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FINANCIAL HEALTH OF ELECTRONIC MANUFACTURING SERVICES

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Abstract: The financial condition of Electronic Manufacturing Services during the period of six years (2018–2023) has been analysed using ratio analysis, working capital patterns, and comparative statements. Improved liquidity and profitability have been indicated, along with significantly increasing working capital in some years, by virtue of enhanced cash management and less reliance on debt. However, areas for improvement have been identified by way of diminishing turnover ratios and increasing holding periods of inventory. It exhibited better interest coverage and solvency, but unstable debt-service coverage ratio betrays occasional payment risks. The recommendations are implementing just-in-time inventory systems, working capital optimization, and sustainable debt levels to support long-term financial health. Overall, it has displayed strength and development, although operational adjustments are required to support continued growth.

Keywords: Electronics Manufacturing Services (EMS), Working Capital, Ratio Analysis, Liquid Ratio, Solvency Ratio, Profitability Ratio, Efficiency Ratios, Trend Analysis.

I. INTRODUCTION

The electronic manufacturing services market has been constantly growing for years. In addition to the production side, EMS companies also often offer support OEMs in logistics management, purchasing assistance, and managing the entire supply chain. The industry is expected to grow on average at the rate 7.5% per annum in the 2018-2024 period. The electronics industry is very wide-spread and refers to a variety of industries, including governmental (e.g. security and access control applications), industrial (e.g. automation, IoT), consumer (smartphones, PCs, laptops etc.), healthcare (medical devices) or automotive. The growth of the EMS industry is mainly driven by the rising demand for automotive and consumer electronics, as well that is electronics becomes more present in each product that we face in daily lives. This rising need for electronics and innovative technological solutions, combined with growing customer requirements, the need to control costs and trend for automation, mean that OEMs increasingly need to choose to cooperate with partners offering industry knowledge and experience around manufacturing. The global EMS market was valued at $455 billion in 2022 and is projected to reach $775 billion by 2030, exhibiting a CAGR of 6.2% from 2023 to 2030 according to Emerge Research.

OBJECTIVES

Primary Objective:

A study on Assessing Financial Health of Electronic Manufacturing Services

Secondary Objective:

- To Identify Increase or Decrease in working capital
- To Compare Profitability, Liquidity, Efficiency, and Solvency
- To identify Trends in Assets, Liabilities and Equity

II. LITERATURE REVIEW

IMPACT OF SUDDEN DEMAND CHANGES ON THE EMS INDUSTRY

Sie & Hsieh (2010), Investigating the impact of sudden demand changes on the EMS industry, this study found that abrupt demand fluctuations can significantly affect inventory levels and financial performance. The research highlights the importance of agile supply chain management in mitigating financial risks.

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INDUSTRY GROWTH and REVENUE TRENDS

Smith & Thomas, 2016 – MarketLine, 2020 have highlighted consistent revenue growth in the EMS sector, driven by increased outsourcing from OEMs in automotive, healthcare, and consumer electronics. Foxconn, Jabil, Flex, and Wiston emerged as financial leaders by capitalizing on operational scale and global production network.

PROFITABILITY PRESSURES

Research by Lee et al. (2018) and Deloitte (2019) noted that while revenues increased, profit margins remained narrow due to intense price competition, high capital investment, and rising labour costs, especially in Asia. EMS firms rely on volume-based strategies and operational efficiencies to maintain financial viability.

IMPACT OF GLOBAL SUPPLY CHAIN DISRUPTIONS

The COVID-19 pandemic brought financial strain, as noted by Chen & Zhao (2021), reducing liquidity, increasing inventory turnover days, and delaying production. Resilient firms quickly adapted through nearshoring, inventory optimization, and digital supply chain management.

RESEARCH GAP

Although there is plenty of research out there about managing finances in different industries, there is a noticeable gap when it comes to focusing specifically on electronic manufacturing services. While we can find studies about financial management principles that work across different types of businesses, there is not much out there that dives deep into how financial strategies need to be different for manufacturing companies. Understanding exactly what financial strategies work best for electronic manufacturing service is super important for these kinds of businesses to do well financially and stay competitive. Basically, learning about how financial management and inventory management works in electronic manufacturing industries is the main purpose of this project.

III. RESEARCH METHODOLOGY

RESEARCH DESIGN

The research method for the study is analytical and descriptive in nature—aimed at describing the company's financial position over time and analysing it to make meaningful conclusions. Secondary sources will be employed to collect data. Secondary data will be gathered from Company's annual reports, audited financial statements, stock performance records, and industry benchmarking data. Systematic interview schedules will be employed in gathering primary data, while financial databases and company records will be utilized to supplement secondary data collection. To suit the analytical requirement, several finance tools, and methods like ratio analysis to establish profitability, liquidity, solvency, and efficiency; trend analysis to compare company's financial performance over a span of three to five years; and comparative analysis to establish industry-standard performance as compared to Company's performance will be applied. Statistical methods such as regression and correlation analysis will also help establish the key influences on financial wellness.

Data Analysis Tools

- Statements showing changes in working capital.
- Ratio analysis.
- Trend analysis.

TABLE SHOWS CHANGES OF WORKING CAPITAL FOR THE PERIOD 2019 TO 2023

Particulars	Changes of 2018 2019	Changes of 2019 2020	Changes of 2020 2021	Changes of 2022 2023	Changes of 2023 2024
Amt in Millions					
Total Assets (A)	₹- 66.98	₹ -17.16	-₹ 2,279.00	₹ 2,974.00	₹ 1,684.00
Total Liabilities (B)	₹ -149.50	₹ 386.27	₹- 624.00	₹ 2,974	₹ 144.00
Working Capital	₹ 82.52	₹369.27	₹- 1,655.00	₹ 97.00	₹ 1,540.00

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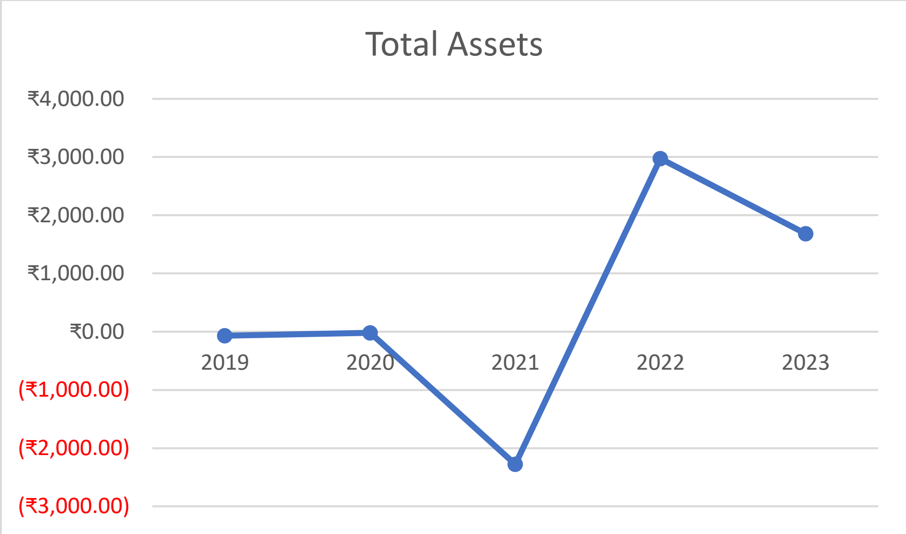

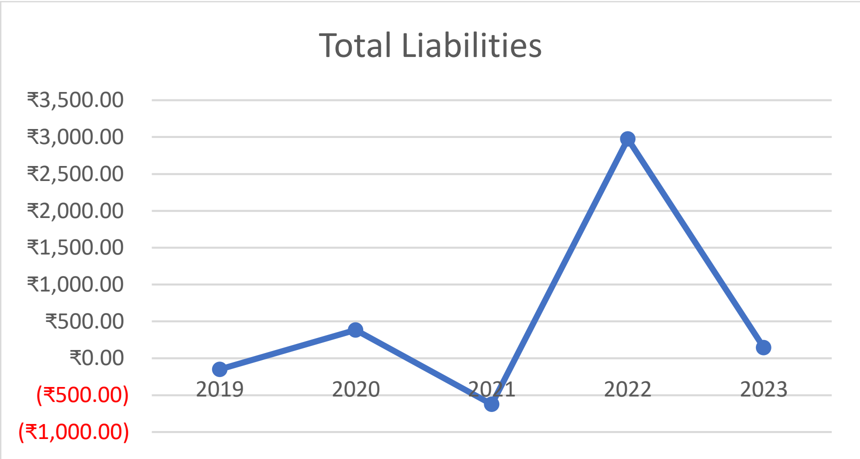

INTERPRETATION:

During the five years between 2018 and 2024, the financial position of the company exhibited divergent trends. During 2018-2019, Total Assets and Liabilities both declined considerably (₹66,982M and ₹1,49,506M, respectively), but Working Capital increased by ₹82,524M, indicating improved short-term liquidity. The following year (2019-2020), Liabilities Dropped by ₹3,86,428M, whereas Assets declined marginally (₹17,162M), resulting in a massive increase in Working Capital (₹3,69,266M). Yet, during 2020-2021, both Assets and Liabilities declined marginally (₹2,279M and ₹624M), and Working Capital fell marginally (₹1,655M). During 2022-2023, both Assets and Liabilities increased modestly (₹2,974M and ₹2,877M), while Working Capital improved modestly (₹97M). During the current year (2023-

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2024), Assets increased by ₹1,684M, Liabilities rose marginally (₹144M), and Working Capital increased by ₹1,540M, reflecting healthy finances. The company decreased debt considerably in previous years while being liquid, then slowly recovered in recent years.

STATEMENT SHOWING RATIO ANALYSIS FOR THE PERIOD 2019-2023

Ratio Analysis for the Year 2019 to 2023					
1. Liquidity Ratio	**2019**	**2020**	**2021**	**2022**	**2023**
Current Ratio	1.2	1.38	1.45	1.34	1.48
Quick Ratio	0.6	0.77	0.88	0.64	0.7
2. Solvency Ratio					
Debt Equity Ratio	1.03	1	1.1	1.02	0.76
Debt Assets Ratio	0.22	0.2	0.23	0.21	0.17
Interest Coverage Ratio	1.99	1.91	5.82	6.39	5.89
3. Profitability Ratio					
Profit Margin Ratio	0.36	0.36	2.54	3.59	2.61
Return on Assets	0.69	0.64	4.15	5.32	5.07
Return on Equity	3.12	3.01	19.56	24.75	21.01
Return on Capital Employed	2.36	2.08	11.71	16.72	14.8
Gross Margin Ratio	5.77	5.53	6.99	7.42	7.46
4. Efficiency Ratio					
Assets Turnover Ratio	1.93	1.78	1.63	1.48	1.49
Inventory Turnover Ratio	6.56	6.04	5.82	4.6	3.98
Days Sales in Inventory	55.6	60.4	62.7	79.3	91.8
Debt Service Coverage Ratio	0.11	0.11	0.55	2.23	0.97

INTERPRETATION:

The financial performance of the company between 2019 and 2023 demonstrates increasing stability and profitability, albeit with some variation. The liquidity increased over time as the current ratio moved from 1.2 to 1.48, and the quick ratio (excluding inventory) moved from 0.6 to 0.7, demonstrating improved short-term financial health. Solvency ratios indicate the company decreased dependence on debt, with the debt-equity ratio decreasing from 1.03 to 0.76 and the interest coverage ratio increasing from 1.99 to 5.89, indicating that it could easily pay interest amounts. Profitability improved significantly with profit margins increasing from 0.36% to 2.61%, return on equity (ROE) increasing from 3.12% to 21.01%, and gross margins consistently improving. But efficiency ratios show slower inventory turnover (from 6.56 to 3.98) with increased inventory holding periods (55.6 to 91.8 days), which could reflect weaker sales or overstocking. The debt service coverage ratio (DSCR) in 2022 was much stronger (2.23) but fell in 2023 (0.97), indicating some volatility in the ability to pay debt. On a whole, the firm was more profitable but less dependent on debt but requires to control debt servicing and inventory management better.

TABLE SHOWS TREND PERCENTAGES OF BALANCE SHEET FOR THE PERIOD 2019 TO 2023 (WITH BASE AS 2019)

Particulars	Trend Percentage Base Year 2019				
Years	**2019**	**2020**	**2021**	**2022**	**2023**
Total Non-Current Assets	100	117.04	101.79	113.51	122.3
Total Current Assets	100	92.6	124.86	157.54	176.05
Total non-current liabilities	100	124.59	155.94	150.51	165.09
Total Current Liabilities	100	94.91	103.11	140.98	142.88

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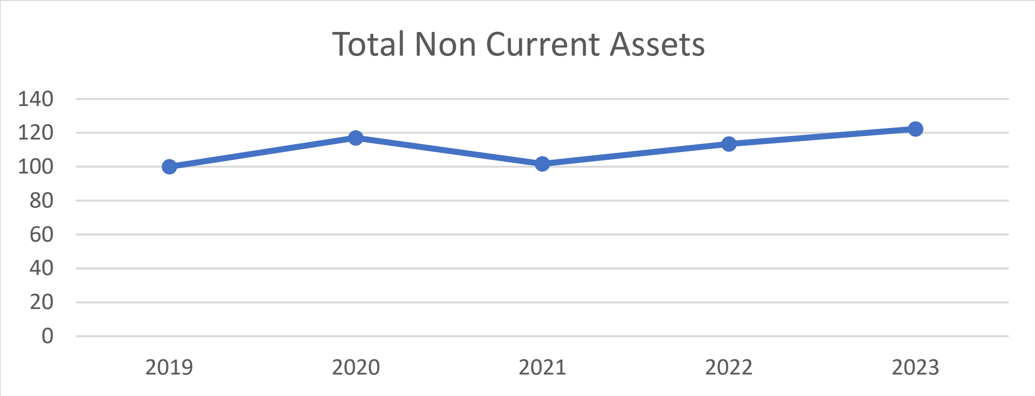

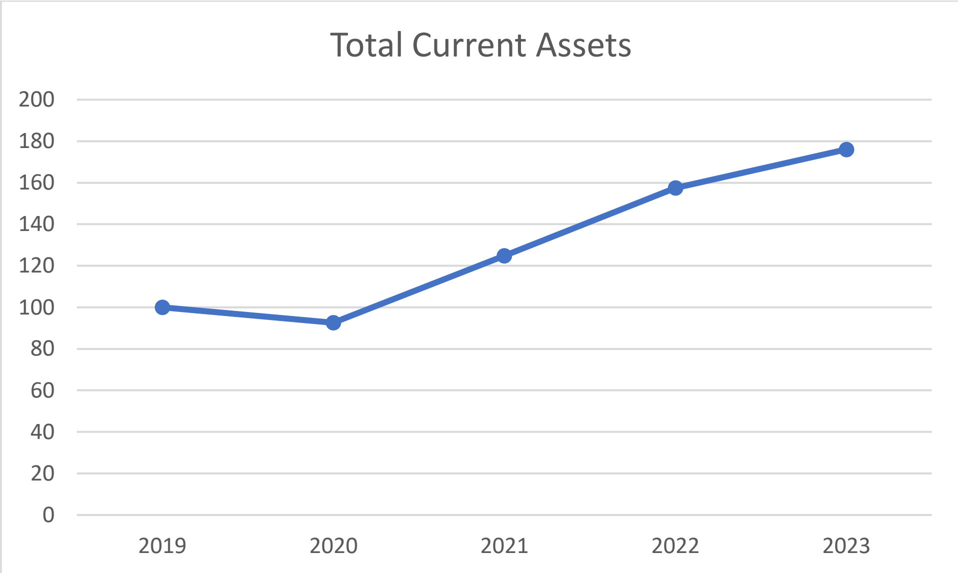

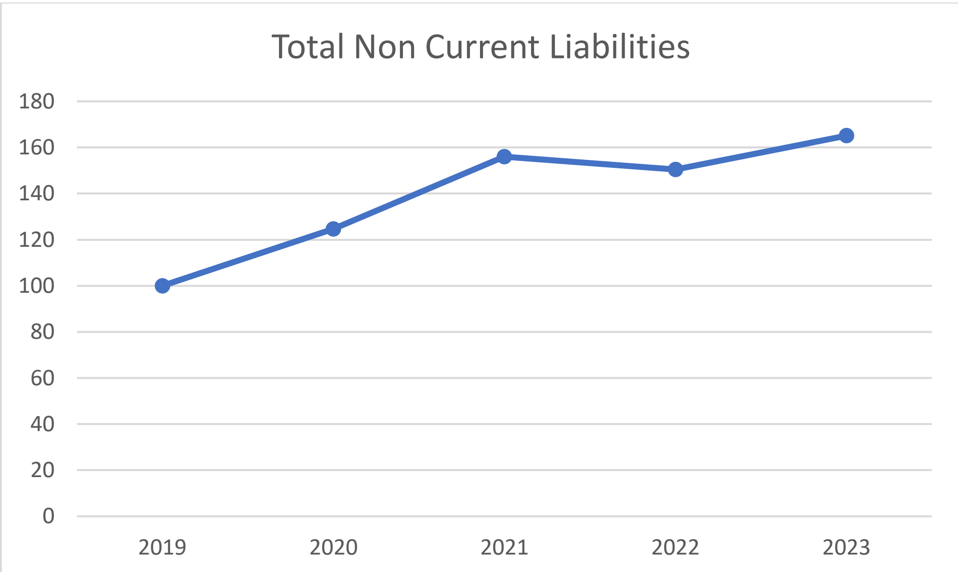

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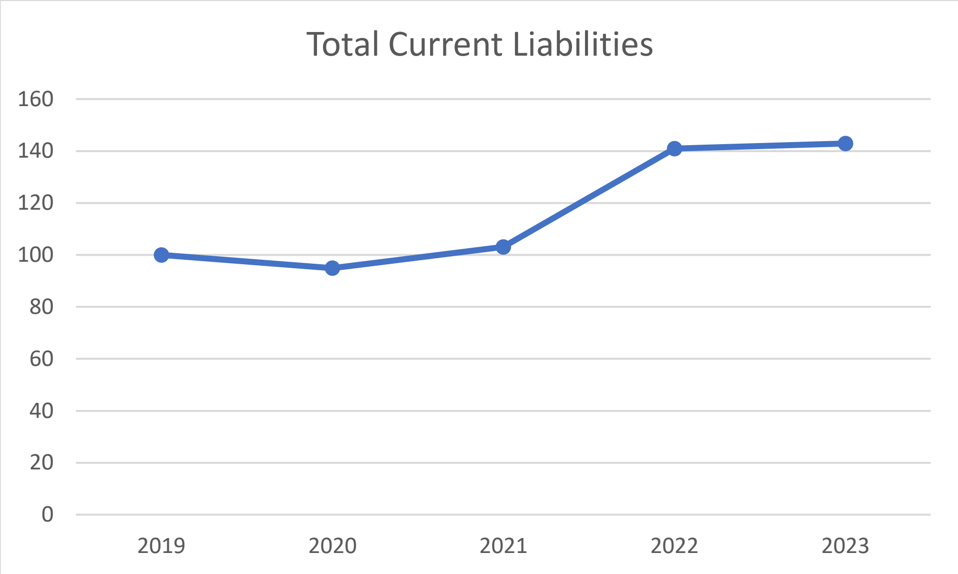

INTERPRETATION:
Total Non-Current Assets increased steadily except in 2021, when they decreased slightly to 101.79, but overall increase was noted, reaching 122.3 in 2023, representing long-term investments or asset purchases. On the other hand, Total Current Assets decreased in 2020 (92.6), perhaps because of lower cash, receivables, or inventory, but experienced significant growth from 2021 to 2023, reaching 176.05, showing better liquidity and short-term asset resilience. On the liabilities side, Total Non-Current Liabilities grew consistently to 165.09 in 2023, suggesting increased long-term debt or obligations, likely for financing expansion or higher borrowing. Similarly, Total Current Liabilities varied but generally increased, reaching 142.88 in 2023, with a notable rise in 2022 (140.98), pointing to higher short-term obligations, potentially due to expanded operations or greater working capital needs.

IV. CONCLUSION

The company has demonstrated robust financial recovery from 2019 to 2023, marked by enhanced liquidity, reduced reliance on debt, and improved profitability. Key achievements include sustained growth in working capital (despite early-year declines), stronger solvency (evidenced by a lower debt-equity ratio and better interest coverage), and enhanced profitability (reflected in higher ROE, profit margins, and gross margins). However, some weaknesses persist, such as inefficient inventory management (lower turnover and longer holding periods), inconsistent debt servicing capacity (fluctuating DSCR), and the challenge of balancing liabilities growth with asset expansion. These areas require attention to ensure sustained financial stability and growth.

Final Recommendation:
The organization needs to focus on operational effectiveness (particularly inventory and receivables), improve cash flow management, and keep debt levels sustainable to continue its upward trend. By improving these aspects, the company can achieve long-term financial growth and stability.

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