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PROFITABILITY RATIOS TO PREDICT LONG-TERM SOLVENCY: AN ANALYTICAL STUDY

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Abstract: **Finance is the backbone of a business, required from its inception to its closure or liquidation. It has a profound impact on a company's profitability, affecting its overall performance and long-term viability. the study focuses on turning unstructured information into actionable intelligence, which drives strategic decisions that propel the firm forward.The objective of this study is to analyse the effectiveness of profitability ratios in predicting the long-term solvency of businesses. Data was collected over three months and covered the period from 2019 to 2023. Key financial ratios, including the net profit ratio, return on total assets, return on investment, return on shareholders' funds, gross profit and operating profit were used to evaluate the company's performance.The study has demonstrated commendable strengths in inventory management and profitability, recent trends in liquidity, debt management, and receivables collection indicate several areas requiring focused improvement.**

Keywords: **Profitability, Performance, Solvency, Financial Decision, Ratios**

I. INTRODUCTION

Finance is the lifeblood of business, it is necessary from the initial formation of the firm until the liquidity or wind up of the business, therefore finance has a significant impact on the profitability of a company. Financial ratios are employed to compare one company's performance to that of another. It enables businesses to decide whether they are receiving their money's worth and spot potential issues before it is too late. Analyzing the financial ratios of S. R. Soap Works can provide useful information on profitability, liquidity, efficiency, and other factors. These ratios could assist you to clarify how the business has evolved over time. Financial ratios can be employed by businesses to assess the health of their operations. S. R. Soap Works is a renowned detergent manufacturer that started out in 2008 and is based in Kattupakkam, Puducherry. The company manufactures and trades a variety of housekeeping products, including detergent cake, detergent powder, dishwash bar, dishwash tub, toilet cleaner, and floor cleaner. SR Soap Works has extensive experience in the supply and trading of assure soap, bath soap, cleaning soap, and other products. The company is based in Puducherry and serves as one of the top sellers of the soap products. In order to develop its products, the corporation must make optimal use of inventories, equipment, and personnel. To analyze its business, the corporation should apply the financial ratios. These ratios can also be used to assess the appropriateness of activities and the effectiveness of the soap making process. These financial statistics are also important for investors looking to obtain a better knowledge of a manufacturing company. Financial ratios are used in the soap manufacturing industry to estimate a firm's situation.

1.1 PROFITABILITY RATIOS

Profitability ratios are financial indicators used by analysts and investors to quantify and evaluate a company's capacity to create profit compared to revenue, balance sheet assets, operating costs, and shareholders' equity during a given time period. They demonstrate how well a company leverages its assets to generate profit and value for shareholders. Most organizations seek a greater ratio or value since it indicates that the business is functioning well in terms of revenue, profitability, and cash flow.

TYPES OF PROFITABILITY RATIOS,

1. Net Profit= (Net Profit ÷ Sales × 100)
2. Return on total assets = (Net Profit After Tax+ Interest ÷ Total Assets-Fictious Asset)

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3. Return on Investment = (Operating Profit ÷ Capital Employed× 100)
4. Return on Share Holder’s fund = (Net Profit After Interest and Tax÷ Shareholder’s Funds × 100)
5. Gross Profit= (Gross Profit ÷ Sales × 100)
6. Operating Profit = (Operating Profit ÷ Net Sales × 100)

1.2 NEED FOR THE STUDY

The study of financial ratio analysis acquires useful insights from business financial statements by breaking down enormous amounts of information into digestible ratios, allowing us to estimate the company's profitability and solvency. The study focuses on turning unstructured information into actionable intelligence, which drives strategic decisions that propel the firm forward. The study's major goal is to focus on assessing the company's financial status using financial ratios, as well as to assist in making appropriate decisions to boost the company's profitability.

1.3 SCOPE OF THE STUDY

The study's scope is an attempt to assess the financial health of the business over the last five years using the financial statements and profit and loss of SR Soap Works, with reference to ratio analysis. The study's goal is on examining the various ratios that represent SR Soap Works's financial status and provide guidance for business organizations in planning future financial activities. It is necessary to boost the company's productivity. The analysis can help SR Soap Works improve future business decisions and boost the company's profitability and operational efficiency. Also, the whole goal of the study is to analyze the company's past and present performance.

1.4 OBJECTIVE OF THE STUDY

The objective of this study is to analyse the effectiveness of profitability ratios in predicting the long-term solvency of businesses.

1.5 LIMITATIONS OF THE STUDY

1. The project time is insufficient due to the company's complicated operations, resulting in incomplete coverage.
2. The data will be tallied using the company's latest five years' financial statements, which are secondary in nature.
3. Financial statements do not cover non-financial aspects like a company's commitment to the environment or community engagement.
4. Financial statements lack predictive power as they rely on historical outcomes or a business's financial situation at a certain date. It is unable to anticipate future value.
5. Alternative formulas can be used to analyze ratios.

II. REVIEW OF THE LITERATURE

Asyik and Soelistyo's (2023) research on "Ability financial ratios in predicting profit" uses only five important financial ratios to considerably affect profit growth in a manufacturing business. Discriminate analysis results show that Sales to Total Assets, Long Term Debt to Total Assets, and Net Income to Sales have a significant positive effect on earnings growth, whereas Dividends to Net Income and Plant & Equipment to Total Uses have a significant negative effect on profit growth in the coming year.

Steward Harley (2022) measured the financial performance of the steel industry during a five-year period from 2016 to 2021 using financial criteria like as liquidity, profitability, variability, and sustainability. Their research demonstrates that the steel industry's severe predicament is the result of overcapacity and a downturn in demand, which has resulted in price reduction.

Bhupender Kumar Som1 and Himanshu Goel2 (2021) examined financial ratios in tata motors from 2016 to 2020. The statistics show that the return on capital employed and net worth were at an all-time low. investors should be concerned with the firm's current ratio because it has a direct impact on the company's financial success. The company appeared to produce solid results in 2019, prior to the pandemic, which might be attributed to predicted factors such as a voluntary retirement scheme and the sale of noncore assets, both of which benefited the company.

Gopinathan Thachappilly (2020) discusses the financial ratio analysis for performance evaluation. Its analysis is often performed to make sense of the huge amount of data shown in corporate financial accounts. It aids in the evaluation of a company's performance, allowing investors to determine whether to invest in it. In this section, we will look at many ratio categories in distinct sections on different aspects of performance, such as profitability ratios, liquidity ratios, debt ratios, performance ratios, and investment evaluation ratios.

Medhat (2019) employed multiple regression analysis and correlations to evaluate the financial performance of Omani commercial banks. He employed ROA and interest income as performance proxies (dependent factors), while bank size, asset management, and operational efficiency were independent variables. He discovered a significant positive association between financial performance and operational efficiency, as well as a moderate correlation between ROA and bank size.

Jo Nelgadde (2018) briefly examines the asset management ratio. It was separated into several types of categories. He discusses how accounts receivable and other working capital numbers are analyzed to discover major changes in the company's operations and financial statements. He explained that this percentage is divided into two categories: account receivable turnover and average age of accounts received.

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James Karl Mic (2014) investigated how a standard shift to financial performance analysis that examines internal KPIs such as current ratio, quick ratio, net profit margin, working capital ratio, and so on the overall financial performance of the firms will supplement financial performance literature both in industry and academia. This technique will later be used to make decisions regarding business planning, budgeting processes, and investment decisions. Because internal KPI performance is trackable and measurable, it is possible to determine its significance in achieving the company's overall goals. As a result, the major signs that lead to the failure to accomplish financial targets can be identified, and a new structure can emerge.

III. RESEARCH METHODOLOGY

Research methodology is a systematic approach used to solve research problems, and this study at SR SOAP WORKS mainly relied on secondary data, such as five years of annual financial reports, as well as textbooks, journals, newspapers, magazines, and online sources. The research employed an analytical design, focusing on ratio analysis to evaluate key financial aspects of the company. The study aimed to assess SR SOAP WORKS' long-term solvency, and overall profitability. Data was collected over three months and covered the period from 2019 to 2023. Key financial ratios, including the net profit ratio, return on total assets, return on investment, return on shareholders' funds, gross profit and operating profit were used to evaluate the company's performance. These ratios provide a comprehensive understanding of the firm's financial health by comparing different accounting figures, helping to analyze SR SOAP WORKS' profitability and long-term solvency.

IV. ANALYSIS AND INTERPRETATION

1. NET PROFIT RATIO

The Net Profit Ratio is a financial metric that measures the after-tax profitability of a company relative to its revenue generated in the corresponding period. The net profit ratio compares a company's reported net income to its revenue in the same period, expressed in the form of a percentage.

$$\text{Net Profit Ratio} = \frac{\text{Net Profit After Tax}}{\text{Net sales}} \times 100$$

TABLE 4.1 DISTRIBUTION OF NET PROFIT RATIO

S.NO	Year	Net Profit After Tax	Net Sales	Ratio
1	2019	542837	20895000	2.59%
2	2020	11604886	20542000	56.4%
3	2021	7907346	24233000	32.6%
4	2022	10661579	25596000	41.6%
5	2023	10225675	21749000	47.1%

2. RETURN ON TOTAL ASSET

The return on total assets ratio compares a company's total assets with its earnings after tax and interest. The return on total assets ratio is a key ratio used to assess your company's profitability. This profitability indicator helps to determine how a company generates its earnings and how to compare to the competitors.

$$\text{Return on Total Asset} = \frac{\text{Net Profit After Tax} + \text{Interest}}{\text{Total Asset} - \text{Fictious Asset}} \times 100$$

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TABLE 4.2 DISTRIBUTION OF RETURN ON TOTAL ASSET

S.NO	Year	Net Profit After Tax + Interest	Total Asset	Ratio
1	2019	1654726	61947811	2.67%
2	2020	12742872	20486273	62.2%
3	2021	9081602	20950784	43.3%
4	2022	12019266	1337300680	86.6%
5	2023	11637675	1325130090	87.8%

3. RETURN ON INVESTMENT

Return on Investment (ROI) is a performance measure used to evaluate the returns of an investment or to compare the relative efficiency of different investments. ROI measures the return on an investment relative to the cost of the investment.Return on Investment is a very popular financial metric and can be used to assess the profitability of an investment.

TABLE 4.3 DISTRIBUTION OF RETURN ON INVESTMENT

S.NO	Year	Operating Profit	Capital Employed	Ratio
1	2019	2130726	56868563	3.74%
2	2020	10382504	15627275	66.4%
3	2021	8741766	18227862	47.9%
4	2022	8877990	616845675	1.43%
5	2023	8368675	742070090	1.12%

$$\text{Return on Investment} = \frac{\text{Operating Profit}}{\text{Capital Employed}} \times 100$$

4. RETURN ON SHAREHOLDERS' FUND

The Return on Shareholders' Funds ratio is a measure of the profit for the period which is available to the ordinary shareholders with the ordinary shareholders' stake in a business.

$$\text{Return on Shareholders'fund} = \frac{\text{Net Profit After Tax + Interest}}{\text{Shareholders'fund}} \times 100$$

TABLE 4.4 DISTRIBUTION OF RETURN ON SHAREHOLDERS' FUND

S.NO	Year	Net Profit After Tax + Interest	Shareholder's fund	Ratio
1	2019	542837	58614352	92.6%
2	2020	11604886	48071515	24.1%
3	2021	7907346	11948572	66.1%

4	**2022**	**10661579**	**475530063**	**2.24%**
5	**2023**	**10225675**	**392230090**	**2.60%**

5. GROSS PROFIT RATIO

The gross profit ratio is a financial ratio that measures the profitability of a company by dividing its gross profit by net sales. The gross profit ratio is a percentage-based metric that shows how efficiently a company generates profit from its core business operations. The Gross Profit Ratio provides valuable insights into a company's profitability before accounting for operating expenses and other overheads.

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Sales}} \times 100$$

TABLE 4.5 DISTRIBUTION OF GROSS PROFIT RATIO

S.NO	Year	Gross Profit	Sales	Ratio
1	**2019**	**3360666**	**20895000**	**16.08%**
2	**2020**	**9063445**	**20542000**	**44.12%**
3	**2021**	**12162675**	**24233000**	**50.19%**
4	**2022**	**13526325**	**25596000**	**52.84%**
5	**2023**	**9681325**	**21749000**	**44.51%**

6. OPERATING PROFIT RATIO

The operating margin ratio, also known as the operating profit margin, is a profitability ratio that measures what percentage of total revenues is made up by operating income. In other words, the operating margin ratio demonstrates how much revenues are left over after all the variable or operating costs have been paid.

$$\text{Operating Profit Ratio} = \frac{\text{Operating Profit}}{\text{Net Sales}} \times 100$$

TABLE 4.6 DISTRIBUTION OF OPERATING PROFIT RATIO

S.NO	Year	Operating Profit	Net Sales	Ratio
1	**2019**	**2130726**	**20895000**	**10.19%**
2	**2020**	**10382504**	**20542000**	**50.54%**
3	**2021**	**8741766**	**24233000**	**36.07%**
4	**2022**	**8877990**	**25596000**	**34.68%**
5	**2023**	**8368675**	**21749000**	**38.47%**

V. FINDINGS

1. The net profit ratio increased from 2.59% in 2019 to 56.4% in 2020, then varied over the next few years, ending at 47% in 2023. This reflects overall profit improvement despite some fluctuations.
2. The return on total assets increased from 2.67% in 2019 to 62.2% in 2020, then varied over the following years, reaching 87.8% in 2023. Despite some shifts, there was a major overall growth in asset returns.
3. The return on investment increased from 3.74% in 2019 to 66.4% in 2020, but then decreased to 1.12% by 2023. This shows a major reduction in the efficiency of investment returns results over time.
4. The return on shareholders' funds decreased from 92.6% in 2019 to 24.1% in 2020, then increased to

66.1% in 2021. However, it declined sharply to 2.24% in 2022, with a slight increase to 2.60% in 2023. indicating overall instability in shareholder returns.

5. The gross profit ratio increased steadily until 52.84% in 2022, then slightly decreased to 44.51% in 2023, reflecting fluctuations in profitability.
6. The operating profit ratio increased from 10.19% in 2019 to 50.54% in 2020, but then gradually declined in 2021 and 2022. It showed some recovery in 2023, rising to 38.7%. This indicates fluctuations in profitability over the five-year period.

VI. SUGGESTIONS

1. The company should maintain a strong net profit ratio by controlling costs, boosting revenue, and regularly reviewing for profit growth opportunities.
2. The company should focus on efficient asset utilization and making informed investment decisions to drive sustainable growth and increases return on total assets.
3. The company should reassess its investment strategies to find more profitable opportunities and increase return on investment.
4. To stabilize profitability, the company should focus on reducing unnecessary costs and improving operational efficiency. This can help maintain steady growth over time.

VII. CONCLUSION

In conclusion, the study has demonstrated commendable strengths in inventory management and profitability, recent trends in liquidity, debt management, and receivables collection indicate several areas requiring focused improvement. The substantial fluctuations observed in key financial ratios underscore the need for strategic adjustments to stabilize financial performance and predict long tern solvency.

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