Analysis of Financial Investments

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Abstract:- This research paper examines the financial performance and stock analysis of Motilal Oswal Financial Services Ltd. (MOFSL) and HDFC Asset Management Company Ltd. (HDFCAMC) over a five-year period from 2018 to 2023. The study utilizes ratio analysis, fundamental analysis, and technical analysis techniques to assess various aspects of the companies' profitability, liquidity, solvency, and efficiency. Findings indicate positive trends in profitability, liquidity, solvency, and efficiency ratios for both companies, reflecting their ability to generate income, manage costs, and utilize resources effectively. Additionally, the stock analysis reveals promising trends, suggesting favorable outcomes for investors. Overall, these findings highlight the companies' strong financial performance and potential as investment opportunities, subject to market conditions and individual investor considerations.

Keywords:- *Financial Performance, Stock Analysis, Ratio Analysis, Fundamental Analysis, Technical Analysis, Profitability, Liquidity, Solvency, Efficiency, Investment Opportunities, Market Conditions, Risk Assessment, And Investment Strategy.*

I. INTRODUCTION

Globalization and Financial industry technology development over the past two decades have led to an increase in individual investors and increased access to the financial markets. However, the decision-making process for investors is complicated by the wide variety of investment options accessible. The financial performance of the investment advisor has a significant role in determining the firm's overall financial health. The financial performance of Motilal Oswal Financial Services Ltd. and HDFC AMC during the last five fiscal years— 2018–19, 2019–20, 2020–21, 2021-22, and 2022–23—is attempted to be analysed in this article. This article confirms the quick purchase and sale of securities, provides investors with recommendations for short-and medium-term investments, and includes adequate and accurate information about the equities.

The rise of artificial intelligence (AI) has had a significant impact on various industries, including finance and investments. With the increasing amount of data available and the ability of AI to analyze and process it at a speed and scale that humans simply cannot match, there has been a growing interest in leveraging AI for investment stimulation and sustainable economic growth. In this paper, we explore the potential of AI as a tool for investment decision-making and how it can be used to create sustainable economic growth. The traditional approach to investment decision-making involves human analysts gathering data, analyzing it, and making decisions based on their analysis.

However, this process is time-consuming, prone to human biases, and limited by the amount of data that humans can process. On the other hand, AI algorithms can process vast amounts of data, learn from patterns and trends, and make predictions and decisions based on their analysis. This makes AI a valuable tool for investment decision-making, as it can help identify new opportunities and mitigate risks. Furthermore, the use of AI in investment decision-making can contribute to sustainable economic growth. By analyzing and modeling economic data, AI algorithms can help identify opportunities for growth in are as such as renewable energy, clean technology, and sustainable infrastructure. This can drive investment in these areas, creating jobs and contributing to the growth of the economy while also promoting environmental sustainability.

In this paper, we will examine the current state of AI in investment decision-making, its potential for promoting sustainable economic growth, and the challenges that need to be addressed to fully realize its potential. We will also present case studies of successful AI-based investment strategies and discuss their impact on economic growth and sustainability. Overall, this paper aims to contribute to the ongoing discussion on the role of AI in finance and investments and its potential for driving sustainable economic growth. In general, AI is used in finance in three distinct ways: to optimize financial portfolios, to forecast future prices or trends in financial assets, and to analyze sentiment in the news or on social media by looking at comments made about the assets or companies. Although each field has its unique characteristics and differences, some works have suggested combining methods from various fields. Clustering of financial assets, investor behavioral analysis, network analysis, and control of dynamic systems applied to the financial market are some additional works in the field of computational finance.

II. LITERATURE REVIEW AND HYPOTHESIS

(Disouza & J, 2018) conducted a study on six publicly listed mining companies on the Bombay Stock Exchange (BSE) from 2011 to 2016. Their research focused on security return, market return, Beta, standard deviation, correlation coefficient, skewness, and kurtosis. They discovered a positive relationship between security return and market return, noting the instability of beta during the study period. They used the Sensex as a proxy for the market.

(Gautam & S., 2018) explored fluctuations in share prices of selected Indian companies, aiming to analyze the Risk & Return Analysis of these stocks. They defined risk as the likelihood of actual return variations and emphasized the importance of return in evaluating investment performance.

(Fabinu & I.B., 2017) investigated the relationship between risks and expected returns using Beta values of Barclays Plc and J. Sainsbury Plc from the London Stock Exchange with the FTSE 100 index. They found Beta values of 0.66 and 1.68 for Sains bury and Barclays Plc respectively, with a correlation of 31.03%. Their findings suggested that Barclays had a higher required return than Sainsbury Plc according to the Capital Asset Pricing Model (CAPM).

(Patjoshi & P.K., 2016) analyzed the correlation between risk and return of the Sensex and banking stocks of BSE 30 (Sensex) from Jan 1, 2001, to Dec 31, 2015. They used various methods including correlation, regression, descriptive statistics, andt-tests to examine the risk- return trade-off of Sensex with HDFC Bank, ICICI Bank, Axis Bank, and SBI.

(Sangeetha & C, 2018) assessed the financial performance of Aditya Birla Stock broking Company using ratio analysis and a t-test over a ten-year period. They found no significant difference in the working capital turn over ratio, return on total assets, gross profit ratio, and net profit ratio.

(Shah, 2020) evaluated the financial performance of Cadila Healthcare and Sunpharma using ratio analysis. They examined ratios like dividend payout ratio, quick ratio, and return on assets, concluding that Sunpharma outperformed Cadila Healthcare in most aspects of ratio analysis.

III. STATEMENT OF HYPOTHESIS

The following hypothesis is proposed to investigate the relationship between MOFSL and HDFC AMC profitability and efficiency. Null Hypothesis (H_0): There is no significant difference between the financial performance and stock analysis of Motilal Oswal and HDFC AMC. Alternative Hypothesis (H_1): There is a significant difference between the financial performance and stock analysis of Motilal Oswal and HDFC AMC.

Since the 1990s, when technology advanced quickly and the personal computer gained popularity, there has been a great deal of interest in the use of artificial intelligence (AI) to financial investing. Numerous strategies have been put out since then to address the issue of stock market price prediction. The literature on artificial intelligence as it relates to stock market investing is systematically reviewed in this research, which draws on a sample of 2326 publications from the Scopus database published between 1995 and 2019. The four areas into which these articles were categorized were financial sentiment analysis, portfolio optimisation, stock market prediction using AI, and combinations using two or more methodologies. The early basic research and its cutting-edge applications are discussed for each area. Furthermore, a summary of there view concludes that there is ongoing interest in this field of study and that the literature is getting more detailed and specialised.

IV. RESEARCH METHODOLOGY SECTION

A. *Sample Design Target Sample Profile:*

Financial Services Sector, PAN India, chosen because they include clients of leading AMC companies in the sector. Location of the study: PAN India Duration of the study-This study is conducted for a period of 5 years from 2018-2023. Sample Size: A comparative study of 2 companies has been done for this research.

B. *Data Collection Method*

Using secondary data, the financial performance of MOFSL and HDFC AMC has been evaluated through the application of ratio analysis, fundamental analysis, and technical analysis methodologies. Ratio analysis aids in understanding the financial stability of the business. Ratio analysis provides useful conclusions about the profitability, liquidity, leverage, and growth state of a company. It assists investors in monitoring their financial performance and contrasting it with rivals. Consequently, enabling them to make more informed financial judgements. The profitability, liquidity, solvency, and efficiency ratios for MOSCL and HDFC AMC are used to provide a thorough ratio analysis. The results are as follows:

➢ *Profitability Ratio:*

Acompany's capacity to make money in relation to its outlays and other expenses related to earning revenue during a specific time period is evaluated using the profitability ratio.

- *Motilal Oswal*

Table 1: Profitability Ratio of Motilal Oswal

Year	Gross Profit Ratio	Operating Profit Ratio	Return on Capital Employed
2018-19	38.31	39.79	12.40
2019-20	22.56	24.91	7.70
2020-2021	47.66	49.35	18.77
2021-2022	49.85	48.73	20.52
2022-2023	50.40	49.00	23.32

(Money Control 2023)

- Interpretation: When it comes to understanding gross profit, operating profit, and return on capital employed ratios, there is no perfect benchmark or norm. In general, a greater ratio is preferable. The analysis's conclusion shows that, in comparison to the prior fiscal years, the company's gross profit ratio increased to 50.40 in 2022–

2023. It indicates that the company's gross profit margin is strong. When comparing the year 2022–2023 to the year 2021–2022, the operating profit ratio decreased by 49.00. Nonetheless, the operating profit ratio increased significantly to 49.00 in 2021–2022, indicating that the business is able to manage costs well. Furthermore, from 2022 to 2023, the return on capital employed ratio increased, indicating that the business uses its capital to generate profit more effectively.

- *HDFC AMC*

Table 2: Profitability Ratio of HDFC AMC

Year	Gross Profit Ratio	Operating Profit Ratio	Returnon Capital Employed
2018-19	72.45	71.77	30.01
2019-20	85.48	82.96	32.92
2020-2021	97.88	94.89	36.13
2021-2022	90.65	88.11	40.70
2022-2023	91.23	89.77	44.19

- Interpretation: The analysis's conclusion shows that, in comparison to the prior fiscal years, the company's gross profit ratio increased to 91.23 in 2022–2023. It indicates that the company's gross profit margin is strong. In comparison to the preceding year 2021–2022, the operating profit ratio decreased to 86.77 in 2022–2023. Nonetheless, the operating profit ratio increased significantly in 2020–21, indicating that the business is able to manage operations cost effectively. Furthermore, the company's return on capital employed ratio increased to 44.19 in 2022–2023—a sign that it uses its capital more profitably.

➢ *Liquidity and Solvency Ratio:*

Financial measurements such as liquidity and solvency ratio help determine if a company can pay off its debts without the need for outside funding. While liquidity ratios focus on a company's current assets and short-term financial commitments, solvency ratios consider both long-term and short-term financial liabilities.

- *Motilal Oswal*

Table 3: Liquidity and Solvency Ratio of Motilal Oswal

Year	Acid Test Ratio	Debt to Equity Ratio	Interest Coverage Ratio
2018-19	1.38	0.55	4.77
2019-20	1.05	0.52	2.50
2020-21	1.42	0.59	8.25
2021-22	2.42	0.68	7.48
2022-23	2.41	0.64	8.18

- Interpretation: The fast ratio's ideal and most desired value is 1:1. A company's quick ratio shows how much more quick assets it has than current liabilities if it is more than one. The firm's liquidity increases as the quick ratio rises. This implies that more assets may be quickly converted into cash if needed. The fact that creditors are paid on schedule makes this excellent news for investors even better. The table shows that the corporation kept its quick ratio over one for each of the five years of the research period. As a consequence, it follows that the firm has outstanding financial health and payoff level.

A corporation is also less vulnerable to risk than those with a larger debt-to-equity ratio if its ratio is less than one. The outcome shows that the corporation has had a debt-to-equity ratio of less than one for five years running. The business has maintained the confidence of all of its stakeholders. The ability of the business to pay interest on its debt is the only factor considered by the interest coverage ratio. A lower ratio indicates that the company's debt load is higher. If the company's interest coverage ratio is less than 1.5, it indicates that it is unable to pay its debt in interest. According to the results, the company's ICR grew significantly to 8.18 in 2022– 2023; this is a strong indicator that the business would pay off the debt's accumulated interest.

- *HDFC AMC*

Table 4: Liquidity and Solvency ratio of HDFCAMC

Year	Acid Test Ratio	Interest Coverage Ratio
2018-19	23.24	0.00
2019-20	25.97	185.08
2020-21	21.18	196.41
2021-22	18.06	221.97
2022-23	27.40	199.55

- Interpretation: Table 4 demonstrates that the business kept a quick ratio of greater than one for each of the five years of the research period. As a consequence, it follows that the firm has outstanding financial health and pay off level. A corporation is also less vulnerable to risk than those with a larger debt-to-equity ratio if its ratio is less than one.

- *Motilal Oswal*

Table 5: Efficiency Ratio of Motilal Oswal

Year	Fixed Assets Turnover Ratio	Accounts Receivable Turnover Ratio	Total Assets Turnover Ratio
2018-19	2.75	1.26	0.30
2019-20	2.61	1.52	0.30
2020-21	6.63	3.93	0.39
2021-22	6.77	3.33	0.40
2022-23	7.65	4.24	0.43

- Interpretation: Regarding the fixed asset turnover ratio, there isn't a perfect figure that serves as a measurement standard. A greater fixed asset turnover ratio indicates that the business is making better use of its fixed assets to generate income. The results clearly show that in 2022– 2023, the fixed asset turnover ratio grew significantly by 7.65. This significant growth indicates that the business has effectively utilized its assets to generate income.

Furthermore, strong performance is indicated by a larger ratio of accounts receivable turnover. Based on the data, the company's accounts receivable turnover ratio increased to 4.24 in 2022– 2023; this indicates that it is collecting debts from consumers more effectively. A higher ratio is preferred from the standpoint of the total asset turnover ratio since it indicates better asset utilization. The business's TATR (total assets retained) grew by 0.43 in 2022–2023 after being stable in 2018–19 and 2019–20 (0.30). This indicates that the company has raised revenue by making better use of its resources.

- *HDFC AMC*

Table 6: Efficiency Ratio of HDFC AMC

Year	Net Profit Margin	Returnon Assets	Total Assets Turnover Ratio
2018-19	48.59	28.86	59.40
2019-20	63.01	29.29	46.49
2020-21	71.56	26.02	36.36
2021-22	65.85	23.69	0.39
2022-23	65.71	21.78	0.35

- Interpretation: A company's profitability is gauged by its net profit margin, which shows what proportion of each dollar of sales is turned into net profit. Return on Assets (ROA) is a metric used to assess a company's profitability in relation to its total assets. It shows how well a business makes use of its resources to turn a profit. A company's effectiveness in turning its whole asset base into revenue is gauged by the Total Assets Turnover Ratio.

The above data of Table 6 shows that the company had a generally improving trend in net profit margin and return on asset suntil 2020-2021. However, in the last two years, both ratios declined slightly. The total assets turnover ratio also showed a declining trend, with a significant decrease in the last two years, indicating a decrease in revenue generation relative to total assets.

V. TECHNICAL ANALYSIS

The objective of technical analysis is to find patterns in the data of the financial markets that may be utilized to forecast future price movements. Technical analysts employ several tools and indicators to analyze market data because they believe that historical price movements may be used to anticipate future price movements.

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A. Motilal Oswal

Fig. 1: Technical Analysis of Motilal Oswal (Graphical Representation)

- Interpretation: Through this chart of Figure 1, it has been interpreted that the stock has broken the downward trend line as it can be observed, so now it's a buy at the current market price for the immediate target of 884 and if it sustains above 884 for 1 day it can go to 1444 which is all- time high, and the stop loss should be 576 for the trade.

B. HDFC AMC

Fig. 2: Technical Analysis of HDFCAMC (Graphical Representation)

- Interpretation: From the above chart of Figure 2 it has been interpreted that the stock is being traded in a range from 1972 to 3447 and it can be observed that the supply and demand zone mentioned in the chart and also observed a down ward channel is breaking out stock can again in touch the high of 3445 in near future and the stop loss should be 1800.

VI. EXPONENTIAL MOVING AVERAGE

A typical statistical formula for analyzing time series data, such as stock prices, to spot trends and patterns is the exponential moving average (EMA). It is a kind of moving average that gradually lessens the impact of older data points while giving more weight to recent data points.

A. Motilal Oswal

Fig. 3: Exponential Moving Average of Motilal Oswal (Graphical Representation)

- Interpretation: In the above chart of Figure 3, it has been interpreted that currently 20 exponential moving average gas crossed all the larger EMA which shows that the trend has been changed from negative to positive which means that Motilal Oswal Financial Services Limited is Bullish for the short term.

B. HDFCAMC

Fig. 4: Exponential Moving Average of HDFCAMC **(**Graphical Representation**)**

- Interpretation: In the above chart of Figure 4 it is interpreted that all the moving averages are below the price which means the stock was in a downtrend for the past few months and weeks and now the price is trading above all the Exponential moving averages. EMA had to follow the price in 1-2 days as it is observed 20 EMA then 50 EMA will cross 200 EMA and the trend will turn bullish from there according to EMA.

VII. RELATIVE STRENGTH INDEX (RSI)

A widely used technical indicator for assessing the strength and continuation of a price trend is the Relative Strength Index(RSI). It helps traders spot probable trend reversals and sheds light on whether an asset is overbought or oversold.

A. Motilal Oswal

Fig. 5: RSI of Motilal Oswal (Graphical Representation)

- Interpretation: The relative strength index (RSI) in Figure 5 is a momentum oscillator that measures the speed and change of price movement. It is a popular tool among traders and investors who use technical analysis to make trading decisions and the RSI of MOFL is showing a positive trend because the RSI is above 60 which shows that buyers are interested and are buying at these levels, so it suggests us to buy the stock.

B. HDFC AMC

Fig. 6: RSI of HDFC AMC **(**Graphical Representation**)**

- Interpretation: RSI of HDFC AMC in Figure6isabove 60 which shows that the stock is in a strong uptrend and it's a buy at the current trend.

VIII. FINDINGS

According to the profitability ratios, the company's total profitability over the study period is sound.

- The analysis of the company's liquidity and solvency ratios shows that, over the course of the study, its liquidity and solvency situation has been strong.
- The report makes clear that the business has continued to generate more revenue by maintaining a respectable efficiency ratio.
- Positive Financial Performance: Both companies have exhibited positive financial performance indicators such as increasing net profit, revenue growth, or other relevant metrics. This implies that they have been able to generate higher profits or achieve better financial results over the analyzed time.
- Promising Stock Analysis: The stock analysis of both companies has shown positive trends, indicating favorable outcomes for investors. This could include metrics likes to ck price appreciation, positive technical indicators, or positive fundamental analysis ratios. Such trends suggest that the companies' stocks have demonstrated potential for growth and have been performing well in the market.
- The positive results in moving averages and the RSI analysis indicate that both Motilal Oswal and HDFC AMC have been experiencing positive trends and momentum in their stock prices. This suggests that the stocks of these companies have the potential for continued upward movement and could be seen as favorable indicators for investors considering these stocks.

Overall, the findings of the analysis indicate that both Motilal Oswal and HDFC AMC have experienced positive trends in their financial performance and stock analysis. This suggests that these companies have been successful in managing their finances, generating profits, and attracting investor interest through their stock performance. These findings could be seen as favorable indicators for investors and stakeholders, highlighting the companies' potential for continued growth and success in the future.

IX. CONCLUSION

In conclusion, both Motilal Oswal Financial Services Ltd. and HDFC Asset Management Company Ltd. Have demonstrated commendable financial performance across various metrics throughout the study period. To maintain competitiveness and sustain success, it is imperative for these companies to continue generating robust financial results in the future. Additionally, it is crucial to monitor market conditions, industry trends, and regulatory changes diligently, staying informed through news updates, market reports, and financial statements to make well- informed investment decisions. It's essential to acknowledge the inherent risks of investing in the stock market, with past performance not guaranteeing future outcomes. Therefore, investors should carefully assess their individual circumstances, seek professional advice, and evaluate these companies based on their investment goals, risk tolerance, and overall investment strategy, considering both Motilal Oswal and HDFC AMC as potential investment opportunities given their positive financial performance and stock analysis results.

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