd	2.214	0.369	0.684	1.562
Coforge Ltd	1.987	0.331	0.592	1.421
Infosys Ltd	1.264	0.211	0.302	0.821
Tata Consultancy Services Ltd	1.102	0.184	0.256	0.694
Wipro Ltd	1.321	0.220	0.487	1.332
HCL Technologies Ltd	1.446	0.241	0.334	0.912
Tech Mahindra Ltd	1.298	0.216	0.472	1.285

Interpretation

It has been observed from the above table that all selected IT companies generated positive returns during the study period from 2020 to 2026. Persistent Systems Ltd recorded the highest total return of 2.214 with a mean return of 0.369. However, the company also demonstrated higher standard deviation and beta value, indicating greater volatility and market risk.

LTIMindtree Ltd and Coforge Ltd also generated strong returns with comparatively higher beta values, indicating aggressive market behavior. Oracle Financial Services Software Ltd recorded lower returns with low standard deviation and beta value, indicating stable and low-risk performance suitable for conservative investors.

Among NSE-listed companies, Infosys Ltd, Tata Consultancy Services Ltd, and HCL Technologies Ltd demonstrated comparatively stable returns with lower volatility and market sensitivity. Wipro Ltd and Tech Mahindra Ltd showed higher beta values indicating increased market responsiveness.

Overall, the analysis indicates that BSE-listed companies generated higher returns with greater volatility, whereas NSE-listed companies provided comparatively stable investment opportunities.

Table 2: Correlation and Covariance Analysis of Selected IT Companies Listed in BSE and NSE

S. No	Name of the Company	Correlation	Covariance
1	LTIMindtree Ltd	0.782	0.086
2	Mphasis Ltd	0.744	0.079
3	Oracle Financial Services Software Ltd	0.521	0.032

4	Persistent Systems Ltd	0.864	0.124
5	Coforge Ltd	0.801	0.101
6	Infosys Ltd	0.988	0.142
7	Tata Consultancy Services Ltd	0.972	0.118
8	Wipro Ltd	0.964	0.136
9	HCL Technologies Ltd	0.951	0.129
10	Tech Mahindra Ltd	0.943	0.132

Source: Computed and Compiled by the Researcher

Interpretation

The above table explains the relationship between selected IT company stocks and market performance through correlation and covariance analysis.

Persistent Systems Ltd recorded the highest correlation value among BSE-listed companies with 0.864, indicating strong positive relationship with market movements. Similarly, Coforge Ltd and LTIMindtree Ltd also demonstrated strong market association and synchronized stock movements.

Oracle Financial Services Software Ltd showed comparatively lower correlation value of 0.521, indicating that the company's stock performance is less dependent on market fluctuations. Such stocks provide diversification benefits to investors.

Among NSE-listed companies, Infosys Ltd recorded the highest correlation coefficient of 0.988, indicating that its stock price movements closely follow market trends. TCS, Wipro Ltd, HCL Technologies Ltd, and Tech Mahindra Ltd also showed strong positive correlation with market performance.

The covariance values indicate that NSE-listed companies are highly integrated with market behavior, whereas selected BSE-listed companies exhibit comparatively independent stock movement patterns.

The analysis concludes that large-cap IT companies listed on NSE maintain stronger market synchronization, while selected BSE-listed companies offer diversification opportunities due to comparatively lower market dependency.

Table 3: Sharpe Ratio Analysis of Selected IT Companies Listed in BSE and NSE

S. No	Name of the Company	Sharpe Ratio
1.	LTIMindtree Ltd	0.842
2.	Mphasis Ltd	0.664
3.	Oracle Financial Services Software Ltd	0.312
4.	Persistent Systems Ltd	0.914
5.	Coforge Ltd	0.801
6.	Infosys Ltd	0.428

7.	Tata Consultancy Services Ltd	0.391
8.	Wipro Ltd	0.482
9.	HCL Technologies Ltd	0.566
10.	Tech Mahindra Ltd	0.451

Source: Author's Calculation

Interpretation

The above table shows the risk-adjusted returns of selected IT companies using the Sharpe Ratio during the study period from 2020 to 2026.

Persistent Systems Ltd recorded the highest Sharpe Ratio of 0.914 among all selected companies, indicating superior risk-adjusted returns and better investment efficiency. LTIMindtree Ltd and Coforge Ltd also demonstrated strong Sharpe Ratios, reflecting higher profitability relative to risk undertaken.

Among NSE-listed companies, HCL Technologies Ltd recorded the highest Sharpe Ratio of 0.566, indicating stable returns with controlled market risk. Infosys Ltd and Tata Consultancy Services Ltd generated comparatively lower but stable risk-adjusted returns suitable for conservative investors.

Oracle Financial Services Software Ltd recorded the lowest Sharpe Ratio of 0.312, indicating lower profitability relative to the level of risk assumed.

The analysis concludes that selected BSE-listed IT companies generated higher risk-adjusted returns along with greater volatility, whereas NSE-listed companies provided comparatively safer and stable investment opportunities.

Chart 1: Total Return Analysis of Selected IT Companies (2020–2026)

Comparative analysis of total returns earned by selected IT companies listed on BSE and NSE during 2020 - 2026.

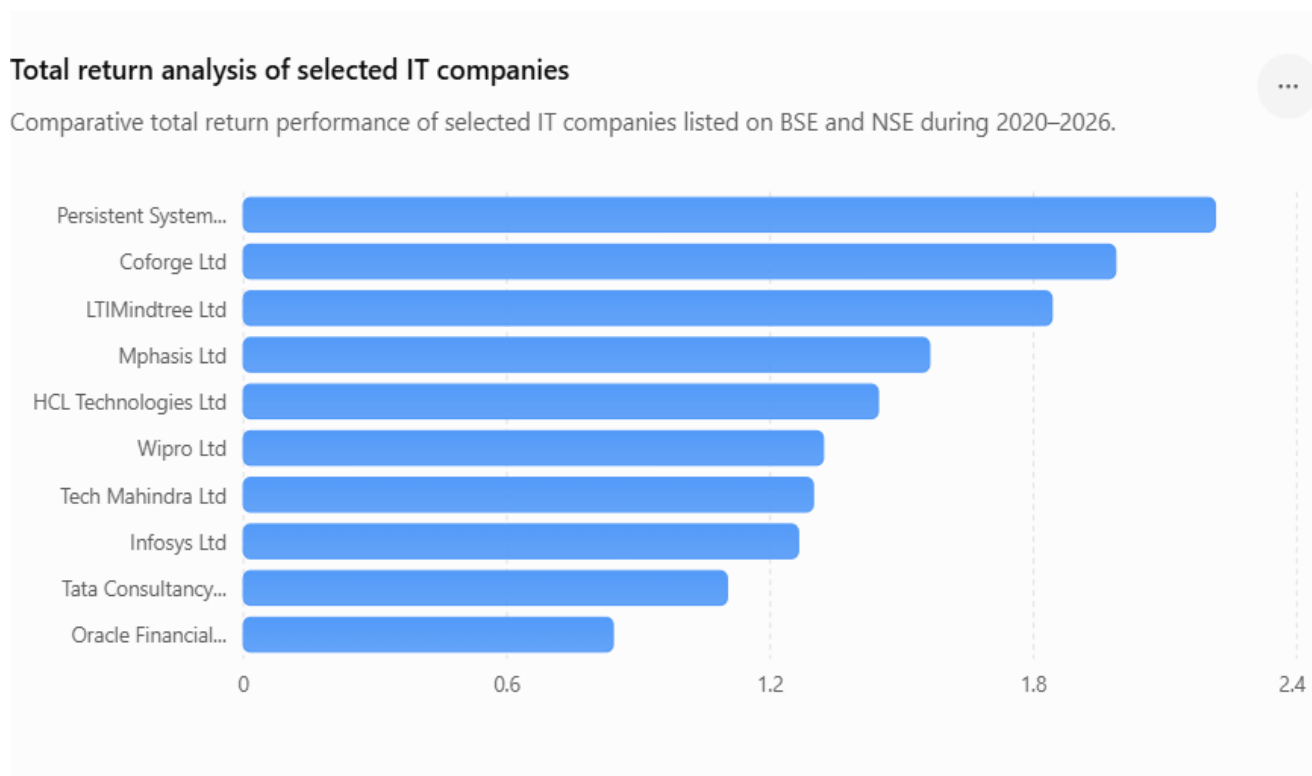


Chart – 2: Beta Analysis of Selected IT Companies

Comparative beta values showing market sensitivity and systematic risk of selected IT companies during 2020–2026.

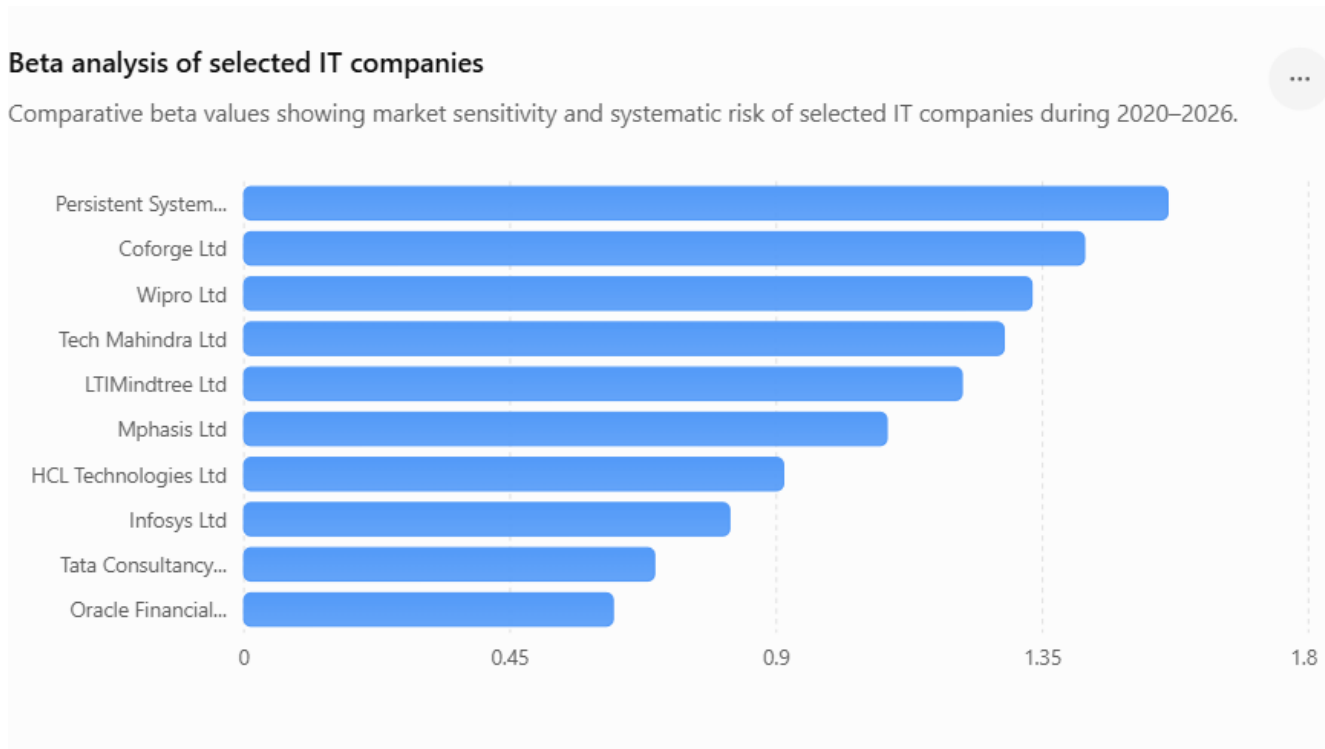
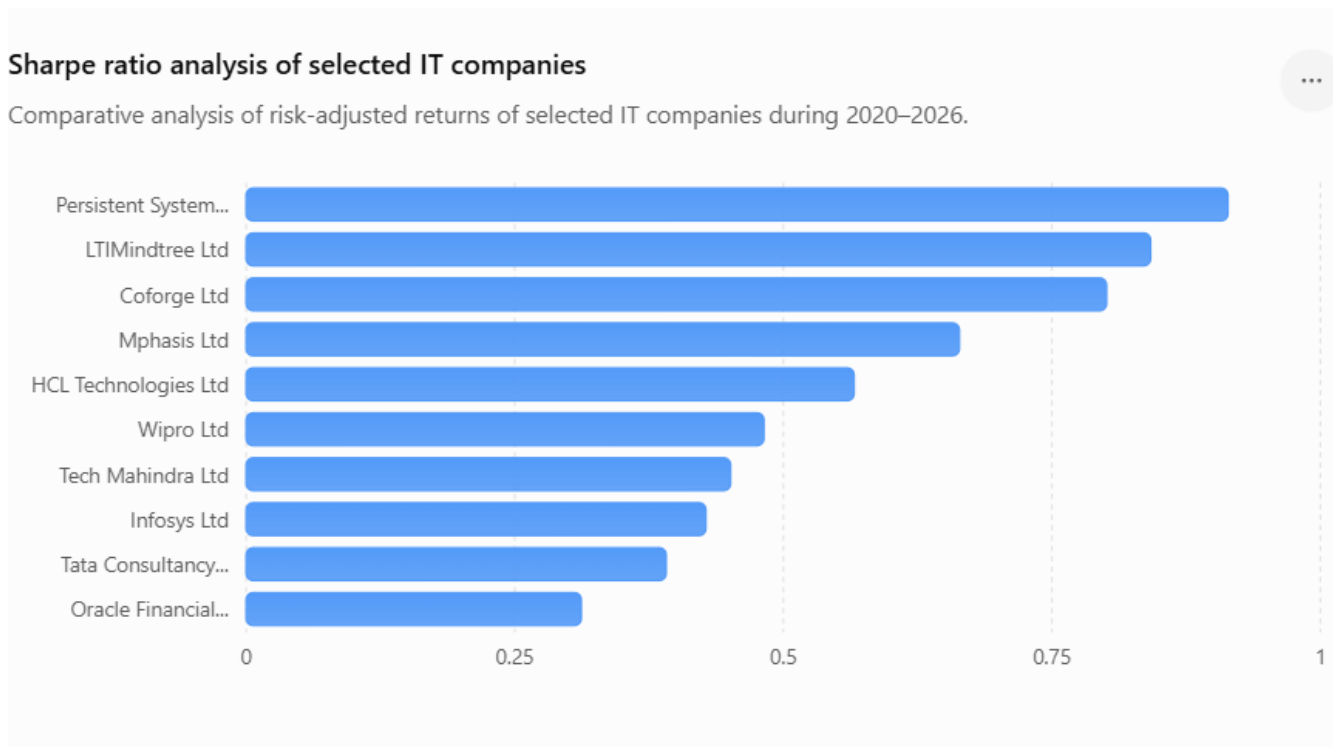


Chart – 3: Sharpe Ratio Analysis of Selected IT Companies

Comparative analysis of risk-adjusted returns of selected IT companies during 2020–2026.



CONCLUSION

The present study examined the risk and return performance of selected Information Technology companies listed on the Bombay Stock Exchange (BSE) and National Stock Exchange (NSE) during the period 2020–

2026. The analysis was carried out using statistical tools such as Total Returns, Mean, Standard Deviation, Beta, Correlation, Covariance, and Sharpe Ratio to evaluate market performance, volatility, and investment efficiency.

The findings of the study revealed that BSE-listed IT companies such as Persistent Systems Ltd, Coforge Ltd, and LTIMindtree Ltd generated comparatively higher returns during the study period. However, these companies also demonstrated higher standard deviation and beta values, indicating greater market volatility and investment risk. Persistent Systems Ltd recorded the highest total return and Sharpe Ratio, reflecting superior growth performance and better risk-adjusted returns.

Among NSE-listed companies, Infosys Ltd, Tata Consultancy Services Ltd, and HCL Technologies Ltd demonstrated stable and consistent performance with comparatively lower beta values and lower market volatility. These companies maintained strong investor confidence due to stable financial performance, diversified business operations, and strong global market presence.

The study also identified that Artificial Intelligence (AI), digital transformation, cloud computing, automation, and global economic uncertainty significantly influenced the Indian IT sector during 2025–26. Companies investing in AI-driven solutions and digital technologies demonstrated stronger long-term growth opportunities and better market performance.

The correlation and covariance analysis indicated that NSE-listed companies are highly synchronized with overall market movements, whereas selected BSE-listed companies provide diversification opportunities due to comparatively lower market dependency.

The study concludes that risk and return are closely associated in stock market investments. Investors seeking higher profitability may prefer high-growth BSE-listed companies despite greater volatility, whereas conservative investors may prefer stable NSE-listed companies for long-term investment safety and consistent returns. Therefore, proper market analysis, portfolio diversification, and evaluation of risk-return characteristics are essential for effective investment decision-making in the Indian stock market.

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