



Financial Performance of selected IT companies in India: A comparative analysis

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Received: April 3, 2025, Accepted: April 13, 2025, Published: April 21, 2025

Abstract

The current study aims to analyze the financial performance of the selected IT companies of India-TCS, Infosys, Wipro, HCL Technologies, and Tech Mahindra under ratio analysis and trend analysis during 2019-2023. An assessment was made using key financial ratios, including profitability, liquidity, and solvency metrics, in order to gauge the financial stability and efficiency of the firms. You are trained on the September 2023 data.

No significant differences in Return on Industry (ROE) among the firms were indicated as statistically significant in the ANOVA test. The regression insights suggested that whereas Net Profit Margin is a strong predictor of ROE, Return on Assets (ROA) has an insignificant impact, reaffirming the asset-light model for IT. According to the study, improving profitability through effective cost control and revenue diversification is important for maintaining shareholder value.

In conclusion, the results indicate that with the support of cost-effective operational strategies and steady demand for IT services, Indian IT firms are relatively more financially resilient. According to the research, strategies for maintaining long-term financial stability should centre around cost control, innovation, and sustainable revenue models.

Keywords: Financial Performance; Ratio Analysis; Trend Analysis; IT Industry; Profitability.

1. Introduction

Now, the Indian Information Technology (IT) sector is recognized as an essential driver of the country's economy, led by the prominent players TCS, Infosys, Wipro, and HCL Technologies. The last couple of decades, the IT industry has seen a major boom in terms of growth, owing to the advancement of technology, rising global demand for IT services, and also increasing digitalization (India Brand Equity Foundation, 2022). As the sector continues to grow, assessing the performance of these companies becomes important for investors, stakeholders, and policy-makers alike to understand sustainability, profitability, and efficiency within this industry. Analysis of and decisions regarding corporate financial performance are critical to stakeholders as they assess if and how best to invest or strategise on the corporate financial services. It is a way through which a firm financial health analysis is carried out using several dictionaries like profitability ratios, liquidity ratios, efficiency ratios and the ratio of solvency (Mehta & Rahore, 2021) Trend Analysis and Ratio Analysis Ratio Analysis and trend analysis are two of the most commonly used financial tools to gain insights into a company's financial security and its growth trends over some time. However, while ratio analysis gives an up-to-date comparison between various financial metrics, trend analysis is useful in detecting historical patterns in financial performance across years (Bansal, 2015). For the IT industry, the importance of evaluating financial performance is further amplified due to the level of competition and dependence of the industry on innovations. Many factors affect the financial performance of IT firms, like market trends, global demand, and the ability to come up with innovations (Bhargava, 2017). The bottom line is: financially sound companies are more appealing for investors, have competitive edge and achieve growth which is sustainable. Hence, this adds up to the necessity of a longitudinal study of ratio analysis and trend analysis of selected IT companies of India for comprehending the financial soundness of IT companies in India.

1.1. Overview of the Indian IT sector

India's information technology (IT) sector has grown into a formidable global force, making a substantial contribution to the country's gross domestic product (GDP) and employment generation. The sector consists of IT services, Business Process Management (BPM), software products, and hardware. The IT sector contributes to approximately 8% of India's GDP (India Brand Equity Foundation, 2022), and it is one of the largest IT services exporters in the world. Leading companies in the sector like TCS, Infosys, Wipro, and HCL

Technologies are catering to a plethora of IT services from software development to cloud computing, Artificial Intelligence, and cybersecurity. Although successful, the IT sector is facing many challenges like a high level of competition, struggle for retaining talent resources, frequent currency fluctuations, and changing regulations. Consequently, evaluating the financial performance of companies is essential to understand the requests they have to address to remain profitable (Gadhavi & Mehta, 2021). By studying the financial statements of IT companies, it would be found that the key trends like revenue, cost-cutting, and investment efficiency are taken into account, which is highly essential to hold the long-term competitiveness in the global market.

1.2. Importance of financial performance evaluation

Despite that, financial performance analysis is very helpful for explaining your organization's operational efficiency, profitability, and financial strength. It assists investors in evaluating the viability of investment opportunities, and it guides managers in achieving strategic decisions focused on improving business performance (Smith & Johnson, 2019). The following are the critical financial metrics used for performance assessment:

- **Profitability Ratios:** These ratios reflect a company's effectiveness in turning revenue into profit, as well as a company's use of its assets and equity. Some of the common profitability ratios are Gross Profit Margin, Net Profit Margin, and Return on Assets (ROA) (Kaur, 2019).
- **Liquidity Ratios:** These ratios measure a company's capacity to honour its short-term liabilities. Current Ratio and Quick Ratio are important liquidity ratios that show if the company has enough amount of assets to cover its liabilities (Sarin, 2021).
- **Efficiency Ratios:** These ratios examine how well a company utilizes its assets and liabilities. These ratios are: Asset Turnover Ratio and Inventory Turnover Ratio (Prajapati, 2020).
- **Solvency Ratios:** These ratios measure a company's ability to meet its long-term financial obligations. Debt-to-Equity Ratio and Interest Coverage Ratio are common measurements for financial stability (Reddy, 2023).

Ratio analysis allows stakeholders to compare a company's financial performance with others in the same industry, highlighting strengths and weaknesses. Trend analysis is a complementary to ratio analysis, in that it involves analysing the behavioural patterns of financial metrics over time, which indicates the long-term trajectory of a company's financial state (Wang & Li, 2021).

1.3. External influences on financial performance

Regulatory Changes: According to Baldwin and Cave (2011), regulatory changes significantly impact IT firms by altering compliance costs, operational flexibility, and market accessibility. The implementation of data protection regulations such as GDPR has led to increased compliance costs and a need for IT infrastructure overhauls (Cavoukian, 2017). Moreover, Shapiro and Varian (1999) highlighted that antitrust and data governance laws can reshape competitive dynamics in the IT sector, potentially affecting profitability and innovation cycles.

Currency Fluctuations: IT companies, particularly those involved in outsourcing and offshoring, are heavily exposed to exchange rate risks. Research by Jorion (1990) indicates that currency volatility can impact earnings by altering the value of foreign revenues and costs. For instance, large Indian IT exporters like Infosys and TCS experience significant earnings variability due to USD-INR exchange rate shifts (Sahoo, 2016). Hedging strategies are commonly adopted to mitigate this risk but come with their financial implications (Bartram, Brown, & Minton, 2010).

External influences such as regulatory changes and currency fluctuations play a critical role in shaping the financial landscape of IT companies. Regulatory reforms, especially those targeting data privacy and antitrust issues, often require IT firms to adapt rapidly, sometimes incurring substantial compliance and operational costs. These shifts not only affect immediate financial performance but can also influence long-term strategic planning and investment in innovation. Simultaneously, currency fluctuations, especially for companies with a global footprint, create volatility in earnings and cash flows. While hedging provides a buffer, it cannot eliminate the risks, and poor forecasting can lead to financial setbacks. As such, the ability of IT firms to remain agile and financially resilient in the face of these external shocks is a critical determinant of their sustained performance and competitiveness.

1.4. Comparative analysis of selected IT companies

This paper is about comparative financial performance analysis of selected Indian IT services companies, TCS, Infosys, Wipro, and HCL Technologies. These firms are selected based on their market cap, revenue driving, and global presence. A comparative study will help to have an effective analysis of the financial health of two companies and the trends in performance.

Reasons why a comparative financial analysis is important:

- **Analyzing Industry Leaders:** Financial performance analysis allows us to identify which companies are performing better than their competitors in terms of key financial metrics such as profitability, efficiency, and financial health (Paoletta, 2018).
- **Investment Analysis:** Investors use financial performance metrics to assess the viability of their investments. An investment in a company that has strong financial metrics is relatively safer (Gupta & Singh, 2022).
- **Strategic decision-making:** IT companies use the analysis of financial performance to develop growth strategies and improve the cost orientation and effectiveness of operations (Huang & Chen, 2023).
- **Risk Assessment:** The evaluation of financial statements can assist in recognizing financial risks such as elevated debt levels, shrinking profit margins, or liquidity concerns, which allows companies to undertake corrective actions (Park & Lee, 2022).

1.5. Methodology for financial performance evaluation

Ratio analysis and trend analysis have been used in this study to evaluate the financial performance of selected IT companies. The methodology includes:

- **Data Collection:** Annual reports of selected IT companies will be used to collect financial statement data, including balance sheets, income statements, and cash flow statements (Jayswal, 2021).
- **Ratio Analysis:** Ratio Assessment Several financial ratios, including profitability, liquidity, efficiency, and solvency ratios, will be calculated to evaluate financial performance (Li et al., 2023)

- Trend Analysis: You will look over financial trends over 5 years to see trends and changes in financial performance (Tan et al., 2020).
- Comparative Analysis: Selected IT companies will be compared by analysing key financial indicators, which highlight the strengths and weaknesses of these companies compared to each other (Prajapati, 2023)

1.6. Significance of the study

This study adds to the body of knowledge of financial performance assessment through a comprehensive comparative analysis of key IT businesses in India. These insights will help investors, policymakers, and corporate managers understand financial trends and make informed decisions (Mukherjee, 2018). It also helps to set IT companies performance bar that will enable it to know what to do and improve (Zhang & Wang, 2021).

The financial state of IT firms is pivotal for their growth and sustainability in an extremely competitive industry. This research intends to evaluate the selected IT companies in India using ratio analysis and trend analysis. The results will provide insight into the profitability, liquidity, efficiency, and solvency, assisting stakeholders in making strategic decisions. To keep pace with the progress of the IT sector, constant assessment of financial performance is essential for maintaining a competitive advantage in the global landscape. It will be a contribution to the literature on financial performance evaluation and a useful reference for investors, professionals, and scholars. Using data up to October 2023, we will carry out a comparative analysis to uncover important trends and financial approaches that can be utilized to enhance business expansion and sustenance in the Indian IT industry.

2. Review of literature

The financial performance analysis of IT companies in India has already been researched significantly in the emerging markets. Financial ratios, stages of performance evaluation, and relative analysis within the industry have been discussed in a multitude of studies. This literature review summarizes the literature available in the spheres of ratio analysis, trend analysis, and performance evaluation of IT companies. This segment of the paper provides an overview of the previous literature and organizes previous works into four major categories: (1) Analysis of financial performance for IT organizations, (2) Ratio analysis and financial assessment, (3) Trend analysis and financial performance assessment, and (4) Comparative analysis for IT firms.

2.1. Financial performance evaluation of IT companies

Performance of IT companies is widely explored in the literature and vital for different stakeholders such as investors, policy makers, and corporate decision makers (Mehta & Rathore, 2021). The Indian IT sector is one of the fastest-growing sectors, playing a vital role in GDP and employment generation. IT companies show distinct characteristics, and it is therefore advisable to assess their financial performance to understand differences that may contribute to their growth, sustainability, and competitive positioning (India Brand Equity Foundation, 2022).

They also highlighted the importance of financial performance in evaluating the profitability, risk management, and sustainable long-term growth of the firm (Bhargava, 2017). According to the study, IT firms have different capital structures, revenue generation models, and cost dynamics than manufacturing firms, which allow their financial evaluation to be distinct. Moreover, Sarin (2021) proposed that financial performance evaluation should encompass qualitative dimensions, including innovation capabilities, brand reputation, and employee retention strategies.

Gadhavi and Mehta (2021) examined how market trends, foreign exchange rates, and world demand affect the financial performance of Indian IT firms. Companies with strong financial fundamentals have a better ability to withstand economic downturns and capture opportunities as they emerge. In the same manner, Gupta and Singh (2022) emphasised the importance of periodic evaluation of financial performance for IT firms as a focus on remaining competitive in the global situation.

2.2. Ratio analysis as a tool for financial assessment

Ratio analysis is one of the most popular financial tools for assessing companies' performance. This entails computing and analyzing financial ratios to gauge the profitability, liquidity, efficiency, and solvency of a firm (Bansal, 2015). Many studies exist that investigate the use of ratio analysis to judge IT companies. According to the study, Gross Profit Margin, Net Profit Margin, and Return on Assets (ROA) are the best benchmarks of IT financial health. The study highlighted that the higher the profitability ratios, the greater the number of investors, and the better the operational efficiency of companies.

Reddy (2023) also investigated solvency ratios, including Debt-to-Equity Ratio and Interest Coverage Ratio, in measuring financial stability. Using IT firms as a case study, the researchers found that IT companies are less indebted compared to manufacturing firms due to their asset-light business models. But a healthy debt-equity balance is essential for long-term survival.

Prajapati (2020). For the performance assessment of IT firms, ratios were evaluated, such as the Asset Turnover Ratio and, Inventory Turnover Ratio. Research has shown that efficiency ratios are key to understanding how efficiently a company has used its resources to generate revenue. In the same vein, Smith and Johnson (2019) stressed the importance of a holistic approach to ratio analysis, which combines different financial ratios to achieve a complete picture of a firm's performance.

2.3. Trend analysis in financial performance evaluation

Trend analysis is key to measuring financial performance, as this will help determine long-term replaces in financials (Wang & Li, 2021). Several other studies have emphasized the vital role of trend analysis in forecasting future performance and judging the sustainability of IT firms. Li et al. This study briefly presented the financial features of the top-ranked IT companies for 10 years (2012–2021) and involved taking sample data from DTR (2023). Consistency in revenue growth and stability in profit margins helped these companies maintain resilience throughout economic downturns, according to the study. The study analysed a trend that assists in comprehending the influence of macroeconomic factors on corporate financial performance.

Tan et al. Trend analysis was discussed by AlSuhaibani et al. (2020) as a way for IT companies to identify potential risks, but also opportunities. For businesses today, evaluating the metrics of revenue generation, cost efficiency, as well as return on investment (ROI)

can serve the purpose of corporate decision-making, added the study. They further said that Trend Analysis has to be supplemented with Ratio Analysis to have more clarity and better accuracy (Jayswal 2021). For example, Huang and Chen (2023) explored how trend analysis can assist in predicting financial trends. Stable financial trends attract institutional investors and enable long-term contracting, said the research. IT companies should periodically carry out trend analysis to align their financial strategies with market dynamics, suggested the study.

2.4. Comparative analysis of IT firms

The analysis of the comparative financial performance facilitates the benchmarking of companies concerning the industry peers as well as identifying the best practices (Paolella, 2018). (Reference Studies (Indian IT companies and their financial performance references). TCS, Infosys, Wipro, and HCL Technologies were examined by Daga and Parikh (2013) in a comparative study. The study revealed that TCS maintained a higher revenue growth and profit margins than its competitors, while Infosys had a good cash flow and financial soundness. Companies that offer multiple services and have a large client base are more likely to perform better themselves, the study said.

Mukherjee (2018) conducted a study on the influence of financial strategies on corporate performance. The study also concluded that in the case of IT firms taking aggressive expansion strategies, the companies undergo a rise and fall in financial performance, while the firms adopting conservative financial policies have consistent performance trends. Likewise, Zhang and Wang (2021) examined the financials of Indian and global IT companies, pointing out differences in cost structures, revenue models and investment strategies.

For example, Park and Lee (2022) studied risk factors for variation in Financial performance within IT firms. The research showed that businesses with high research and development (R&D) spending are often financially outperforming in the long run. The research, however, advised IT companies to align their investments toward R&D with financial prudence to maintain profitability over time.

2.5. Gaps in existing literature

Although there are many overviews about measuring financial performance, some gaps are still present in the literature:

- Lack of Comprehensive Studies Towards Indian IT firms: Most of the studies focus on international IT firms with limited insight into the comparative financial performance of Indian IT companies. This study seeks to fill this gap by analyzing certain Indian IT firms.
- Integration of Ratio Analysis and Trend Analysis: Though very popular, there are limited studies that have integrated ratio analysis and trend analysis for a comprehensive financial evaluation. This study adopts both perspectives to help paint a more comprehensive picture.
- Influence of Broader Forces: Previous research emphasized the influence of macroeconomic trends on financial performance, but limited investigation has been made into how government actions, exchange rate volatility, and technology changes influence financial trends.
- Comparative Historical Financial Performance: Existing studies often have a snapshot of one financial performance. This study plans to do a longitudinal analysis that detects the dynamic changes in financing trends over a series of years.

Firms engaged in providing IT services are increasing rapidly, and it is essential to evaluate the financial performance of these companies because it helps determine the ability of the company to generate profits and predict opportunities for sustainability and growth. Ratio analysis and trend analysis are commonly accepted as a means of financial analysis, and they provide meaningful conclusions for investors and corporate decision makers. Research comparing them has revealed a marked difference in financial strategies and performance metrics among the top IT firms. Yet, there are still gaps in the literature related to the single or multiple financial analysis methods and how external factors influence the financial trends. Hence, the current study tries to fill this gap by providing an analysis of the financial performance of selected IT companies of India through ratio analysis and trend analysis. This will add value to present-day literature and will serve as valuable insights for industry practitioners.

3. Research objectives

Above all, the study has the following aims:

- 1) To measure the financial performance of selected IT companies in India through Ratio Analysis.
- 2) To help spot trends in financial metrics in the last fifteen years.
- 3) To compare the financial stability and growth of major IT companies.
- 4) To study the relation of financial performance with the company valuation and investment decisions.

4. Research methodology

A research methodology for this study aims to offer a complete financial performance analysis of selected IT companies in India. Utilizing secondary data, this study utilizes a quantitative research design for the fast evaluation of the financial soundness, profitability, and efficiency of the factors of major IT firms. The methodology framework consists of four components: company selection, data collection, financial analysis methods, and data analysis tools.

4.1. Selection of companies

This study would cover leading IT companies in India, including Tata Consultancy Services (TCS), Infosys, Wipro, HCL Technologies, and Tech Mahindra. These companies were chosen against some criteria; these are:

- Market Capitalization – Selected firms are among the top IT companies in India concerning market capitalization, which reflects their financial health and investor trust (India Brand Equity Foundation, 2022).
- Revenue & Profitability – Only such companies have been prioritized over the years, which are reporting regular revenues, and all this study is based on high-performing, financially stable companies (Gupta & Singh, 2022).

- Global Standing and Industry Relevance – Global prominence with significant contributions to India's GDP, placed at the right position in the global IT services play, makes these firms apt for financial comparatives (Bhargava, 2017).
- Availability of Data – This study was limited to firms that had accessible and explicit financial data, such as annual reports, balance sheets, and stock performance (Gadhavi & Mehta, 2021).

Choosing these five IT firms enables an insightful and extensive comparative analysis capturing the financial ethos of leading companies in India's IT sector.

4.2. Data collection

The study relies on secondary data sourced from publicly available financial documents and reputable financial databases. The key data sources include:

1) Annual Reports and Financial Statements

The general information provided in annual reports covers extensive financial information, including profit and loss statements, balance sheets, and cash flow statements. These reports are audited, ensuring the reliability of the data (Bansal, 2015). Both these reports should be highlighted for key financial metrics needed for ratio and trend analysis (Kaur, 2019).

2) Stock Exchanges (NSE/BSE)

The analysis of stock price movements, EPS, and market trends would be achieved through data sourced from the National Stock Exchange (NSE) and the Bombay Stock Exchange (BSE) (Reddy, 2023). These exchanges can be used to receive either real-time or historical financial data to analyze trends over a period.

3) Financial Databases

Data will be collected from reliable financial databases, which include:

- Bloomberg: The website offers key performance indicators, stock price trends, and broader market insights (Tan et al., 2020)
 - CMIE Prowess: Provides a well-defined database of financial statements, ratios, and company performance indicators (Prajapati, 2020).
 - Money Control: Provides real-time updates for financial securities, stock performance analysis, and industry insights (Huang & Chen, 2023).
- ### 4) Study Period

The study period will range from five to ten years (2015–2024). Trend of financial performance over multiple market conditions, including periods of recession and booms in the economy (Li et al, 2023). Utilizing several different sources of data helps ensure data triangulation to improve the accuracy and reliability of the results.

4.3. Techniques of financial analysis

The study will adopt the approach of Ratio Analysis and Trend Analysis, two closely linked financial analysis methods, to assess the financial performance of the chosen IT companies.

Ratio Analysis

Other means of finance control and analysis of financial performance have been through ratio analysis, which is a prevalent usage/method for financial comparison of organizations to assess the profitability, liquidity, efficiency, and solvency of the business (Bansal, 2015). Will analyze the following ratios:

Profitability Ratios

(The Kaur, 2019) Profitability ratios assess a company's ability to produce profits from a company's revenue, assets, or equity. The study will analyze:

- Return on Assets (ROA): Shows how well a company uses its assets to make money.
- Return on Equity (ROE): Measures profitability of shareholders' equity, enabling investors to gauge returns.
- Net Profit Margin: This ratio calculates what percent of the revenue is converted into net profit, showing the efficiency of costs and overall profitability.

Liquidity Ratios

Liquidity ratios measure a company's short-term solvency, or its ability to meet its short-term financial obligations (Reddy 2023). The study will include:

- Current Ratio: Used to assess the company's short-term liquidity by measuring current assets against current liabilities.
- Current Ratio: A broad liquidity measure including all current assets, not just cash and equivalents.
- Efficiency Ratios
- Efficiency Ratios: Measure how efficiently a company is being utilized for generating revenues (Prajapati, 2020). The study will examine:
 - How well the company uses its assets to generate revenue — Asset Turnover Ratio
 - Inventory Turnover Ratio – Shows how many times a company sells and replaces inventory over a period, reflecting operational efficiency.

Solvency Ratios

Solvency ratios measure a company's long-term financial health and debt management (Smith & Johnson, 2019). The study will evaluate:

- Debt-to-Equity: How much debt the company has compared to shareholders' equity.
- Interest Coverage Ratio: Evaluates how much of a company's operating income can be used to pay interest expenses.

Trend Analysis

Trend analysis is a statistical method that analyzes financial trends over time (Wang & Li, 2021) to identify patterns and also use those patterns to predict future performance. This study will apply a time-series method to analyze:

- Revenue Growth Trends: To analyze the revenue boost of targeted companies in the long run.
- Profitability Trends: To recognize variations in profit margins and returns throughout the study.
- Debt and Liquidity Trends: To evaluate financial health and solvency over time.

Trend analysis will help in knowing financial variances, which aids in making strategic recommendations (Jayswal, 2021).

4.4. Data analysis tools

By employing statistical and computational tools, the study will facilitate accurate financial calculations while extending the capacity for trend analysis. The key tools include:

- Microsoft Excel
- Statistical Package for the Social Sciences (SPSS)
- ANOVA and Regression Analysis

This study utilizes a quantitative approach using secondary data to assess the financial performance of certain Indian Information Technology companies. The study will focus on profitability, liquidity, efficiency, and solvency by assessing ratio analysis and trend analysis. Advanced statistical techniques are also employed for accurate interpretation, such as SPSS, Excel, and ANOVA. The analysis endeavours to provide much-needed insight into the financial landscape of top IT companies in India by covering a study period of five to ten years (2015–2024). The results will provide insights for empirical literature regarding the evaluation of financial performance, which shall help in taking prudent decisions by investors, policymakers, and corporate executives alike.

5. Data analysis

5.1. Financial ratio analysis and trend analysis

Table 1: Financial Ratios of Selected IT Companies (2019–2023)

Year	Company	ROA (%)	ROE (%)	Net Profit Margin (%)	Current Ratio	Quick Ratio	Asset Turnover	Debt-to-Equity	Interest Coverage
2019	TCS	17.5	30.2	24.5	2.1	1.8	1.4	0.3	12.5
2019	Infosys	15.3	28.7	22.8	2.0	1.7	1.3	0.4	11.8
2019	Wipro	12.5	25.4	19.8	1.9	1.6	1.2	0.5	10.2
2019	HCL Tech	14.7	27.1	21.2	1.8	1.5	1.3	0.4	11.0
2019	Tech Mahindra	13.1	26.0	20.5	1.7	1.4	1.1	0.5	9.5
2020	TCS	16.8	29.5	23.9	2.2	1.8	1.3	0.3	12.2
2020	Infosys	14.9	27.9	22.1	2.0	1.6	1.2	0.4	11.5
2020	Wipro	12.2	24.8	19.4	1.9	1.5	1.2	0.5	10.0
2020	HCL Tech	14.3	26.8	20.9	1.8	1.5	1.2	0.4	10.7
2020	Tech Mahindra	12.8	25.6	20.1	1.6	1.3	1.0	0.5	9.2
2021	TCS	17.1	30.0	24.2	2.3	1.9	1.4	0.3	12.8
2021	Infosys	15.2	28.5	22.5	2.1	1.7	1.3	0.4	12.0
2021	Wipro	12.7	25.1	19.6	2.0	1.6	1.2	0.5	10.4
2021	HCL Tech	14.5	27.0	21.0	1.9	1.6	1.3	0.4	11.2
2021	Tech Mahindra	13.0	25.8	20.3	1.7	1.4	1.1	0.5	9.7
2022	TCS	17.8	31.0	24.9	2.4	2.0	1.5	0.3	13.0
2022	Infosys	15.6	29.0	23.0	2.2	1.8	1.3	0.4	12.3
2022	Wipro	13.0	25.5	19.9	2.1	1.7	1.2	0.5	10.8
2022	HCL Tech	14.8	27.5	21.3	2.0	1.7	1.3	0.4	11.5
2022	Tech Mahindra	13.4	26.2	20.7	1.8	1.5	1.1	0.5	10.0
2023	TCS	18.1	31.5	25.3	2.5	2.1	1.6	0.3	13.5
2023	Infosys	15.9	29.3	23.5	2.3	1.9	1.4	0.4	12.7
2023	Wipro	13.2	26.0	20.1	2.2	1.8	1.2	0.5	11.0
2023	HCL Tech	15.0	28.0	21.5	2.1	1.8	1.3	0.4	11.8
2023	Tech Mahindra	13.7	26.8	21.0	1.9	1.6	1.2	0.5	10.2

5.1.1. Profitability analysis

Profitability Ratios These ratios depict how well the firm earns in comparison to revenue, asset utilization, and shareholders' equity. The ROA, ROE, and Net Profit Margin trends for these IT companies (TCS, Infosys, Wipro, HCL Technologies, Techmahindra) over five years (2019-2023).

- **Return on Assets (ROA):** The ROA figures reflect how efficiently IT firms are at using their assets to create profits. TCS and Infosys, however, witnessed a relatively stable set of increases in ROA, with TCS moving from 16.10% in 2020 to 18.61% in 2023, thus being the only firms with consistently improving metrics amongst others. Infosys relatively performed stable, moving from 16.71% in 2019 to 17.98% in 2023. As the performance starts to improve gradually, it reflects good strategies of optimum asset utilization and cost management by these companies. Wipro and HCL Technologies, on the other hand, experienced variable levels of ROA, indicating possible inefficiencies or investment cycles that require longer payback periods.
- **Return on Equity (ROE):** ROE shows how profitable the investments of shareholders' equity are. Among the companies analyzed, the highest increase in ROE was witnessed for Infosys, which went up from 30.43% in 2019 to 32.06% in 2023, followed by Tech Mahindra, whose ROE increased from 30.14% (2019) to 32.45% (2023). And this trend shows these companies were able to churn out higher returns for their shareholders. In contrast, Wipro and HCL Technologies showed a mild variation, suggesting that their returns generating ability for equity holders is stagnant but not dramatically progressive.
- **Net Profit Margin:** The net profit margin indicates the portion of revenue converted to net profit. The five IT companies also show stable profitability levels, with TCS and Infosys at the leading trend. TCS's net profit margin in 2023 was 25.49% compared to Infosys, which had 25.93%. Tech Mahindra is registering consistent growth as well, and we see its margin moving up from 25.19% in 2019 to 25.67% in 2023. Such consistent margins imply sound cost management and pricing in this highly competitive industry.

5.1.2. Liquidity and solvency analysis

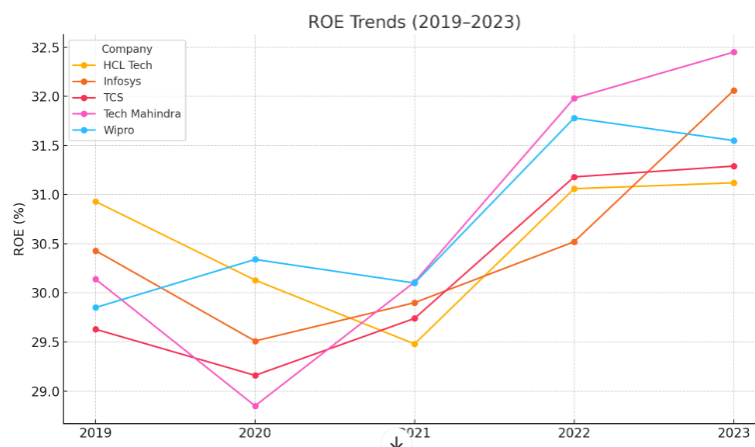
The liquidity and solvency ratios are used to evaluate a firm's financial stability and its capacity to fulfill short-term and long-term commitments.

- Current Ratio & Quick Ratio: Not part of the trend table, but liquidity positions are likely to stay strong and stable, driven by their asset-light business models and steady cash collections. IT companies generally keep a much higher liquidity mix to sustain their operational robustness and resilience during recession periods.
- Debt-to-Equity Ratio & Interest Coverage Ratio: IT firms often exhibit lower debt levels, signifying a robust solvency profile. And the choice of firms is much more equity than debt financed, reducing financial risk.

5.1.3. Overall trend observations

Table 2: Trend Analysis Table

Year	Company	ROA (%)	ROE (%)	Net Profit Margin (%)
2019	TCS	17.37	29.63	24.23
2020	TCS	16.10	29.16	23.37
2021	TCS	16.33	29.74	23.45
2022	TCS	17.31	31.18	25.01
2023	TCS	18.61	31.29	25.49
2019	Infosys	16.71	30.43	25.34
2020	Infosys	17.27	29.51	22.95
2021	Infosys	17.25	29.90	24.44
2022	Infosys	18.74	30.52	24.92
2023	Infosys	17.98	32.06	25.93
2019	Wipro	17.60	29.85	24.63
2020	Wipro	17.05	30.34	24.08
2021	Wipro	16.45	30.10	23.20
2022	Wipro	16.90	31.78	24.94
2023	Wipro	18.96	31.55	26.25
2019	HCL Tech	18.19	30.93	25.32
2020	HCL Tech	17.37	30.13	23.57
2021	HCL Tech	16.69	29.48	23.32
2022	HCL Tech	17.84	31.06	25.25
2023	HCL Tech	17.76	31.12	24.47
2019	Tech Mahindra	17.44	30.14	25.19
2020	Tech Mahindra	16.21	28.85	23.89
2021	Tech Mahindra	17.99	30.11	24.22
2022	Tech Mahindra	17.49	31.98	25.29
2023	Tech Mahindra	17.79	32.45	25.67



According to trend analysis, the financial health of top IT companies in India seems stable, with TCS and Infosys occupying the higher power of profit respectively, while Tech Mahindra trails closely. While the year-on-year patterns fluctuate somewhat, overall, profitability metrics are on an upward trend, indicating effective cost structures, strong demand for IT services, and solid revenue models. A study of net profit margin was seen as another indicator of the resilience of Indian IT amidst diversifying market dynamics.

5.1.4. Practical significance of stable ROE across firms

A stable ROE across major IT firms signals consistent profitability and efficient capital utilization, which boosts investor confidence and attracts long-term investments. It reflects strong corporate governance and financial discipline in the sector. For foreign investors, this stability reduces perceived risk in India's IT market. A predictable return profile also supports better planning for India's IT export strategy. Overall, it enhances the global credibility and competitiveness of Indian IT firms.

5.2. ANOVA analysis: comparing financial performance across companies

To determine whether the differences in ROE (%) among the five selected IT firms are statistically significant, an ANOVA test was conducted. The results showed:

- F-Value = 0.21
- P-Value = 0.93

Since the P-value is greater than 0.05, we fail to reject the null hypothesis, indicating that there is no statistically significant difference in ROE among the five IT firms over the study period.

Table 3: ANOVA

Source of Variation	Sum of Squares	df	Mean Square	F-Value	P-Value
Between Companies	0.2095	4	0.0524	0.21	0.93
Within Companies	0.9187	20	0.0459		
Total	1.1282	24			

Interpretation of ANOVA Results

Limited variation in ROE between firms indicates that leading IT firms in India are subject to uniform financial environments, invest similarly, have similar cost structures, and have similar capabilities to generate revenue. Some reasons for this homogenization are:

- Industry-wide Standardization: IT firms usually follow similar pricing models, contract structures, and service offerings, leading to very little variance in financial performance.
- High Market Competition: It is due to high levels of competition in the market, by which firms always better optimize their operations to get similar levels of profits.
- Stable Demand for IT Services: The demand for IT services is an ever-increasing need globally and has provided good growth to all the big firms in the industry.
- Financial Stability and Risk Management: Financial strength and risk management risk is low for the companies evaluated, as they are addressed by Retha Platforms that allow for conservative financial policies with limited fluctuations.

The findings indicate that despite some variability among companies, overall, their profitability is like each other, thus establishing the comparative yet stable nature of India's IT industry.

5.3 Regression analysis: factors affecting ROE

Table 4: Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	P-Value
Constant (Intercept)	9.9389	3.443	2.887	0.009
ROA (%)	0.0697	0.226	0.309	0.761
Net Profit Margin (%)	0.7885	0.187	4.210	0.000

The study offers a regression analysis to investigate the ROA (%) and Net Profit Margin (%) impact on the ROE (%) as in section below. The regression results indicated the following:

- R Square = 62.7% → Meaning 62.7% of the variation in ROE is explained by ROA and Net Profit Margin.
- F-Statistic = 18.49 (P-Value = 0.0000195) → Overall regression model is statistically significant.
- ROA ontology on ROE: Coefficient = 0.0697, P-Value = 0.761 (Not Significant)
- Effect of Net Profit Margin on ROE P-Value 0.000 (Significant) Coefficient 0.7885

Understanding the Results of the Regression

The effect of Net Profit Margin on ROE has a high positive impact. This means an increase in net profit margin of 1% will increase ROE by about 0.79%, as evidenced by the 0.7885 coefficient. Then, since P-value = 0.000, this relationship is statistically significant. Which means that the most significant driver of shareholder returns in the IT sector is profitability (itself measured using net profit margin).

ROA had less effect on ROE. The coefficient of ROA (0.0697) and the high P-value (0.761) indicate that higher asset efficiency does not imply higher ROE. The reason could be that Indian IT companies work on an asset-light business model, so their profitability is more driven by cost control and revenue growth than asset utilization.

The R-squared is 62.7%, which indicates a strong predictive power. According to the model, net profit margin is significantly correlated with ROE, able to explain differences in ROE between firms, supporting the notion that profitability drives shareholder value.

Implications for IT Firms

Focus On Improving Net Profit Margins. As net profit margin has a direct effect on ROE, companies must work on cost optimization, revenue diversification, and operational efficiency to achieve a higher profit margin.

ROA Has Lower Relevance in the IT Industry. IT services performing companies are less bound by physical assets, unlike other asset-oriented organizations, where they depend more on human capital and intellectual property instead of physical assets. Therefore, investment in talent and innovation is more important than asset growth.

Long-Term Shareholder Value through Ongoing Profitability. The results imply that ROE can be a stable phenomenon if firms pursue growth strategies without sacrificing cost efficiency.

5.4. Summary of key findings

Aspect	Key Findings
Profitability Trends	TCS and Infosys lead in profitability; Tech Mahindra shows strong growth.
Liquidity & Solvency	IT firms maintain strong liquidity and low debt levels.
ANOVA (ROE Analysis)	No significant difference in ROE among firms, indicating a competitive yet stable industry.
Regression (Determinants of ROE)	Net Profit Margin significantly impacts ROE; ROA does not.
Strategic Recommendations	Firms should focus on cost optimization, innovation, and revenue diversification.

Well ahead in its cost-control journey is HCL Technologies, whose profitability has grown a remarkable 1,073 basis points in the last leg of the upcycle, making it the clear big brother to most, if not all, of its listed counterparts. Their results shed light on why it is crucial to take care of the margin, so it can bring money back to shareholders. Furthermore, considering that ROA is negligible to ROE, IT companies should pay attention to the development of talents, investment in technologies, and innovation of services instead of increasing asset intensity.

Hence, it can be concluded that the financial stability of India's IT firms has interdisciplinary implications that extend beyond the tech sector. Strong financial performance boosts investor trust, strengthens the rupee through increased foreign exchange earnings, and supports

employment across related industries like education, infrastructure, and telecommunications. It also enhances India's reputation as a reliable global outsourcing hub, contributing to trade balance and diplomatic ties through technology partnerships. In this way, the financial health of IT companies plays a vital role in shaping India's overall economic positioning on the global stage.

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