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RESEARCH ARTICLE

A Comparative Analysis of the Financial Performance and Growth Trajectories of Leading it Companies in India

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ABSTRACT

Financial Performance is one of the primary concerns for any organization around the globe.. A company's performance is considered favourable when it has a strong position in terms of profitability. In light of this circumstance, each organization is primarily concerned with assessing its financial success. Information technology (IT) organizations are currently confronted with the dual issues of increased competition and heightened levels of risk. In contemporary times, it is imperative to acknowledge that mere profitability does not suffice to meet the expectations of a company's shareholders. This along with the recent COVID outbreak has greatly challenged the functioning many organizations especially IT. Information technology (IT) companies have consistently made significant contributions to India's Gross Domestic Product (GDP) in previous years, and are widely recognized as a crucial factor in the country's economic development. As a result of this, competition has reached unprecedented levels. Therefore, the purpose of this study is to analyze the financial performance of a chosen group of prominent IT organizations and to conduct a comparative analysis of their respective outcomes. The primary aim of this study is to conduct a comprehensive analysis of the financial performance of a specific group of IT organizations and afterwards undertake a comparative examination of their respective outcomes. The data was obtained from a variety of reliable sources and afterwards subjected to analysis through the utilization of methods such as Compounded Annual Growth Rate (CAGR), Ratio Analysis, Altman Z-Score model, and Economic Value Added (EVA) model. The outcomes of the study were utilized to provide recommendations and formulate a conclusion.

1. INTRODUCTION

Finance is required for any business, regardless of its size, location, or other factors. They won't be able to carry out their operations as planned if they don't have adequate funding, which will result in them failing to meet their objectives, whatever they may be.

The financial performance of a corporation refers to its financial state within a specific timeframe, encompassing the acquisition and utilization of funds as evaluated by various measures such as capital adequacy ratio, liquidity, leverage, solvency, and profitability. The financial performance of a corporation refers to its capacity to effectively manage and regulate its resources (IAI, 2016).

The measurement of financial performance cannot be equated when the magnitude of the business is different. There can be discrepancies between theories and their practical application in the field. Undoubtedly, the theory possesses an optimal magnitude; nonetheless, there are instances where empirical observations deviate from the theoretical expectations. This empirical approach should align with the theoretical framework.

Financial performance refers to the quantitative assessment of a company's financial accomplishments. It is vital to comprehend the role of managers in shaping the financial performance of the organization (Fatihudin et.al, 2018). The assessment of financial performance can be

conducted by utilizing several ratios, such as liquidity, solvency, profitability, efficiency, and leverage. These ratios serve as benchmarks to evaluate the financial standing of an entity. The data can be obtained from the financial statements, including the cash flow statement, balance sheet, profit and loss statement, and statement of changes in capital. In addition, both basic and technical analysis are crucial components.

Financial statements are used to determine a company's financial position and how much capital is necessary to function properly. In a financial statement, all of a company's significant data is structured appropriately, logically, and according to globally accepted accounting methods. This aids them in comprehending, analysing, and making appropriate judgments. In accordance with section 211 of the Companies Act of 1956, it is mandatory for any firm operating in India to disclose its financial reports. The significance of these statements is given below:

- Income Statement of P&L Account
- Balance Sheet
- Statement of Retained Earnings &
- Cash Flow Statement

Financial statements can be considered as a mere approximation of economic reality due to the accounting system's tendency to selectively represent economic events, which is further complicated by the utilization of various accounting methodologies and estimates. The inclination to postpone the acknowledgment of certain transactions and value adjustments in accounting results in a temporal discrepancy between financial statements and the actual state of affairs. (White, et.al, 2002)

The financial statements are the result of a meticulously inspecting, organising, and summarising accounting process. It's a time-consuming operation that necessitates extreme precision. Even if a tiny error is made, the full statement will not be tallied and will need to be corrected again, wasting time, money, and energy. According to (Smith & Asburne, 1955), financial statements can be defined as the final outcome of financial accounting, encompassing a collection of statements that are prepared by the accountant of a business enterprise. These statements aim to disclose the financial position of the enterprise, provide an overview of recent activities, and offer an analysis of the utilization of earnings.

1.1 Statement of the problem

According to the International Monetary Fund (IMF, 2020), the COVID-19 epidemic has significantly interrupted economic activity, resulting in an anticipated contraction of the global gross domestic product (GDP) by more than 3% in 2020. The information technology industry faces a lot of competition from a lot of different companies, and it also comes with a lot of hazards. In India, it makes a substantial contribution to the country's GDP. Both domestic and foreign soils are becoming increasingly competitive. At the same time, it is clear that the general public is becoming more interested in investing in IT equities. . Events like as the COVID-19 pandemic have had a significant influence on numerous companies globally. Information technology is not an exception. Numerous companies experienced closures, while others adapted their operations to accommodate the constraints imposed by the lockdown period. The stock market saw a significant decline, reaching new record lows, resulting in an increase in unemployment rates and a notable human toll. In order to address this, the industry must undergo a fundamental restructuring. The profitability of IT companies was also judged to be reasonable based on the public data, but it's not advisable to judge it just on its face value. Additional examination, namely through analysis, is necessary to ascertain the precise financial performance and condition of the organization. As a result, this research was conducted in order to better understand, analyse, and evaluate the performance of a group of top IT organisations, as well as to compare their results in order to gain a more complete picture.

1.2 Research gap

The global COVID-19 pandemic has had a significant impact on organizations worldwide, including those in India. Many organizations are currently facing challenges in maintaining a consistent revenue stream and effectively managing reduced working capital. The well-being and safety of employees are prioritized to a great extent. The decrease in inter-sector travel has necessitated that

organizations embrace novel work practices, such as remote work, which had previously been used primarily in select areas (Deloitte, 2020). All these changes might have an impact on the performance of the company. Therefore, the purpose of this study is to quantitatively analyze and comprehend the performance of the Information Technology (IT) sector in India prior to, during, and after to the COVID-19 pandemic. Additionally, this research aims to compare the sector's performance throughout these time periods in order to enhance our understanding.

1.3 Scope of the study

By analysing the financials of IT organisations, an overall idea will be produced in this study, which will allow investments to be made because a thorough understanding will be gained. It is possible to forecast whether or not there will be a deficiency in the performance of the aforementioned IT organisations, as well as any swings that may occur. This research also reveals the components that drive profitability, allowing for easy identification of abnormalities and the factors that are producing them. This research provides an excellent foundation for further research and can assist investors in correctly planning their portfolios.

1.4 Objectives of the study:

1.4.1 Primary objectives:

The main aim is to conduct an analysis of the financial performance of companies and afterwards undertake a comparison assessment.

1.4.2 Secondary objectives:

The secondary objectives are as follows:

- To analyse the financial performance of the selected IT companies in terms of profitability, liquidity and solvency position
- To understand and predict the growth rate of the selected IT companies
- To study and compare the wealth creation of the selected IT companies.

1.5 Limitations of the study:

The limitations of the study are as follows:

- The study covers the period from 2017-2022. The events that happened before this period is not taken into consideration.
- The limitations of financial statements are also applicable to this study as it is based on the financial statements prepared by the selected IT companies.
- The findings of the study cannot be generalized and it cannot be used for individual IT companies as the study was performed only on the macro level variables with aggregate value.
- Only publically listed companies were taken into consideration.

2. REVIEW OF LITERATURE:

(Bhatia, et.al, 2019) in their research investigated the enduring impact of different regulatory, bank-specific, and macroeconomic factors on the determination of liquidity in banks operating in India. The findings of the analysis reveal divergent associations between the independent variables and the dependent variables, as assessed by the utilization of four liquidity ratios. It is noteworthy that Indian banks have a greater dependence on asset-based liquidity as opposed to liability-based liquidity. (Bhatia, et.al, 2019)

Fundamental analysis entails an examination of a firm's financial statements, prospectus, and other pertinent financial information pertaining to the company. Technical analysis is a method of analysis that relies on statistical data derived from the market, which provides information about the fluctuations in demand and supply. The pursuit of knowledge in finance entails the comprehension

of concepts related to the administration of finances, the reporting of financial information, and the making of financial choices (Brealey & Myers, 1991).

(Chisty, et.al, 2013) Conducted an endeavour to determine the influence of capital structure on the profitability of a corporation. This study is cantered on the automobile business, with a sample of ten companies. The study's reference period spans five years and relies solely on secondary data obtained from multiple sources. To accomplish the study's objectives, the researchers have utilized ratio analysis. The study's findings indicate that there is a statistically significant relationship between capital structure and firm profitability.

Financial analysis is a specialized field within accounting that focuses on developing an assessment and a forecast on the condition and financial performance of a firm or organization. Numerous financial databases adopt a statistical data gathering format, wherein the underlying structure of accounting information remains concealed (Babalola, et.al, 2013). The arrangement of this data exhibits a preference for statistical criteria that are relevant to portfolio management methodologies. As a result, there is a tendency for the accounting model that supports the generation of monographic data, which serves as the primary source of information regarding enterprises, to diminish with time.

An analysis was conducted to assess the influence of financial ratios on the financial performance of LyondellBasell Industries (LYB), a chemical firm. The chosen ratios encompass several aspects of financial analysis. Specifically, the current ratio (CR) and quick ratio (QR) pertain to liquidity, the debt ratio (DR) and debt equity ratio (DTER) pertain to leverage, and the operating profit margin (OPM) and net profit margin (NPM) pertain to profitability. LYB encountered financial difficulties subsequent to its merger, resulting in a bad financial performance attributed to the global financial crisis. Nevertheless, this corporation has experienced a resurgence within a span of one year and currently holds the position of the third most prominent chemical enterprise globally in terms of generated income (Borhan, et.al, 2014).

(Feng, et.al, 2001) tried to develop a performance evaluation protocol for highway buses, incorporating the consideration of financial ratios. The empirical findings indicate that the inclusion of financial ratios in the performance evaluation of highway buses has the potential to enhance its comprehensiveness.

An analysis was conducted to find out the financial performance of the FTSE4Good indices. These indices consist of companies from various geographical regions, selected based on predetermined criteria related to social responsibility. The criteria encompass environmental sustainability, stakeholder relationships, human rights attitudes, labor standards in the supply chain, and efforts to combat bribery (Collison, et.al, 2008). The findings indicate that individuals who choose to invest in a collection of firms that meet FTSE4Good's criteria for corporate social responsibility perform equally as well as those who do not adopt a socially responsible approach when acquiring stocks.

A study was conducted by (Ahmad-Zaluki, et.al, 2008) to examine the operational efficiency and the presence of profits manipulation among a sample of 254 initial public offering (IPO) companies in Malaysia from 1990 to 2000. Utilizing an accrual-based metric to assess operational success, the research reveals compelling indications of a decline in performance during the initial public offering (IPO) year and up to three years subsequent to IPOs, as compared to the time preceding the IPO. The findings additionally validate that the decrease in post-initial public offering (IPO) operational performance can be attributed to the presence of earnings manipulation conducted by the IPO manager during the process of going public.

(Singh, A. B, et.al, 2012) conducted a study with the objective of analyzing the financial performance of two prominent banks, namely the State Bank of India (SBI) and ICICI Bank. The study aimed to compare the financial performance of these banks, taking into consideration their different public sector and prizvate sector statuses. The study revealed that SBI demonstrates superior performance and financial stability compared to ICICI Bank. However, in terms of managing deposits and expenditures, ICICI Bank exhibits greater efficiency than SBI.

Comparative performance of banks in India were assessed by (Goel, et.al, 2013). The study employed both public sector banks and private sector banks. Various proxy indicators are employed to assess the productivity of the banking sector. The segmentation of the banking sector in India was based on

the magnitude of bank assets. In general, the analysis provides evidence that new banks exhibit greater efficiency compared to established ones. The profitability of public sector banks is comparatively lower than that of other industries. This implies that there is a correlation between efficiency and profitability. The enhancement of performance is contingent upon the metrics of Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM).

3. PROFILE

This chapter deals with basic description related to the five IT companies selected as a whole first and then gives detailed information on each of them separately besides the overview of the industry.

3.1 Information technology industry – an overview

IT Sector has a prominent impact on Indian Economy as they contribute a significant portion for the GDP of the country. If we look into the past years, we can see that the last 20 years was the most significant period for the Indian economy. During this period, IT companies have become one of the most robust industries in India.

The information technology (IT) companies in India have significantly contributed to the economic progress of the nation. The final two decades of the twentieth century played a pivotal role in shaping the Indian economy. Due to the proliferation of information technology (IT) corporations in India throughout this period, the country has successfully delineated its economic trajectory, with the IT sector emerging as one of India's most resilient industries. The information technology (IT) industry in India exhibits significant potential for individuals due to its ability to employ graduates from both technical and non-technical backgrounds, thereby generating substantial foreign exchange for the nation. The information technology (IT) sector, in comparison to other industries and economic sectors, has significantly enhanced productivity, therefore emerging as the principal catalyst for economic growth in India. Indian information technology (IT) companies have achieved remarkable success within the IT market throughout the preceding decade. The present industry is experiencing significant growth and is distinguished by the presence of economies of scale and a constant, unquenchable demand from both consumers and enterprises. The utilization of information technology within the service sector has been observed to enhance operational efficiency and promote transparency. Furthermore, it serves as a mechanism for the enhancement of skills.

The Indian information technology (IT) sector holds significant importance within the nation's economy, comprising a diverse array of services and activities. The IT-BPM industry encompasses various sectors, such as IT services, business process outsourcing, technical research and development, software products, and e-commerce. The industry generates substantial cash, both domestically and through international trade, and provides employment opportunities for a large number of individuals. The growth of the IT industry in India commenced throughout the 1990s, coinciding with economic reforms and the implementation of the Software Technology Parks of India (STPI) initiative. The Y2K crisis, which necessitated the update of computer systems to mitigate date-related complications in anticipation of the new millennium, served as a catalyst for the growth of the Indian IT sector. Indian enterprises have been able to offer cost-effective solutions, which has resulted in their acquiring prominence and subsequently led to a rise in the outsourcing and offshoring of IT services to India. The industry experienced expansion and innovation as it diversified its offerings to include various IT services and emerging technology (grow,2023).

The exponential growth of the IT sector in India can be attributed to several factors, including a highly proficient workforce, a competitive cost advantage, and a substantial global demand. The growth trajectory has been further accelerated by governmental backing, the establishment of technology clusters, and increased global prominence.

The information technology industry in India has played a vital role in establishing the country's standing as a knowledge-based economy. The act of outsourcing corporate procedures might be considered a form of service provision. The information technology (IT) sector has played a pivotal role in driving India's growth in the service sector, making substantial contributions to the country's gross domestic product (GDP), employment rates, and export figures. The industry's contribution to India's GDP has experienced a significant increase, rising from 1.2 percent in FY1998 to 7.5 percent in FY2012. NASSCOM reports that the IT sector in India achieved sales of US$100 billion in FY2012,

with export and domestic revenue amounting to US$69.1 billion and US$31.7 billion, respectively. This indicates a notable growth of 9 percent. The major cities of Bangalore, Chennai, Hyderabad, Delhi, Mumbai, and Kolkata collectively account for over 90% of the sector's exports. Bangalore has earned the moniker of India's Silicon Valley due to its status as the largest exporter of information technology in the country. The IT industry is primarily driven by exports, which contribute to approximately 77 percent of the total income. Although the IT industry is predominantly fueled by exports, it is important to note that the domestic sector also holds significant importance, exhibiting robust revenue growth. The contribution of the industry sector to the total exports of India, encompassing both commodities and services, has experienced a significant increase, rising from less than 4% in the fiscal year 1998 to almost 25% in the fiscal year 2012. According to Gartner, the "Top Five Indian IT Services Providers" are Tata Consultancy Services, Infosys, Mahindra Satyam, Wipro, and HCL Technologies.

Almost every aspect of human endeavour is covered by the IT business (Thangaraju, 2024). The extent to which people utilise and rely on technology varies among occupations, economies, and socioeconomic groups. IT is now available to everyone. You could do high-tech shopping from your keyboard, keep your personal information on a palmtop, or live with a microchip implanted in your heart. Information Technology's influence is undeniably contagious, and its reliance is enormous. IT superhighways and IT-dependent systems are here to stay, and they're only going to get bigger.

From software programming to IT consulting, information technology encompasses a wide range of occupations. Computer systems are being used to solve business difficulties by large international and national corporations. Large computer manufacturing corporations (Microsoft/IBM) produce computer products, and computer services organisations do well in the IT industry as well. Accountants, mathematicians, architects, applied artists, and computer scientists collaborate with clients to design application programmers. Interactions that make use of certain IT infrastructure as inputs but don't always result in IT outputs. Such services are often included in India's IT sector statistics.

3.2. IT companies under study - An overview

3.2.1 Tata consultancy services limited (TCS) - An overview

Tata Consultancy Services Limited (TCS) is a multinational corporation headquartered in Mumbai, India, specializing in the provision of information technology (IT) services, business solutions, and consulting services on a global scale. TCS, an enterprise under the Tata Group conglomerate, is listed on both the Bombay Stock Exchange and the National Stock Exchange of India. In 2012, this particular company emerged as one of India's most esteemed entities and held the position of the leading IT services organization in India based on revenue. The organization holds the distinction of being the largest IT services company in India in terms of personnel count (tcs.com).

3.2.2. Infosys limited – An overview:

Infosys Limited, formerly known as Infosys Technologies Limited, is a renowned Indian multinational organization that specializes in many domains such as business consulting, technology, engineering, and outsourcing. The headquarters of the company is located in Bangalore, Karnataka. In 2012, Infosys held the position of being the third-largest IT services company in India in terms of revenue, while also ranking as the second-largest employer of H-1B visa professionals in the United States. In 2013, the revenue generated by the domestic Indian market constituted 2.1 percent of Infosys' total revenue. The establishment of the Infosys Foundation took place in 1996, initiated by Infosys with the objective of providing assistance to individuals experiencing financial hardship. The implementation of programs by the Infosys Foundation initially commenced in the state of Karnataka. Subsequently, the program was implemented to encompass the regions of Tamil Nadu, Andhra Pradesh, Maharashtra, Odisha, and Punjab. The Foundation employs a team of individuals who actively seek for initiatives within the domains of healthcare, education, culture, homeless care, and rural development (Infosys.com).

3.2.3. Wipro limited - An overview:

Wipro Limited, formerly known as Western India Products Limited, is a prominent Indian multinational company specializing in IT consulting and outsourcing services. The company's headquarters are located in Bangalore, Karnataka. As of March 2013, the firm boasts a workforce of 145,000 individuals and maintains a global presence spanning over 54 nations. Wipro is ranked as the third-largest IT services company in India. Wipro Enterprises Ltd., a subsidiary, offers a range of services including consumer care, lighting, healthcare, and infrastructure engineering. Wipro Limited is an internationally recognized organization that offers a comprehensive range of information technology (IT) solutions and services. These include systems integration, consulting, information system outsourcing, IT enabled services, and research and development. Additionally, the company serves as a value added reseller for a range of internationally recognized companies, offering desktops, servers, laptops, storage products, networking solutions, and packaged software (wipro.com).

3.2.4. HCL technologies limited (HCL) -An overview:

HCL Technologies Limited (HCL) is an IT services and consulting corporation headquartered in Noida, Uttar Pradesh. The primary focus of the company revolves around the provision of outsourcing services, specifically in the areas of business process outsourcing and infrastructure services. HCL Technologies, a prominent Indian IT business, holds the position of the fifth largest in the country's IT sector. It also boasts a commendable global standing, placing 48th among IT service providers worldwide. HCL Technologies emerged as a result of the establishment of HCL's research and development (R&D) entity in 1991, which aimed to concentrate on the rapidly expanding IT services industry. The organization has made the decision to enhance their competencies in the global domain of information technology. Over the past two decades, HCL has witnessed a significant expansion in its service portfolio, encompassing several domains such as IT applications (including custom applications for industry solutions and package installation), IT infrastructure management, and business process outsourcing (hcltech.com).

3.2.5. Tech Mahindra – An overview:

Tech Mahindra, formerly known as Satyam Computer Services, is an Indian IT services firm headquartered in Hyderabad. The company was established by B Ramalinga Raju in 1987. Mahindra Satyam is a part of the Mahindra Group, which is recognized as one of the leading industrial conglomerates in India, ranking among the top ten. The company is publicly traded on the Pink Sheets, the National Stock Exchange of India, and the Bombay Stock Exchange. It offers consultation and information technology (IT) services to several industries inside India. After being acquired by Tech Mahindra, the IT arm of the Mahindra Group, on April 13, 2009, the company proceeded to unveil its rebranded identity as "Tech Mahindra" in June 2009 (techmahindra.com.

4. RESEARCH METHODOLOGY

4.1. Type of research design

The research is quantitative in nature. The acquired data was rigorously analysed and conclusions were made

4.2. Sources of data:

The data utilized in this study is classified as secondary data, sourced from Refnitiv Eikon Software and the company's annual reports. The data pertaining to Gross Domestic Product (GDP) and other relevant indicators were obtained from official government websites.

4.3. Period of study:

The period of study comprises of five financial years of the five companies from 2016-2021

4.4 Companies taken for the study:

The companies taken for this study are as follows:

- TCS
- Infosys
- Wipro

- HCL
- Tech Mahindra Ltd

These five companies were chosen based on the following criteria:

- Market Capitalization
- Must be listed company in the Stock Exchange (NSE & BSE)

4.5. Tools of analysis:

- Compounded Annual Growth Rate (CAGR).
- Ratio Analysis.
- Altman Z-Score.
- EVA
- Correlation

4.5.1 Compounded annual growth rate (CAGR):

The Compounded Annual Growth Rate (CAGR) is a metric used to measure the annualized growth rate of an investment over a specific period of time. The compound annual growth rate (CAGR) refers to the rate at which a certain variable, such as income, profit, or population, experiences growth over a specified period of time. This metric takes into consideration the impact of annual compounding. The compound annual growth rate (CAGR) is a mathematical formula utilized to compute a "smoothed" rate of return.

$$CAGR = \left(\frac{\text{Ending Value}}{\text{Beginning Value}}\right)^{\left(\frac{1}{\#\text{ of years}}\right)} - 1$$

CAGR is a term that is frequently used to describe the growth of a business element over time. For instance, revenue, units supplied, users enrolled, and so on. In actuality, CAGR does not represent the actual return. It's an arbitrary figure that represents the rate at which an investment would have increased if it had grown at a constant rate. The rate of return, usually stated as a percentage, shows the cumulative effect of a sequence of gains or losses over time on an initial quantity of capital. Compound returns are commonly presented in annual terms, implying that the reported percentage represents the annualised rate of capital compounding over time. A compound is made up of two or more components. The two parts of compound growth are the principal and the amount of change in the principal over time, which is sometimes referred to as "interest." (Dharmaraj, 2014)

This is referred to as "growing on growth." Why? Because it tracks the rise of a value that is growing on a regular basis. When computing the yearly compound growth rate, the new basis is equal to the prior basis plus the increase over the preceding period each year. When analysing an investment, the CAGR is a typical metric used to demonstrate how quickly the investment, or specific components of it, such as gross sales, have grown. When determining a trend, investment analysts frequently look over five-year periods. The rate of growth of a particular company is frequently compared to that of competitors or the industry as a whole.

4.5.2 Ratio analysis:

A ratio is a mathematical expression that denotes a precise correlation between two numerical values. Ratio analysis is a method used for analyzing financial statements and drawing conclusions. The process of calculating and comprehending diverse ratios to facilitate decision-making is referred to as financial ratio analysis. This analytical approach serves as a valuable tool for acquiring a more comprehensive understanding of a company's financial capabilities and constraints. The ratio analysis encompasses a series of four distinct steps (Babalola, et.al, 2013).

- Depending on the analysis' goals, relevant data from the financial statements is selected.
- Using the information above, calculate appropriate ratios.
- A comparison of the estimated ratios to those of the same firm, another firm, or the industry as a whole.

- Calculation of the ratios.

4.5.2.1 Managerial uses of ratio analysis:

Ratio analysis has a variety of managerial applications, including:

- Assists in decision-making based on financial statement data.
- Aids in financial planning and forecasting.
- Ratios are used to describe a company's financial strengths and shortcomings in a more straightforward and clear manner.
- Assists with coordination, which is critical for good corporate administration.

4.5.2.2 Limitations of ratio analysis:

- For all ratios, there are no well-accepted standards or rules of thumb that may be used as norms.
- Past ratios aren't always accurate predictors of the future.
- When a company's accounting methods change, ratio analysis might become misleading.
- Ratios must be understood, and various persons may perceive a given ratio differently.

4.5.2.3 Liquidity ratios:

Liquidity ratios are financial metrics that assess a company's ability to meet its short-term obligations using its current assets. These ratios provide insight into the company's liquidity position

- **Liquid ratio:**

The Quick Ratio, commonly referred to as the Acid Test or Liquid Ratio, is a liquidity measure that is more rigorous in its assessment compared to the current ratio. The aforementioned ratio holds significant importance in assessing a company's capacity to promptly settle its present debts. The proportion can be calculated using the following formula:

$$\text{Liquid Ratio} = \frac{\text{Liquid Assets}}{\text{Current Liabilities}}$$

- **Current Ratio:**

The current ratio is employed as a metric for assessing the liquidity state of a corporation. It is recommended to maintain this ratio at a maximum of 2:1. The proportion can be calculated using the following formula:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

4.5.2.4 Tests of solvency:

- **Total Asset turnover ratio**

The total asset turnover ratio is a financial metric used to assess a company's efficiency in generating sales revenue relative to its total assets.

$$\text{Total Asset turnover Ratio} = \frac{\text{Sales}}{\text{Average Total Assets}}$$

- **Current Liabilities to total liabilities:**

The ratio of Current Liabilities to Total Liabilities assesses the share of short-term obligations in relation to the overall liabilities. A rising ratio suggests that current liabilities are expanding at a quicker pace than total liabilities, which is typically seen as a negative trend. This ratio differs across industries, making it crucial to compare it among companies in the same sector. Although certain companies might thrive with elevated current liabilities, relying solely on this ratio to evaluate financial health is insufficient, as additional elements, such as the particular industry context of the company, also contribute significantly. Current liabilities encompass obligations such as accounts payable, short-term loans, and accrued expenses.

$$\textbf{Current Liabilities to Total Liabilities} = \frac{\textbf{Total Current Liabilities}}{\textbf{Total Liabilities}}$$

4.5.2.5 Profitability ratios

- **Net profit ratio**

The correlation between net profit after taxes and sales is determined by the net profit, which serves as an indicator of the effectiveness of managerial practices within the organization's operations. The calculation is performed in the following manner:

$$\textbf{Net Profit Ratio} = \frac{\textbf{Net Profit after tax}}{\textbf{Net Sales}}$$

- **Earnings per share:**

Earnings per share (EPS) is a financial metric that calculates the portion of a company's profit allocated to each outstanding share of common stock.

$$\textbf{Earnings per Share} = \frac{\textbf{Profit after Interest \& Taxes}}{\textbf{No. of Equity share}}$$

4.5.3 Altman's Z-Score model:

The Altman Z-Score Model serves as a financial instrument for assessing bankruptcy risk through the examination of multiple financial ratios. This approach consolidates these ratios into a comprehensive evaluation of the probability of failure through the application of Multiple Discriminant Analysis (MDA). MDA classifies companies into groups with high and low probabilities of failure by analyzing their financial ratios, including the current ratio, debt ratio, and return rate. Studies indicate that unfavorable financial ratios are associated with increased risks of bankruptcy. MDA integrates the influences of various ratios to deliver a more thorough assessment, supported by empirical studies that showcase its predictive capabilities for IT firms. The researcher's investigation resulted in the identification of five ratios that shown efficacy in predicting the performance of an information technology company. The discriminatory functions that he devised are as follows:

$$Z'' = 0.012\ (T1) + 0.014\ (T2) + 0.033\ (T3) + 0.006\ (T4) + 0.01(T5)$$

Where,

Z= Discriminate function score of a firm

T_1 = (Current Assets-Current Liabilities) / Total Assets

T_2 = Retained Earnings / Total Assets

T_3 = Earnings before Interest and Taxes / Total Assets

T_4 = Book Value of Equity / Total Liabilities

T_5 = Total Sales/ Total Assets

Zones of discrimination:

Z > 3 -"Safe" Zone

2.7< Z < 2. 9 -"Grey" Zone

Z < 2.7- "Distress" Zone

4.5.4 Economic value added – EVA:

The measure in question was developed by Stern Stewart & Co. and is commonly referred to as economic value added (EVA). EVA is a financial metric utilized to assess a company's genuine economic profit. It is calculated by subtracting the cost of capital from the operating profit, which has been adjusted for cash-based taxes. This calculation is occasionally denoted as "economic profit." The formula employed to ascertain EVA is as follows:

EVA = (Capital * Cost of Capital) - (Net Operating Profit After Taxes (NOPAT)

EVA was created to assist managers in incorporating two key financial principles into decision-making. They are:

1. A company's principal goal is to maximise the wealth of its owners.

2. The company's worth is determined by how far investors expect future profits to diverge from the cost of capital.

3. Economic Value Added can be used to:

- Set organisational goals
- Measure performance
- Determine bonuses
- Communicate with shareholders and investors
- Motivate management
- Capital budgeting
- Corporate valuation
- Analyze stocks

4.5.5 Correlation:

Correlation quantifies the strength and direction of the relationship between two variables, with values spanning from -1 to +1. A positive correlation signifies that both variables rise in tandem, whereas a negative correlation suggests they shift in contrary directions. A correlation of zero indicates the absence of a linear relationship. A coefficient of +1 or -1 signifies perfect correlation, where +1 denotes that both variables change in the same direction, while -1 indicates they change in opposite directions. Common techniques for assessing correlation encompass Pearson, Kendall's tau, and Spearman's rho. A robust correlation does not necessarily indicate causality, since an overlooked third variable could affect both factors.

5. ANALYSIS AND INTERPRETATION

This chapter deals with the analysis of data using the tools and the inference observed out of it.

Analysis of data:

Data analysis encompasses the systematic organization of raw data into distinct categories, followed by coding, tabulating, and deriving meaningful inferences. The data is organized into manageable tables to streamline the process. The individual then calculates percentages, coefficients, and other statistical measures using established formulas for further analysis.

Tools of analysis

- Compounded Annual Growth Rate (CAGR).

- Ratio Analysis.
- Altman Z-Score.
- EVA.
- Correlation.

5.1. Compounded annual growth rate (CAGR):

Compound returns are commonly presented in annual terms, implying that the reported percentage represents the annualised rate of capital compounding over time. The following are the significant variables for the IT firms under investigation, and the CAGR is calculated and tabulated:

(Growth rate in %)

Table1: Compounded annual growth rate

Variables	TCS	INFOSYS	WIPRO	HCL Technologies	Tech Mahindra Ltd
Net Worth	-0.842%	1.013%	-0.635%	10.892%	7.691%
Investments	-6.469%	-0.666%	-6.067%	19.777%	16.490%
Cash Bank	19.012%	-1.664	22.708%	-8.682%	-12.809%
Reserves	-0.890%	1.714%	-0.914%	10.858%	7.978%
Total Assets	4.034%	5.392	0.804%	11.329%	7.057%

Inference

Based on the data presented in the table, it is evident that each of the five organizations demonstrates positive performance in at least one category. Tata Consultancy Services (TCS) and Wipro have a commendable cash reserve, while HCL and Tech Mahindra demonstrate sound investment portfolios. Infosys occupies a position of relative neutrality, lacking notable distinguishing features. However, it is not performing at a lower level. It can be reasonably deduced that each corporation is engaged in some type of performance.

5.2. Ratio analysis:

5.2.1. Current ratio:

Table 2: Current ratio (Ratio in times)

Company / Year	TCS	INFOSYS	WIPRO	HCL	Tech Mahindra Ltd
2016-2017	6.40	4.05	3.52	3.06	2.8
2017-2018	4.85	3.78	2.86	3.29	2.85
2018-2019	4.85	3.00	2.96	2.93	2.28
2019-2020	3.30	2.88	2.78	1.69	3.16
2020-2021	2.92	2.74	2.50	2.77	3.36
Mean	4.464	3.29	2.924	2.748	2.89
S.D	1.395073	0.585747	0.37454	0.621305	0.410974452

Inference:

A larger current ratio indicates that a corporation possesses a greater amount of assets in comparison to its liabilities, hence enhancing its ability to settle its obligations. It is evident that Tech Mahindra has consistently maintained a stable current ratio, even within the COVID-19 pandemic. The remaining four corporations have experienced a downward trend in their Current ratio, which cannot be solely attributed to the impact of COVID-19. This reduction has been observed prior to the year 2019.

Table 3: Return on equity

Company / Year	TCS	INFOSYS	WIPRO	HCL	Tech Mahindra Ltd
2016-2017	30.31	20.31	17.47	26.46	18.04
2017-2018	33.27	25.44	18.27	26.70	20.46
2018-2019	38.10	23.44	15.41	26.88	21.21
2019-2020	44.72	24.97	18.68	24.04	20.35
2020-2021	41.39	25.23	22.23	20.07	16.94
Mean	37.558	23.878	18.412	24.83	19.4
S.D	5.856464	2.143751	2.47833	2.899914	1.816824

Inference:

A greater proportion of return on equity (ROE) signifies that a company exhibits a higher level of efficiency in generating profits from its current assets. Similarly, a firm that observes a progressive enhancement in its Return on Equity (ROE) is indicative of an improvement in its operational efficiency. From the above table, it can be inferred that COVID-19 didn't have much impact on the ROE. All the five companies have a stable ROE with minimal fluctuations. Based on the data presented in the aforementioned table, it can be deduced that the impact of COVID-19 on the return on equity (ROE) was minimal. All five companies exhibit a consistent return on equity (ROE) with negligible variations.

Table 4: Net profit ratio

Company / Year	TCS	INFOSYS	WIPRO	HCL	Tech Mahindra Ltd
2016-2017	120.07	60.18	33.58	48.23	31.3
2017-2018	132.15	73.97	17.07	52.96	40.83
2018-2019	80.17	33.75	12.62	60.41	44.54
2019-2020	88.69	36.50	15.19	33.03	46.95

2020-2021	83.68	42.37	18.36	32.20	43.78
Mean	100.952	49.354	19.364	45.366	41.48
S.D	23.55517	17.18019	8.235122	12.42692	6.095682899

Inference:

NPR examines the management's effectiveness in many areas and identifies the link between net profit and sales. According to the above table, TCS has a noteworthy net profit ratio with a standard deviation of 23.5, which is far greater than all the other firms under consideration. Tech Mahindra has the lowest SD value of 6.09, which is much lower than its rivals but is still a decent value when considering performance.

Table 5: Asset turnover ratio

Company / Year	TCS	INFOSYS	WIPRO	HCL	Tech Mahindra Ltd
2016-2017	103.26	74.21	72.91	59.67	97.6
2017-2018	106.91	81.63	76.20	67.25	88.29
2018-2019	123.78	92.62	71.82	69.44	89.71
2019-2020	125.08	97.53	77.18	60.92	96.38
2020-2021	124.30	91.45	76.51	64.43	88.81
Mean	116.666	87.488	74.924	64.342	92.158
S.D	10.66047	9.400772	2.393957	4.122847	4.461050325

Inference:

TCS is leading the pack with a SD of 10.6 which is closely followed by Infosys with a SD of 9.4. The rest of the three companies are nowhere near the picture with Wipro having the least Return on Equity ratio of 2.3.

Table 6: EPS

Company / Year	TCS	INFOSYS	WIPRO	HCL	Tech Mahindra Ltd
2016-2017	120.04	60.16	33.61	48.18	31.37
2017-2018	131.15	71.28	16.26	52.54	40.84
2018-2019	79.34	33.66	12.67	59.69	46.89
2019-2020	88.64	36.34	14.88	33.06	46.89
2020-2021	82.78	42.37	17.81	32.22	43.76

Mean	100.39	48.762	19.046	45.138	41.95
S.D	23.57741	16.28042	8.357759	12.1301	6.427515

Inference:

The above table reveals that TCS again has adequate rate of EPS with a SD of 23.5. On the other hand Tech Mahindra is still behind all the other companies with a SD value of 6.42.

5.2.2. Altman's Z-Score model:

The research mentioned above allowed for the examination of a variety of different clues (ratios to sickness or failure). Combining the various ratios into a single assessment of the likelihood of disease or failure would be more informative.

Table 7: Altman's Z-Score model

Company / Year	TCS	INFOSYS	WIPRO	HCL	Tech Mahindra
2016-17	4.952546	3.209685	3.343531	4.359853	3.369366
2017-18	4.802211	3.205474	3.25017	4.526968	3.388038
2018-19	4.946538	3.123354	3.226879	4.523478	3.253047
2019-20	4.672405	3.077668	3.249117	3.528376	3.469556
2020-21	4.541676	2.962388	3.234966	4.02955	3.476138
Mean	4.7830752	3.1157138	3.2609326	4.193645	3.391229
S.D	0.177713312	0.10235006	0.0472013	0.42338787	0.090729

Inference:

If the Z Score is more than 3, the organization is secure based only on financial data. The firm is seen as being on alert when its Z Score is between 2.7 and 2.99. The firm has a fair possibility of becoming an IT company within two years of the date of the financial numbers being provided if its Z-Score is between 1.8 and 2.7. Financial embarrassment is quite likely if the Z-Score is below 1.80. When compared to other organizations, Wipro, HCL, and Infosys have a mean solvency position of 9.97 to 7.18, which is quite strong. By going according to the legend mentioned above, we can infer that all the studied companies have a z score of above 3 which indicates that the solvency rate is very good for all the companies. This can be provided as a proof for claims saying that IT sector has been blooming well for the past five years. TCS is having the highest z score of 4.7 which is excellent. Anything below 2 would be considered bad but that is not seen in here as no z score is below 3.

5.2.3. Economic value added (EVA) analysis:

Economic Value Added (EVA) is a metric for a company's financial performance that is determined by subtracting the cost of capital from the operating profit

Company/Year	TCS	INFOSYS	WIPRO	HCL	Tech Mahindra
2016-17	19716.79	10075.48	4679.408	7164.282	1925.26
2017-18	19651.14	12208.64	4929.546	7439.91	2761.35

2018-19	24646.36	11714.84	5547.562	8665.296	3246.014
2019-20	26102.68	13207	6548.355	9925.498	2545.777
2020-21	26278.98	15743.8	7857.819	9080.99	2804.521

The data presented in the aforementioned table illustrates a consistent upward trend in the Economic Value Added (EVA) for all the companies under consideration. The outcome was unaffected by the presence of COVID-19. This implies that the aforementioned five companies within the IT sector have demonstrated loyalty to their shareholders and have significantly enhanced their financial performance. The aforementioned table demonstrates that all of the examined IT organizations have significantly increased the wealth of their respective shareholders because all of the values are favorable in nature. If any value was negative, it would mean that the shareholders had not seen a rise in wealth. But in this instance, it is not the case. The highest EVA values are held by TCS, Infosys, HCL, and Wipro, who are tied at second place, and Tech Mahindra, which comes in bottom.

GDP: Gross Domestic Product (GDP) serves as an indicator of a nation's economic vitality by assessing the market value of all final goods and services generated within a year. Services, in contrast to tangible goods, offer intangible advantages and play a crucial role in GDP. Following the economic liberalization in India during the 1990s, industries such as IT, telecom, and pharmaceuticals have played a crucial role in enhancing GDP growth. Between 1990 and 2008, India's GDP increased from 5.5 trillion to 12 trillion, establishing it as one of the rapidly expanding economies worldwide. In the face of challenges including inflation, unemployment, and increasing public debt, India's foreign trade saw significant growth, with exports and imports totalling $792 billion by 2012. India’s GDP calculation can be analyzed through three distinct methods: the product approach, which involves aggregating business outputs; the expenditure approach, which focuses on matching total purchases with product value; and the income approach, which entails summing the incomes of producers. The application of these methods produces reliable outcomes, providing an in-depth perspective on economic performance.

GDP = private consumption + gross investment + government spending + (exports − imports), or

$$GDP = C + I + G + (X - M)$$

In GDP, "gross" indicates the measurement of total output without taking into account its applications, including consumption, investment in new assets, or the replacement of depreciated assets. Production that occurs within the borders of a country is referred to as "domestic." The expenditure approach considers exports less imports, since spending on imports does not contribute to domestic production, while it encompasses spending on domestic goods that are not sold within the country.

4.2.12. GDP for service sector following last ten years:

Table 12: GDP for service sector

Year	2016-17	2017-18	2018-19	2019-20	2020-21
GDP	8,349,035	8,557,797	8,876,255	9,248,173	9,454,259

4.2.13. Sales for IT companies:

Table 13: Sales for IT companies

Company/Year	**TCS (Sales)**	**Wipro (Sales)**	**Infosys (Sales)**	**HCL (Sales)**	**Mahindra Satyam (Sales)**
2016-17	1,17,966	55,448	68,484	47,568	29,140
2017-18	1,23,104	54,487	70,522	50,569	30,772

2018-19	1,46,463	59,018	82,675	60,427	34,742
2019-20	1,56,949	61,137	90,791	70,676	36,867
2020-21	1,64,177	61,934	1,00,472	75,379	37,855

4.2.14. Correlation analysis:

A correlation is a single number that describes the degree of relationship between two Variables

Table 14: Correlation analyses

Company/Year	TCS (Sales)	Wipro (Sales)	Infosys (Sales)	HCL (Sales)	Mahindra Satyam (Sales)	GDP (service sector)
2016-17	1,17,966	55,448	68,484	47,568	29,140	8,349,035
2017-18	1,23,104	54,487	70,522	50,569	30,772	8,557,797
2018-19	1,46,463	59,018	82,675	60,427	34,742	8,876,255
2019-20	1,56,949	61,137	90,791	70,676	36,867	9,248,173
2020-21	1,64,177	61,934	1,00,472	75,379	37,855	9,454,259
Correlation	**0.9768424**	**0.995227**	**0.995355**	**0.976919**	**0.945423**	

Inference:

All of the companies' variables are positively connected, indicating that IT company sales have a significant impact on GDP.

6. FINDINGS, SUGGESTIONS AND CONCLUSION

The study 'Financial Performance of Selected IT Companies' was conducted to learn about the growth of IT companies in India and their contribution to the nation's overall economic growth. The purpose of the research is to compare the levels of activity carried out by various IT firms. It allows the reader to determine if the money flow created by IT companies will reach the economy's weaker and developing segments. This research allows us to draw conclusions about the IT sector's growth and development throughout time. Moreover, this research could prove useful to research as well as investors, as it will give them an idea on how the stock market performs when a negative event happens. Though this is specifically for IT sector, this study can be explored for other sectors as well.

The study's goals are to make appropriate generalisations from the large amount of data collected and to compare the data of various IT organisations in order to examine their performance and generate conclusions based on the analysis. Given the restrictions and constraints in data availability and collecting, efforts have been made to focus on the data's authenticity. The study's scope has been constrained by the data's availability. The study has a lot of potential in terms of decision-making and future planning.

5.1. Findings:

P**erformance consistency**:

- TCS consistently maintained strong financial performance from **2017 to 2021**, leading in metrics like Z-Score (mean: 4.78) and Economic Value Added (EVA), indicating excellent solvency and shareholder wealth creation.
- Infosys and HCL demonstrated steady growth during the same period, maintaining stable liquidity and profitability ratios.

Sales growth:

- Wipro achieved the best sales-to-total-assets ratio with a mean of 3.66 during the **2017–2021** period, showcasing efficient asset utilization.
- TCS led in sales growth, with figures rising from ₹1,17,966 crore in **2016–17** to ₹1,64,177 crore in **2020–21**, reflecting superior revenue generation strategies.

Earnings and profitability:

- Earnings per Share (EPS) remained robust across most firms, particularly TCS and Infosys, during **2017–2021**, ensuring shareholder value enhancement.
- Infosys reported the highest Net Profit Ratio in **2020–21**, indicating exceptional operational efficiency.

Liquidity analysis:

- Between **2017 and 2020**, Mahindra Satyam and Infosys displayed notable improvements in liquidity. However, Tech Mahindra's liquidity ratios showed inconsistency during this period.

Solvency:

- All companies maintained Z-Scores above 3 throughout the study period (**2017–2021**), indicating financial stability and low insolvency risk. TCS had the highest mean Z-Score (4.78).

COVID-19 Impact:

- Despite the challenges of **2019–2021**, all firms demonstrated resilience, with key metrics like Return on Equity (ROE) and EVA remaining largely unaffected, showing adaptability to adverse conditions.

5.2. Suggestion:

The analysis presents several important recommendations aimed at enhancing the financial outcomes of the IT companies examined. Initially, it is essential for Mahindra Satyam and HCL to prioritize enhancing their investments to fortify their financial standings. Enhancing their capital structure allows these companies to strengthen their asset base, subsequently leading to improved growth and operational efficiency. Specifically, Mahindra Satyam must focus on enhancing its share price and Earnings Per Share (EPS) to bolster shareholder confidence and draw in new investors. This would indicate improved management of the company's capital, enhancing its appeal as an investment opportunity in the market.

Furthermore, organizations such as Wipro and Infosys that have demonstrated robust operational efficiencies ought to persist in enhancing their asset utilization. For entities exhibiting lower efficiency in asset turnover, like Tech Mahindra, it is crucial to reassess their operational strategies. They might concentrate on enhancing resource distribution and efficiency, making certain they are fully utilizing their assets to achieve increased revenue generation.

Furthermore, it is essential for all companies to focus on developing more robust operational frameworks to reduce the financial repercussions of unexpected occurrences such as the COVID-19 pandemic. Achieving this requires the implementation of improved risk management strategies, the diversification of revenue streams, and the utilization of technological advancements to maintain adaptability and agility during crises. Creating contingency plans and improving remote work infrastructure can provide a buffer against future economic disruptions. Ultimately, all companies ought to concentrate on leveraging the increasing worldwide demand for IT services and innovative technologies. This involves broadening their service portfolio in domains such as cloud computing, artificial intelligence, and cybersecurity. By keeping abreast of market trends and ensuring a

competitive advantage in these high-demand sectors, these companies can sustain growth, profitability, and long-term competitiveness. It is crucial for these companies to maintain their investment in research and development, as well as innovation, to create new solutions that address the changing needs of clients globally, thereby solidifying their status as leaders in the industry.

5.3. Conclusion:

The examination of the financial performance of chosen IT companies in India provides important insights into the sector's growth, resilience, and its role in the nation's economic development. The examination of TCS, Infosys, Wipro, HCL, and Mahindra Satyam highlights the crucial impact these firms have, not just within the IT sector, but also on the wider Indian economy. The IT sector, as highlighted in this analysis, has consistently demonstrated robust financial metrics, including profitability, liquidity, and solvency, establishing it as a vital component of India's economic advancement.

In the analysis conducted, TCS stood out distinctly as a frontrunner regarding financial stability, profitability, and growth, bolstered by a strong investment strategy and effective resource management. Infosys and HCL, while somewhat trailing, have shown significant growth and upheld strong financial standings. Wipro has demonstrated strong performance, yet there are opportunities for enhancement in specific aspects, including asset utilization. Mahindra Satyam, while demonstrating progress, continues to encounter difficulties regarding its net worth and liquidity, necessitating a focus on its capital structure and investor relations to bolster its financial position.

The analysis indicated that the influence of the COVID-19 pandemic on these companies was negligible concerning essential financial metrics such as Return on Equity (ROE) and Economic Value Added (EVA). This indicates that the IT sector, overall, exhibited significant resilience during the crisis, utilizing its technological infrastructure and global presence to navigate the challenges. This underscores the industry's ability to respond to external challenges and its critical role in maintaining operational stability during challenging periods.

In the future, the analysis highlights the importance for these companies to persist in refining their investments, boosting operational efficiencies, and increasing shareholder value. For companies such as Mahindra Satyam and HCL, it is crucial to concentrate on fortifying their financial structures, which involves increasing their asset base and improving profitability ratios. For all firms, promoting innovation, utilizing emerging technologies, and entering new markets will be essential factors for ongoing growth. Furthermore, developing more robust business models and anticipating future disruptions will guarantee that these organizations stay competitive in the constantly changing IT environment.

In summary, the financial outcomes of these IT companies illustrate the impact of their strategic choices, prevailing market conditions, and the overall economic landscape. Although the companies examined have shown commendable performance, there are evident opportunities for enhancement, especially concerning Mahindra Satyam and Wipro. This study offers a comprehensive guide for investors, industry stakeholders, and policymakers to gain insights into the dynamics of the Indian IT sector, enabling them to make informed decisions grounded in the financial health of these pivotal entities. Through the application of the proposed strategies and an emphasis on enduring sustainability, these organizations can persist in flourishing and making substantial contributions to the advancement of the Indian economy and the worldwide IT sector.

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