ANALYSIS & COMPARISON OF FINANCIAL STATEMENTS

1. ABSTRACT:

The main purpose of this study is to analyse and compare different financial statements or reports i.e., the income statement and the balance sheet of all Nifty 50 stocks from 2013-2022 to infer or conclude about a company's current financial status. The analysis will help to conclude about important financial indicators such as the liquidity ratios, profitability ratios and the long-term solvency ratios. The tool will help to analyse the financial reports and compare amongst them to reveal the best - on various criteria, that are then be used by managers, shareholders, investors and all other interested parties. To potential investors, the analysis and comparison of the financial statements is very important, because, first they want to know the actual state of the company and then decide whether to invest.

The main purpose of this research is to provide a comprehensive analysis of the financial performance of Nifty 50 stocks over a period of ten years. By comparing and contrasting the income statement and balance sheet of these companies, the study aims to identify trends, patterns, and differences that can shed light on the financial strengths and weaknesses of each company. The study has a broad scope as it covers all the companies listed on Nifty 50. This approach ensures that the findings are representative of the financial performance of the entire stock market in India. The income statement is used to evaluate a company's profitability, while the balance sheet is used to assess its financial position. The study also examines other financial ratios such as liquidity ratios, debt-to-equity ratios, and return on assets to provide a more comprehensive analysis.

The data for this research is obtained from secondary sources such as the annual reports and financial statements of the companies listed on Nifty 50, as well as other publicly available financial databases. The data is then analysed using statistical methods and other relevant techniques to draw inferences about the financial status of these companies.

2. INTRODUCTION:

The Indian stock market has been one of the fastest-growing in the world over the last decade. The Nifty 50 is the main index that represent the performance of the Indian stock market. The Nifty 50 comprises the top 50 companies listed on the National Stock Exchange (NSE). These indices are widely used as benchmarks for measuring the overall performance of the Indian stock market.

Financial Statement provides an overview of a business financial condition in both short and long term. In financial statement, all the relevant financial information of a business enterprise is presented in a structured manner and in the form of easy to understand. Financial statement analysis is a judgmental process which aims to estimate current and past financial positions and the results of the operation of an enterprise, with primary objective of determining the best possible estimates and predictions about the future conditions. The purpose of the financial analysis is to provide information to financial managers and analysts to make thorough decisions about their business, strengths and weaknesses.

The objective of this research paper is to analyse and compare the financial statements of companies listed on the Nifty 50 from 2013-2022. The study focuses on two key financial reports – the income statement and the balance sheet – to draw inferences about the current financial status of these companies. The research will provide a comprehensive analysis of the financial performance of Nifty 50 stocks over a period of ten years. The study is significant because it provides valuable insights into the financial health of companies listed on the Indian stock market. The findings can help investors, analysts, and other stakeholders to make informed decisions about investing in these companies. Furthermore, the study can be useful for companies to identify areas for improvement in their financial management and planning.

3. LITERATURE REVIEW:

3.1. A study by Hasan et al. (2018) analysed the financial performance of Nifty 50 companies from 2008 to 2017. The study used financial ratios, such as return on assets (ROA), return on equity (ROE), and debt-to-equity (D/E) ratio, to assess the financial health of these companies. The study found that the average ROA and ROE of Nifty 50 companies were 5.14% and 15.56%, respectively, which indicates a healthy financial performance. However, the D/E ratio was found to be higher than the industry average, indicating that these companies have a higher level of debt.

3.2. A study by Goyal and Kalra (2017) analysed the financial performance of Sensex companies from 2010 to 2016. The study used the Altman Z-score, which measures a company's financial health based on its liquidity, profitability, and solvency, to assess the financial health of these companies. The study found that 56% of the companies analysed had a Z-score of less than 1.8, indicating that they were in financial distress.

3.3. A study by Damodaran and Sreenivasan (2018) suggests that financial statement analysis can be used to predict future stock returns. They analysed the financial performance of Indian companies listed on the NSE from 2008 to 2017. The study found that financial ratios, such as price-to-earnings (P/E) ratio, price-to-book (P/B) ratio, and dividend yield, were significant predictors of future stock returns.

3.4. Numerous studies have examined the financial performance of companies listed on stock markets around the world. A study by Lee and Kim (2017) analysed the financial statements of companies listed on the Korean stock market. Similarly, a study by Atalay and Ansal (2018) analysed the financial performance of companies listed on the Istanbul stock exchange. Both studies found that financial ratios like liquidity and profitability ratios were significant predictors of stock returns.

4. DESCRIPTION:

4.1. Meaning of Financial Statement Analysis

The term financial statements analysis is also known as analysis and interpretation of financial statements. It establishes meaningful relationship between various items of the two financial statements or attributes especially income statement and balance sheet. It determines the financial strength and weaknesses of the business. Thus, financial statements analysis is the systematic numerical calculation of the relationship between one fact with other to measure the liquidity, profitability, and solvency of the business. The financial statements of a company record important financial data on every aspect of a business's activities. As such, they can be evaluated on the basis of past, current, and projected performance.

The income statement, also known as the profit and loss statement, shows a company's revenues, expenses, and net income over a period of time. The income statement provides insights into a company's profitability and can be used to assess its ability to generate profits in the future. Important financial ratios that can be derived from the income statement include gross profit margin, operating profit margin, and net profit margin.

The balance sheet, also known as the statement of financial position, shows a company's assets, liabilities, and equity at a specific point in time. The balance sheet provides insights into a company's financial position and can be used to assess its ability to meet its financial obligations in the future. Important financial ratios that can be derived from the balance sheet include the debt-to-equity ratio, current ratio, and quick ratio.

It is used by a variety of stakeholders, such as credit and equity investors, the government, the public, and decision-makers within the organization. These stakeholders have different interests and apply a variety of different techniques to meet their needs. For example, equity investors are interested in the long-term earnings power of the organization and perhaps the sustainability and growth of dividend payments. Creditors want to ensure the interest and principal is paid on the organization's debt securities (e.g., bonds) when due.

4.2. Parties Interested in Analysis of Financial Statement

Every person concerned with the state of affairs of the business has an interest in the financial statements of the business. The following parties have an interest in the analysis of financial statements.

- **Management:** The management wants to know the profitability, liquidity, efficiency and soundness of the business, so that strengths and weaknesses of the business may be identified and effective business plans may be formulated.

- **Shareholders:** Shareholders are interested to know the earning capacity of the business and its future growth. Shareholders are not directly involved in the day to day working of the company but they want to know the real profitability with the help of the financial statements.

- **Debenture-holders:** Debenture-holders are interested to know whether the financial position of the business is sound or not. They are also interested to know whether the company is able to pay the interest as well as to redeem the debentures on maturity date.

- **Credit Institutions:** Credit institutions and banks want to know the solvency of the business. They also want to know whether the money given as loan is safe or not.

- **Creditors:** Creditors of the business are interested in the short-term and long-term financial soundness of the business. They want to know the ability of the business to meet the debts and claims.

- **Taxation Authorities:** Tax authorities are interested to know the profitability of the business, so that income tax can be collected. Similarly, sales tax authorities are interested in the sales of the business.

- **Workers:** Workers of the business are interested in the profit of the business. In case of sufficient profit, labour unions have moral justification to demand for higher wages. Workers in the business are paid bonus on the basis of productivity and profitability, so they have an interest in the financial analysis of the business.

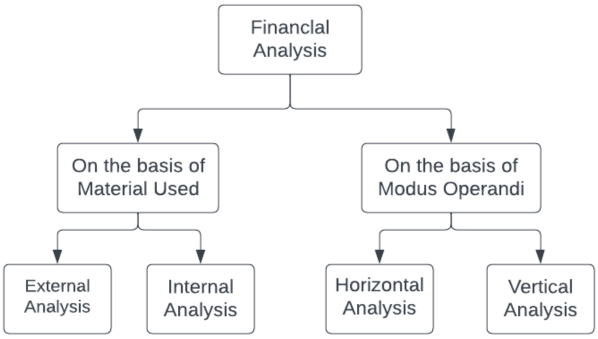
- **Government:** Various government agencies study profitability and turnover ratios for the purpose of taxation, regulation and nationalization. Financial statements also help government in compiling national accounts.

- **Economist and Researchers:** These parties are interested in the financial activities of the business, so that they may study the financial health of the business enterprise, study the rate of financial growth and compare it with other business enterprises and finally, suggest effective measures to increase the growth rate.

- **Society or Public:** Company emerges and develops in the society and it is the part of the society. It has to fulfil its obligations towards the society. With the help of financial statements analysis, the society or public gets information regarding to the manner and method by which the company has fulfilled its social responsibility.

- **Competitors:** Competitors are interested in knowing the strategies of an enterprise by financial statement analysis, so that they can also formulate the appropriate policies.

4.3. Types of Financial Analysis



4.3.1. On the basis of Material Used

External Analysis - Analysis done by outsiders (investors, credit agencies, government agencies) who cannot get the internal records of the company is called external analysis. External analysis involves the use of financial statements and other financial information that is publicly available. This includes analysing a company’s financial statements, such as the income statement, balance sheet, and cash flow statement, to evaluate its financial performance and health.

Internal Analysis – This type of analysis is undertaken by those persons, who are able to access the books of accounts and other information of the company. This analysis is done by the executives and employees of the company. Internal analysis involves the use of financial information that is not publicly available, such as management accounts and internal reports. Internal analysis can include analysing a company’s financial ratios, budget variances, and other financial metrics to assess its financial health and performance. It is important for a company to conduct regular internal analysis to ensure that it is meeting its financial goals and objectives.

4.3.2. On the basis of Modus Operandi

Horizontal Analysis – Horizontal analysis, also known as trend analysis, involves comparing financial data over a period of time to identify trends and changes. This type of analysis compares financial data from the same company over two or more years, usually in the form of percentage changes. Horizontal analysis is used to identify the direction and magnitude of changes in a company's financial performance over time.

Vertical Analysis – Vertical Analysis, also known as common-size analysis, involves comparing financial data as a percentage of a single base figure. This type of analysis helps to identify the relative importance of different items on a company's financial statements. Vertical analysis is useful for comparing the financial performance of different companies or for identifying changes in a company's financial structure over time.

4.4. Financial Statements to Analyse

4.4.1 Income Statement – An income statement, also known as a profit and loss statement, is a financial statement that shows a company's revenues, expenses, and net income over a specific period of time, such as a quarter or a year. The income statement is a critical component of a company's financial reporting and is used by investors, creditors, and other stakeholders to evaluate a company's financial performance and profitability. The income statement is divided into two main sections: operating and non-operating. The operating section includes revenues and expenses related to the company's primary business activities, such as sales and cost of goods sold. The non-operating section includes revenues and expenses that are not directly related to the company's primary business activities, such as interest income and expense.

Investors and analysts use the income statement to evaluate a company's revenue growth, cost management, and profit margins. The income statement can also help identify trends and changes in a company's financial performance over time.

4.4.2 Balance Sheet – A balance sheet is a financial statement that reports a company's assets, liabilities, and equity at a specific point in time, usually at the end of a quarter or a year. The balance sheet provides a snapshot of a company's financial position and is used by investors, creditors, and other stakeholders to evaluate a company's financial health and liquidity. The balance sheet is divided into two main sections: Assets and Liabilities + Equity. The assets section includes all of the resources owned or controlled by the company, such as cash, accounts receivable, and property. The liabilities & equity section includes all of the company's obligations and sources of financing, such as loans, accounts payable, and shareholder equity.

Investors and analysts use the balance sheet to evaluate a company's liquidity, solvency, and financial leverage. The balance sheet can also help identify trends and changes in a company's financial position over time.

4.5. Financial Ratio's to Derive from Analysis

4.5.1 Liquidity Ratios – A company's liquidity refers to its ability to settle short-term liabilities when they mature. So, liquidity is the ability to convert activities into cash or make money in another way. We will be calculating two liquidity ratios -

a). Working Capital – From creditor's point of view, working capital is always from the first indicators to be considered. This is because the creditor always seeks to find and read safety in the financial statements. Working Capital is calculated as the difference between short-term assets and short-term liabilities.

Working Capital = short term assets – short term liabilities

b). Current Ratio – Current ratio shows a direct proportion between short term assets and short-term liabilities. Through this, it is measured the ability of a firm to pay short-term liabilities at the maturity date (expiry date of payment).

Current ratio = Short term assets / short term liabilities

4.5.2 Profitability Ratios: The fundamental purpose of every business is to make profit. Profitability reports express exactly what the organization wins over its sales, assets or capital. We will be calculating two profitability ratios -

a). Return on Assets (ROA) – It shows a direct proportion between net profit and total assets. The return on total assets is a ratio that measures the effectiveness of using total assets to generate net profit.

Return on Assets (ROA) = Net Profit / Total Assets

b). Return on Equity (ROE) – It measures the profit made from investments of regular shareholders in the company's assets. In other words, the rate of return on share capital is the rate of return from regular shares invested by the owners of the enterprise.

Return on Equity = Net Profit / Equity

4.5.3 Long-term Solvency Ratio: Solvency reports measure the enterprise's ability to pay long-term debts on their maturity date. We will be calculating -

a). Debt on Equity Ratio – It is the ratio of long-term debt to total invested capital (capitalization) or the total equity / share capital

Debt ratio over Equity = Total Debt / Share Capital

4.6. Stocks Included for Analysis

Nifty 50 – Adani Enterprises, Adani Ports, Apollo Hospital, Asian Paints, Axis Bank, Bajaj Auto, Bajaj Finance, Bajaj FinServ, BPCL, Bharti Airtel, Britannia, Cipla, Coal India, Divis Labs, Dr Reddy Labs, Eicher Motors, Grasim, HCL Tech, HDFC Bank, HDFC Life, Hero MotoCorp, Hindalco, HUL, HDFC, ICICI Bank, IndusInd Bank, Infosys, ITC, JSW Steel, Kotak Mahindra, Larsen & Turbo, M&M, Maruti Suzuki, Nestle, NTPC, ONGC, PowerGrid Corp., Reliance Industries, SBI Life Insurance, SBI, Sun Pharma, TCS, Tata Consumer Product, Tata Motors, Tata Steel, Tech Mahindra, Titan, UltraTech Cement, UPL, Wipro.

5. METHOD:

5.1. Type of Financial Analysis

a. On the basis of Material Used – External Analysis

b. On the basis of Modus Operandi – Horizontal Analysis

5.2. Data Collection

The first step in the research process involved the collection of financial data for all companies in the Nifty 50 stock index. For that, web scraping tools and techniques were used to perform data collection. Python's Beautiful Soup and Requests library were used to scrape the income statement and balance sheet data of all the companies from secondary sources. An algorithm was developed using these libraries to scrape and collect data from any stock. It can be scheduled to run once a year (March-April), to collect the latest available financial data. Then, the data collected is then stored in MongoDB as documents in a collection.

5.3. Data Pre-processing

Once the data was collected, it underwent pre-processing to ensure its accuracy and consistency. The data was cleaned to remove any inconsistency, missing values, or outliers. The financial statements were also standardized to ensure that they could be compared across companies.

5.4. Calculation of Financial Ratios

After data pre-processing, the next step involved calculating various financial ratios that could provide insights into a company's financial health and performance.

- Liquidity Ratios – Working Capital and Current Ratio
- Profitability Ratios – Return on Assets (ROA) and Return on Equity (ROE)
- Long-term solvency Ratio – Debt to Equity Ratio

5.5. Data Analysis

Once the ratios were calculated, they were analysed and compared to evaluate a company’s financial status. The calculated ratios were compared with each other to identify which company performed best in terms of each ratio. This allowed for a comprehensive analysis of a company’s financial status, taking into account multiple aspects of its financial performance.

5.6. Data Visualization

The calculated ratios and their comparison were visualized using various data visualization techniques such as bar graphs, and line charts. And the data is also displayed in the form of a table, for easy and better comparison. These visualizations were used to represent the data in an easy-to-understand format and help in making data-driven decisions.

5.7. Statistical Analysis

In addition to calculating the financial ratios, statistical analysis techniques such as mean, median, and standard deviation were also used to analyse the data and to get better insights. These techniques were used to identify trends, patterns, and anomalies in the data and draw meaningful conclusions.

Overall, the methods used in this research involved a combination of data collection, data pre-processing, financial ratio calculation, data analysis, data visualisation, and statistical analysis to provide a comprehensive analysis of the financial health and performance of companies in the Nifty 50 stock index.

6. RESULT:

7. DISCUSSIONS:

8. CONCLUSIONS:

9. REFERENCES: