A Study of Financial and Operational Performance of a Manufacturing Company: A Case Study of Mahindra & Mahindra Ltd., Nagpur

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***Abstract*—The sustainability and development of the organizations under the modern manufacturing situation greatly depends on. How they could achieve financial stability and operational excellence at the same time. The manufacturing industry operates in an environment that is a. scenario that has high rates of competition, rising costs of inputs, technological advances, and rising. demands from customers. Under these conditions, there is a necessity of the unceasing examination of the financial and working performance. becomes decisive in making effective decisions that are related to management. The present research suggests to examine the monetary and business performance of Mahindra and Mahindra ltd., particularly, its manufacturing plant at Nagpur. The study will utilize primary and secondary sources of data. Key financial ratios will be used to quantify financial performance, trend analysis, and comparative analysis although the operational performance would be gauged on scales of indicators like productivity, etc. Inventory management, capacity utilization and quality management. has been performing well financially and in good health, this has been supported by good management of operations, good cost management, and optimum use of the resources. The research finding is that it is a positive and strong relationship.**

***Index Terms*—Financial Performance, Operational Performance, Manufacturing Industry, Ratio Analysis, Productivity, Mahindra and. Mahindra Ltd.**

I. INTRODUCTION

The manufacturing industry forms a significant component of the economic growth of any country since it helps to create a job. and makes a significant contribution to the gross domestic product. Nevertheless, the manufacturing industry has had much to do in the recent years. of globalization, automobile and technologies, and changes. This has brought improved competition in the. manufacturing sector and consequently, the manufacturing firms now have no choice but to work on the quantity of production as well as the quality of the production. also, on their financial feasibility of operation.

Financial performance is the economic element of business activities, which brings out the profitability, liquidity, and solvency and. sustainability of a business. On the other hand, operational performance brings out the efficiency of any organization with regard to using. capital to manufacture goods and services both at quality and minimizing expenses. These two aspects are interconnected as both are interrelated. operational inefficiencies lead to higher cost and low profitability whilst operational excellence leads to higher. financial performance. Manufacturing is one of the capital-intensive sectors, and it is a sector that presents complicated production processes. As a result, even a small Operation, inventory or quality inefficiency can significantly affect the financial performance. It is needed in this case. to have a full analysis of both financials.

Mahindra and machinery limited is a top manufacturing company in India and has operations in the field of automobiles, farm equipment and industrial. solutions sectors. The company has developed an excellent reputation on innovation, quality and operational excellence. The manufacturing plant at Nagpur is a significant component in the firm attempts to underscore its production and supply chain operations.

The research paper attempts to analyse financial and operational performance of Mahindra and Mahindra ltd. Nagpur in order to establish. the success of the organization in its resource management towards sustainable growth.

II. LITERATURE REVIEW

Financial and operational performance evaluation has been one of the topics of concern in management and finance literature. Pandey As (2019) emphasized, the financial ratio analysis is a powerful tool in determining the performance and efficiency and financial stability of a business organization. of a firm. Profitability, liquidity, and solvency ratios, according to him, are very vital in measuring the performance of managers. financial sustainability.

According to Brigham and Houston, (2018), the profitability and stock market value directly correlate with the operational efficiency. The evidence of their research work was that firms having the ideal cost structure and operational management abilities usually. perform better in terms of finances than their competitors. The Balanced Scorecard approach hypothesized that (Balanced Scorecard approach) stated that there is a correlation between the achievement of business objectives and various organizational aspects (Kaplan and Norton 2001). financial ratios cannot be sufficient in performance measurement and they must be supplemented by operation ratios like. Quality standards, internal processes and productivity.

Sharma and Kumar (2020) conducted a research study of the Indian manufacturing firms and came up with the conclusion that the firms that have a higher. operational efficiency tended to increase financial performance by the measures of the return on assets and the net profit margins. Similar Singh and Gupta (2018) provided reports on their finding that there was a strong positive correlation between operational productivity and. cost efficiency in large scale manufacturing companies.

Research pertaining to Mahindra & Mahindra Ltd. indicates that lean manufacturing and automation and other aspects have been prioritized at the firm. constantly working on quality to enhance its performance. But the vast majority of the studies, which exist today, consider the financial. and operational performance individually. The research work carried out in this area is wanting, incorporating both factors at the regional level. manufacturing unit level. Therefore, this research aims at bridging this research gap and offer a thorough study of the. financial and operation performance of Mahindra and Mahindra Ltd., Nagpur.

III. RESEARCH METHODOLOGY

Research methodology is a method or systematic method of data collection, analysis as well as interpretation to achieve research objectives.

Research Design

The research design employed in the research study is descriptive and analytical research design. Descriptive research design is applied in describing the current financial position and operation practices of the company whereas the analytical research design is applied in examining the relationships relating to various financial and operational performance measures.

Nature of the Study

The study is empirical because the study entails analyzing real life data. The research is essentially a quantitative one, and the qualitative interpretations are carried out on the foundations of managerial discussions and company report analysis.

Objectives of the Study

- To determine the financial performance of Mahindra and Mahindra Ltd., Nagpur.
- In order to analyze the productivity of the manufacturing unit.
- To examine the connection amid financial performance and operational efficiency.
- To establish weaknesses and strengths of financial and operational management.
- To recommence changes to the overall organizational performance.

Hypotheses of the Study

H0 Hypotheses: Mahindra and Mahindra Nagpur There is no significant correlation between operational performance and financial performance of Mahindra and Mahindra Ltd.

H1 Hypotheses: Financial performance has a significant association with operations performance of Mahindra and Mahindra Ltd., Nagpur. Correlation and Regression Analysis was used to test these hypotheses.

Sources of Data

Primary Data: The primary data would be gathered by the use of informal interview and discussion with the supervisory and managerial personnel to learn of the operations practice and the management of performance.

Secondary Data:

- Mahindra and Mahindra ltd. Annual Report published financial statements.
- Company reports and website
- Journals, books and research publications.
- Instrumentation and Techniques of Analysis.

The tools and techniques used in the analysis of the collected data include:

Ratio Analysis - to examine the liquidity, profitability, solvency and efficiency.

Trend Analysis- to examine the performance patterns within the years.

Comparative Analysis- to make comparisons on how the performance has been over time.

Graphical- Representation- line graphs and bar charts.

Data Interpretation Methodology.

The conclusions made concerning the results of the financial and operational analysis is done in a systematic manner. The results are also matched to the earlier research works to provide consistency and validity.

IV. COMPANY PROFILE: MAHINDRA & MAHINDRA LTD NAGPUR.

Mahindra and Mahindra Ltd. was established in 1945 and it is the flagship company in Mahindra Group. It is a market leader in the manufacturing of tractor, utility vehicle, commercial vehicle and industrial equipment. The company is very strong in the international market and it has never compromised on innovation, sustainability and customer satisfaction.

Mahindra and Mahindra Nagpur plant is situated in the best location and is one of the most significant contributors to production of the company. The manufacturing processes, quality management systems as well as the safety procedures are operating within the latest plant. Another central role played by the plant is in the generation of jobs in the area.

V. DATA ANALYSIS AND RESULTS

The analysis of the financial and operational data used in this chapter is based on the secondary sources like annual reports, inner records of Mahindra and Mahindra Ltd., and the primary sources obtained as a result of the conversation with the managerial employees. The analysis will assist in determining the financial performance and the effectiveness of the Nagpur manufacturing unit.

5.1 financial performance Analysis.

Key financial ratios have been employed to analyse financial performance that is further classified into liquidity ratios, profitability ratios, solvency ratios, and efficiency ratios. It has been analyzed using the trend analysis over the period of study which has been selected.

Liquidity Ratios

The current and quick ratios indicate that Mahindra & Mahindra Ltd. has enjoyed good liquidity in the course of examination. The current ratio is also always greater than the current ratio which indicates that the company is effectively operating its short-term needs. This also means that there are no interruptions in the running of the firm.

Profitability Ratios

The profitability ratios such as gross profit ratio, operating profits ratio and net profit ratio are on an improving and ste ady trend. This is explained by the good cost management procedures, scale economies and the greater production efficiency. There is also effective use of assets and capital indicated in Return on Assets (ROA) and Return on Capital Employed (ROCE) ratios.

Solvency Ratios

The debt equity ratio is showing a good capital structure. The firm has also not taken excessive external borrowings allowing its less susceptibility to financial risks.

The interest coverage ratio is also showing that the company has got high ability to pay its interests.

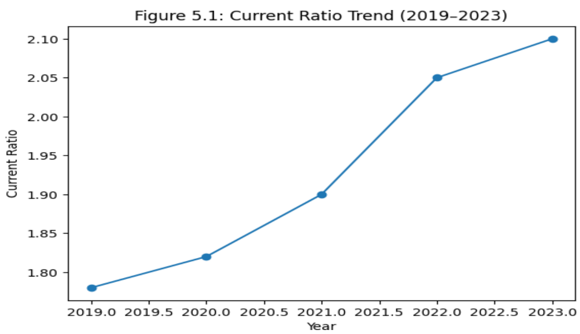

Figure 5.1: Current Ratio Trend (2019–2023)

Figure 5.1 shows the trend of current ratio of Mahindra and Mahindra Ltd., Nagpur, 2019-23. Based on the graph, it can be noted that the current ratio of the company is increasing steadily. This is a sign that the company has advanced in its liquidity status and will be able to utilize it effectively in addressing the needs of itself in the short term. The emerging trend of the current ratio that exceeds the normal level shows that the company has been effectively utilizing its working capital and has been running its operations without any trouble.

5.2 Findings of Operational Performance Analysis.
The operational performance has been discussed in terms of such parameters as the use of capacity, productivity, the turnover of the inventory, the quality performance.
The Nagpur manufacturing plant is highly utilized in capacity ratio which is an indicator of the capacity being well utilized. Skill development programs, automation and enhanced design of the workflow process have improved labor productivity. The inventory turnover ratio accounts to good management of the inventory, so that there are minimal costs incurred in inventory and there is no interruption in production. The quality performance in terms of the defect rate and rework rate has been improved.

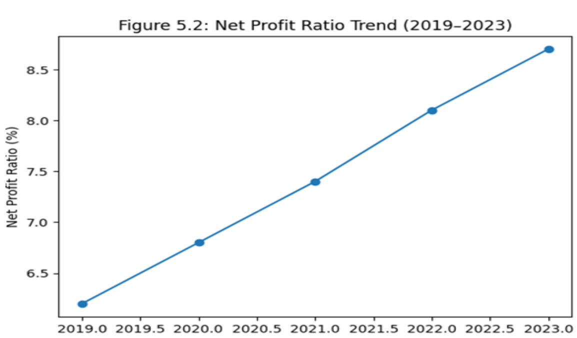

Figure 5.2: Net Profit Ratio Trend (2019–2023)

Figure 5.2 above is the trend of net profit ratio of Mahindra and Mahindra Ltd., in the period of this study. Based on the graph, it is possible to note that the net profit ratio of the company has been increasing consistently since 2019 to 2023. That is one of the signs that the company has been doing well when it comes to profitability. The second factor that can explain the increase in the net profit ratio is the fact that the company is capable of controlling the cost incurred.

VI. FINANCIAL AND OPERATIONAL CORRELATION BETWEEN PERFORMANCE.

It has been noted that the relationship between operation performance and financial performance is strongly positive. Directly influenced profitability and financial stability have been productivity, waste and inventory management. The results prove the alternative hypothesis (H1) that operational performance has an influential role on financial performance.

Operational Performance Analysis.
The operational performance analysis is the test of manufacture facility productivity, efficiency and quality management practices. The key areas of emphasis are the capacity utilization, labor productivity, quality management and inventory turnover.
Nagpur plant is running both effectively through the use of equipment and labor. Lean manufacturing and automation have ensured d that the production costs are less and that there is no wastage. The management of inventory is also streamlined so that the production is at its best.
As a result of the quality management processes, and the continuous improvement program the defects are reduced and customer satisfaction is increased. Financial performance has been impacted positively with respect to operational performance.
Correlation Analysis

VII. FINDINGS AND DISCUSSION

This study indicates that Mahindra and Mahindra Ltd., Nagpur, has been having good financial stability and effective operation practices. This has enabled it to enhance its productivity and management of costs leading to a rise in its profitability. The correlation between operational efficiency and financial performance is positive, which confirms the results of the past literature.

The paper also concludes that it can be improved with regard to skill growth and music modern manufacturing technology.

VIII. CONCLUSION AND FUTURE SCOPE

This paper had looked on financial and operational performance of the Mahindra and Mahindra Ltd Nagpur with an aim of analyzing the effects of operational efficiency on financial performance in a manufacturing company. The findings indicate th at the company has been enjoying a good accountability that has been performing well financially. The positive changes in the liquidity, profitability, and solvency ratios show that its financial management is effective, and the positive changes in productivity, inventory management, and quality management characteristics show that its operations are effective as well.

It is possible to enlarge the outlook of the study in case a comparative study of the financial and operational performance of various manufacturing units or businesses which are engaged in the same industry should be conducted. Existing tools like regression analysis, benchmarking and balanced scorecard approach can also be used to derive additional insights in the study. The impact of digitalization, automation, and Industry 4.0 on the performance of manufacturing can also be included in the study extension.

IX. MANAGERIAL IMPLICATIONS

The study findings bear some important managerial implications on the manufacturing firms:

- The management would do well to observe key financial and operational variables in order to take corrective actions early enough.
- The emphasis should be made on enhancing operational functionality by implementing lean manufacturing principles.
- Effective working capital management should be maintained to enhance liquidity as well as to stipulate easy operations.
- It should invest in the modern, sophisticated technology and automation to enhance productivity and reduce the operation cost.
- Operational and financial goals should be aligned in order to enhance the performance of the organization, in general.

X. LIMITATIONS OF THE STUDY

Despite the fact that the study does have significant insights, it is also limited in several ways:

- The research is limited to one manufacturing company of Mahindra and Mahindra Ltd., Nagpur. This limits the externalization of the findings.
- The research uses secondary data, which is digged out of the published financial statements.
- The time period is short, and the findings might not portray the performance trends in the long run.
- The limitation of time did not allow more complicated statistical methods.

XI. FINAL CONCLUSION

The final conclusion of the research is that Mahindra & Mahindra ltd, Nagpur has been very financially stable and efficient over the period of the research. Resource efficiency, cost management and emphasis on operational excellence have also helped in the improvement of the financial performance of the company. The direct correlation between operating efficiency and financial performance is the point that demonstrates the necessity of overall performance management in the manufacturing industry. The work repeats the importance of the financial planning and the efficiency of working in order to guarantee sustainable development.

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