

A Multivariate Ratios Analysis for Exploring the Financial Efficiency of Listed Unicorns in India: Emerging Needs and Challenges

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Abstract

In recent years, financial data analysis of Indian unicorns has received plenty of attention to understand their efficiencies. Indian startups have attracted worldwide attention on three fronts i.e., the emergence of a good number of unicorns (Startups with a valuation above 1 billion US dollars), high valuation, and the attracting significant investments from investors. There is an opinion that despite high valuation and attracting investments, only a few unicorns are performing well and are profitable. According to the data published by the market research platform, **Tracxn**, only 17 unicorns out of 80 are profitable. Due to this reason, there is a curiosity among stakeholders particularly investors to know about the financial efficiency of the unicorns to make better decisions and future courses of action. This study is made to understand financial efficiency from different perspectives of selected unicorns listed in India. For this purpose, financial data of the listed unicorns were collected from 2019 to 2023 and techniques of multivariate ratios were applied. Research has shown that the listed unicorns are mostly financed by investors and Out of them only 50% are profitable and the rest are trying to earn positive results.

Keywords: Startups, Listed unicorns, financial performance, Ratios analysis

1. Introduction

Indian Start-ups create a buzzword with a mix of both success and failure stories. Over the last two decades and continuing, several Start-ups have grown tremendously in India. As of 03rd October 2023, India already has produced 112718 (DPIIT registered) Start-ups. With the attraction of huge investments and high valuation, more than 111 startups already attained as unicorns (Start-ups with a valuation of over 1 billion USD dollars) with a total valuation of USD 349.67 (as per the data published in www.investindia.gov.org). Out of, a dozen unicorns that have already entered into capital markets and listed their shares on various Indian stock exchanges; others are in the queue to enter into capital markets. As the number of listed unicorns grows interest in studying their financial efficiency for making strategic decisions increases.

Start-ups need investments in different stages of their lifecycle i.e. Pre-Seed Stage, Validation (Seed Stage), Early traction (Series A Stage), and Scaling (Series A, B, C, D & E). Apart from venture funding and private equity, IPOs are a crucial strategic choice entrepreneurs make to raise capital from the Public. From a startup's perspective, an IPO contributes to raising capital from the public required for further growth and development. From promotor's and venture capitalists' viewpoints, IPO is considered the best option to exit from startups and gain profit. IPO ends a long period for retail investors to invest their savings to receive better returns. The attraction of public investments to IPO-related investments suggests that the public has trust and belief in startups to deal with. IPO is the process of issuing shares for the first time by a private company to the public. With this process, a private startup becomes a Public Company (Y. Kim et al., 2010). Furthermore, the IPO opens up access to financial information to the general public.

The fact is that Startups operate under extreme Risk and uncertainty (Tripathi et al., 2019). There is evidence that despite the high valuation and attracting investments, most unicorns remain unprofitable (Gao et al., 2013). Financial issues are the main reason behind analyzing the financial efficiency of the listed unicorns in India.

2. Literature review

Inga Kartanaite & Rytis Krusinskas (2022), examined whether distinctive characteristics of financial ratios may be established for unicorns functioning in different countries and sectors within a given IPO-related period. According to the study, unicorns are primarily backed by investors yet remain unprofitable. However, Positive profitability was discovered in the European region, with the highest liquidity in the Healthcare sector. K R Sivabagyam, Harsitha B, Gowthami D, Jaykirtika R, & Nivethitha G. (2019), studied the five-year financial performance of the ten steel businesses from 2014–15 to 2018–19. The financial performance of this study was evaluated and contrasted using an analysis of profitability, solvency, and turnover ratios. Comparing all the profitability ratios, it was found that Tata Steel has performed better in gross Gross profit and Net profit ratio. Essar Steel performed better in operating profit ratio compared to other steel companies. Comparing liquidity ratios,

it was found that Sunflag and Narayani Steels have performed better so far as the current ratio and quick ratio are concerned. Comparing the efficiency ratios, it was found that the Narayani Steels and Tata Steel's performance was better and other selected companies have to improve their performance. **Pankajkumar V. Chhatrola & Shailesh N. Ransariya (2019)**, studied the BSE 30 firms' liquidity performance over five years, from 2012–13 to 2016–17. For this reason, liquidity ratios like the quick and current ratios are computed. Furthermore, ANOVA has been used to test theories. According to the findings, Infosys Company Ltd. has maintained the best liquidity position during the study period out of all 30 BSE companies. **N Sivakumar & C. Raja (2015)**, studied the financial performance of the hotel industries in India that are listed in the BSE and NSE. The purpose of the study was to provide insight into the hotel industry's performance measurement practices adopted by hospitality managers in India for measuring the performance of their establishments. The study reveals that hotels in India still focus on the use of financial measures rather than non-financial measures for measuring performance. Findings suggest that all-star category hotels adopt financial practices and these are also contributing to increasing business performance. **Rohit Bansal (2015)**, studied the financial standing of well-known Indian IT companies between 2010 and 2014. Financial ratios were computed during five years using the data gathered from these financial statements. Infosys is the most sought-after firm for investors, according to measures like the debt-to-equity ratio—which is especially important—and the current ratio, return on shareholder equity, profits per share, and debtor turnover ratio. TCS also shows encouraging signs for stockholders who value profitability, total asset turnover, and working capital turnover. **Raghav Chawla & Rishi Manrai (2019)**, examined the manufacturing sector's financial performance in India and determined the reasons behind the underwhelming growth of the industry. It was achieved by accounting for both independent and dependent variables, including working capital, capital structure, liquidity, and firm size, as well as dependent variables like ROA, ROCE, and ROE. A sample of thirty-five manufacturing sector companies listed on the BSE and NSE was selected. The study was carried out between 2011–12 and 2016–17. Among the statistical tests applied were skewness, kurtosis, regression, and correlation. The results of the study showed that working capital and liquidity improved financial performance, but capital structure, and firm size had the opposite effect. **Amalendu Bhunia, Sri Somnath Mukhuti, & Gautam Roy (2011)**, studied the twelve years from 1997–1998 to 2008–2009 financial performance of two public sector drug and pharmaceutical firms listed on BSE. The financial stability of the chosen pharmaceutical companies has been rapidly declining as a result of the two selected companies' declining financial outcomes. According to the study's findings, they depended more on outside funding for long-term borrowings, which offered creditors less security. **Halimahton Borhan, Rozita Naina Mohamed, & Nurnafisah Azmi (2014)**, assessed how financial ratios affected the post-merger financial performance of Lyondell Basell Industries (LYB). They calculated the leverage, operational profit margin (OPM), net profit margin (NPM), and quick and current ratios (QR, CR, and DER) for liquidity, and the leverage, DR, and DER for debt-to-equity ratio (DER). The analysis discovered that LYB experienced financial challenges after its merger and that the global financial crisis hurt the company's financial performance. But after a year, this business returned to rank third in the world's chemical conglomerates by revenue. **Akhor Sadiq Oshoke & Jafaru Sumaina (2015)**, studied ratio

analysis performance evaluation of the chosen quoted corporations between 2009 and 2013. The results of the empirical research utilizing basic regression techniques showed that the liquidity ratio does not significantly affect the organization's performance. The company's performance is negatively and negligibly impacted by the leverage ratio and market ratio, respectively. The profitability ratio significantly improves the assessment of the performance of the company.

2.1 Research Gap

After reviewing the existing literature, it was found that it was made either for sector-specific, or period-specific of established firms and the research is inadequate to provide concluding remarks for newly established firms. The current study assesses the financial efficiency of listed unicorns in India as their performance is inconsistent and unpredictable.

2.2 Scope of the study

Startups raise funds in different stages of their operations. Starting from promoter's investment, then private investment (venture capital to private equity), and public investments that are IPO (initial public offering). The attraction of public investments indicates that investors and shareholders trust in the efficiency of financial performance and growth of the business (Inga Kartanaite et al., 2022). Financial efficiency speaks about a firm's ability to create returns and controls in its resources. The company's financial efficiency can be measured through Ratio analysis. Ratio analysis is considered to be the best technique for getting outputs (efficiency) by using inputs (data) from items of profit and loss and balance sheet (Lan et al., 2019). Financial ratios must be healthy. Ratios indicate what firms achieved for a period. There are several ratios used to measure the company's financial efficiency, among others, Profitability, Liquidity, Solvency, and Efficiency ratios. Profitability ratios such as Return on Investment (ROI), Return on Equity (ROE), Return on Assets (ROA), and Earnings before interest, and Tax (EBIT) indicate the ability to create profit. Liquidity consists of the Cash ratio, Current ratio, Quick ratio, and Working capital ratio indicating the ability to pay the short-term debt out of current assets. The solvency ratio comprises debt to equity ratio (DER), leverage (debt/total assets), Debt to EBITDA, Interest expenses to revenue, and Debt coverage indicating the ability to pay long-term debt. The activity turnover ratios consist of Asset turnover, Working capital turnover, Stock turnover, and Debtor turnover indicating how resources are used. The fact that the company is looking at healthy financial performance is necessary. To comprehend the total financial performance, the current study attempts to evaluate the financial efficiency of unicorns using financial ratios of those impact elements.

2.3 Statement of problem

Startups operate under extreme conditions of risk and uncertainty (Moroni et al., 2015) which is the main reason for their unpredictable financial performance. The unstable performance leads to questions in the minds of investors to invest or not. To attract investments startups

have to perform better and consistently. There is an opinion that Startups with better performance, have more possibilities to develop the business further (Fuertes-Callen et al., 2020). Based on the market research reported in the web version of **tracxn.com**, only 15% of the total unicorns are profitable. Though they have succeeded in the oversubscription of issuing shares, still most of the investors are worried about the performance after the IPO. We don't know which Startup will perish and which will survive to the next period and next level. Under this situation, investors are very keen on knowing the financial performance to make future investment-related decisions. The problem of the financial efficiency of unicorns is analyzed by asking the following questions. First, what is the financial efficiency of unicorns? Secondly, to what extent does the difference in financial efficiencies exist among unicorns? To answer the above questions, two perspectives are used in the analysis to address the aforementioned question (I) the financial profile of each unicorn and (II) the financial disparities among unicorns according to each ratio analysis. The analysis of such kind will contribute to the exact condition of the sample companies which will protect the interest of different stakeholders and particularly guard the investors' money.

2.4 Objectives of the study:

- a) To study the financial efficiency of selected listed unicorns in India using Ratios
- b) To examine the profitability, liquidity, solvency, and activity turnover ratios of unicorns
- c) To identify the strengths and weaknesses of various operations of the selected unicorns

3. Research Methodology:

This study intends to analyze the financial efficiency of listed unicorns in India. To achieve the objectives of this study, the data was collected from secondary sources. The quantitative data used in financial ratios were obtained from the database of moneycontrol.com.

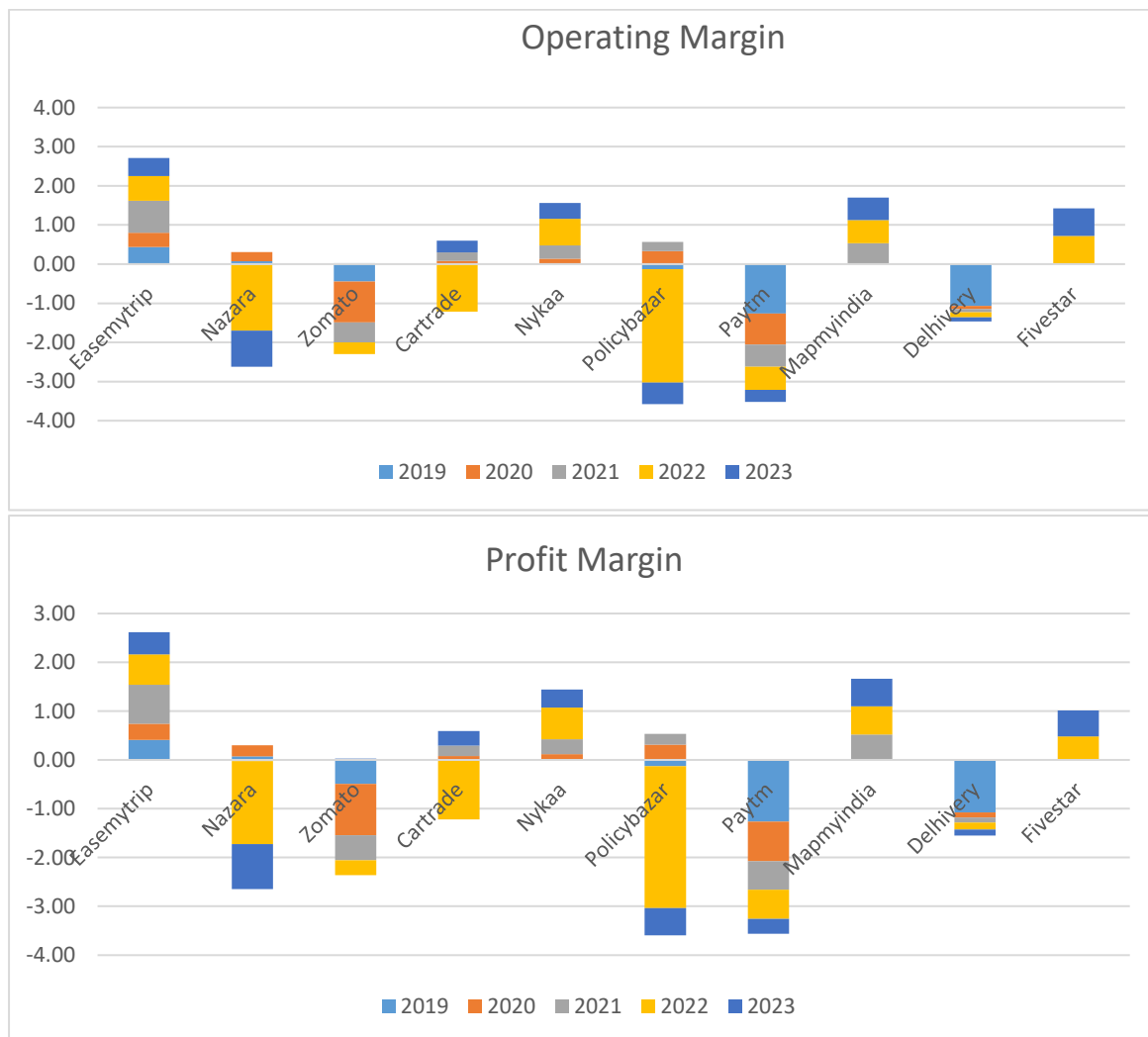
3.1 Sample Size:

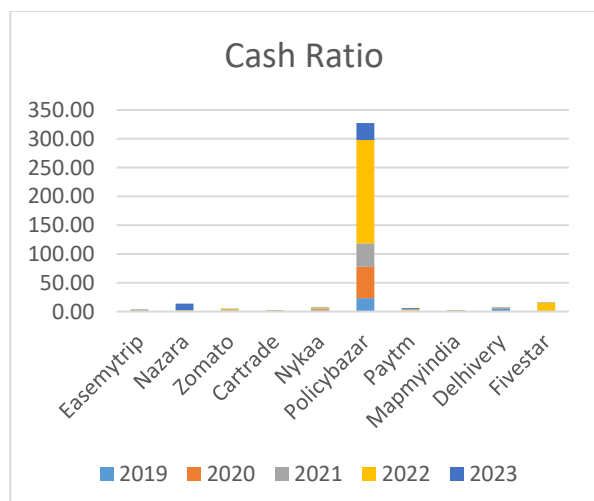
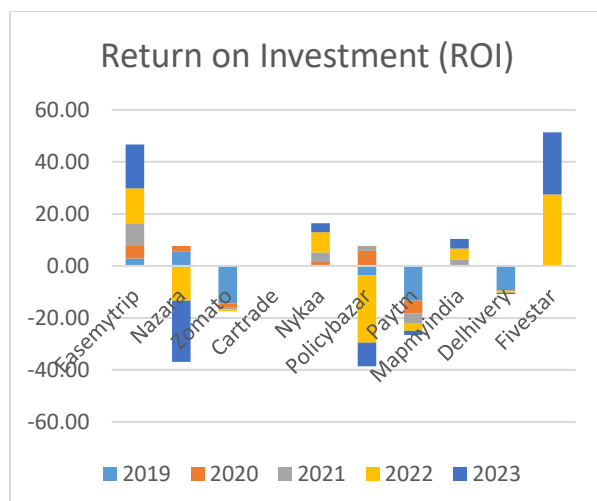
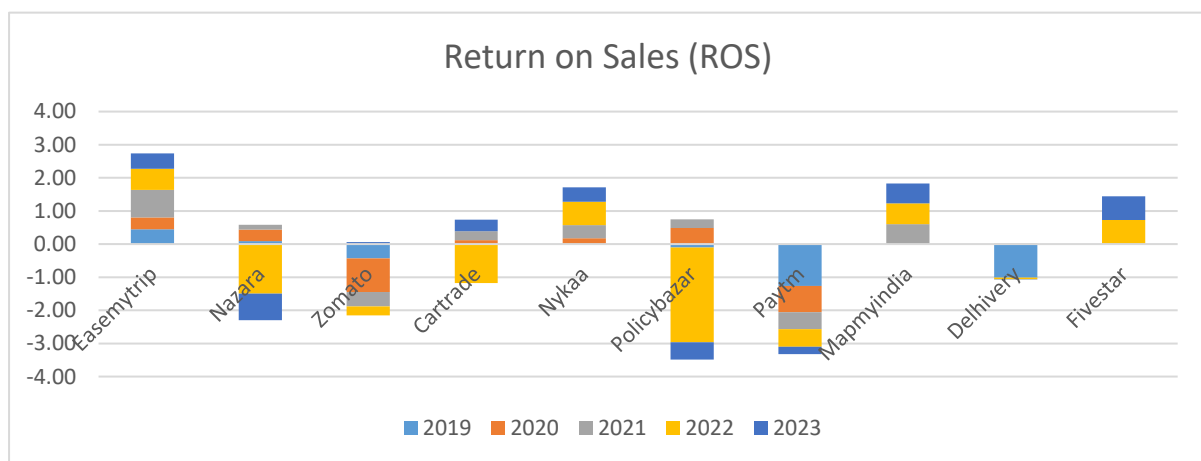
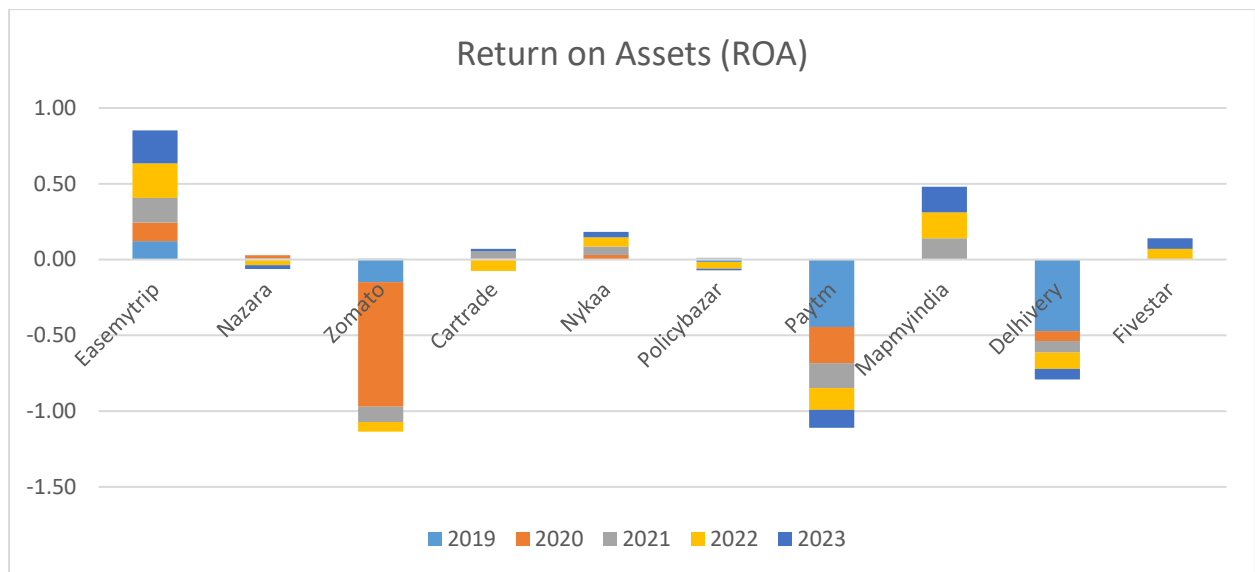
Unicorns are characterized as private entities and the financial data of private entities is restricted to the public. As of date, there are more than 110 unicorns in India, out of which only a dozen unicorns have IPOs and are listed on the Indian stock exchanges. Based on the availability of financial data, the following ten listed unicorns, Ease Trip Planners Ltd. (Easemytrip), Nazara Technologies Ltd. (Nazara), Zomato Ltd. (Zomato), Cartrade Tech Ltd. (CarDekho), FSN E-Commerce Ventures Ltd. (Nykaa), PB Fintech Ltd. (Policybazar), One97 Communications Ltd. (Paytm), C.E. Infosystems Ltd. (Mapmyindia), Delhivery Ltd. (Delhivery), Five Star Business Finance Ltd. (Fivestar) from 2019 to 2023 is taken for this study. In some cases, the data for all five years is unavailable for all the selected companies. The selected companies comprise diverse sectors ranging from E-commerce, Fintech, Logistics, tourism and travel, and Digital Map.

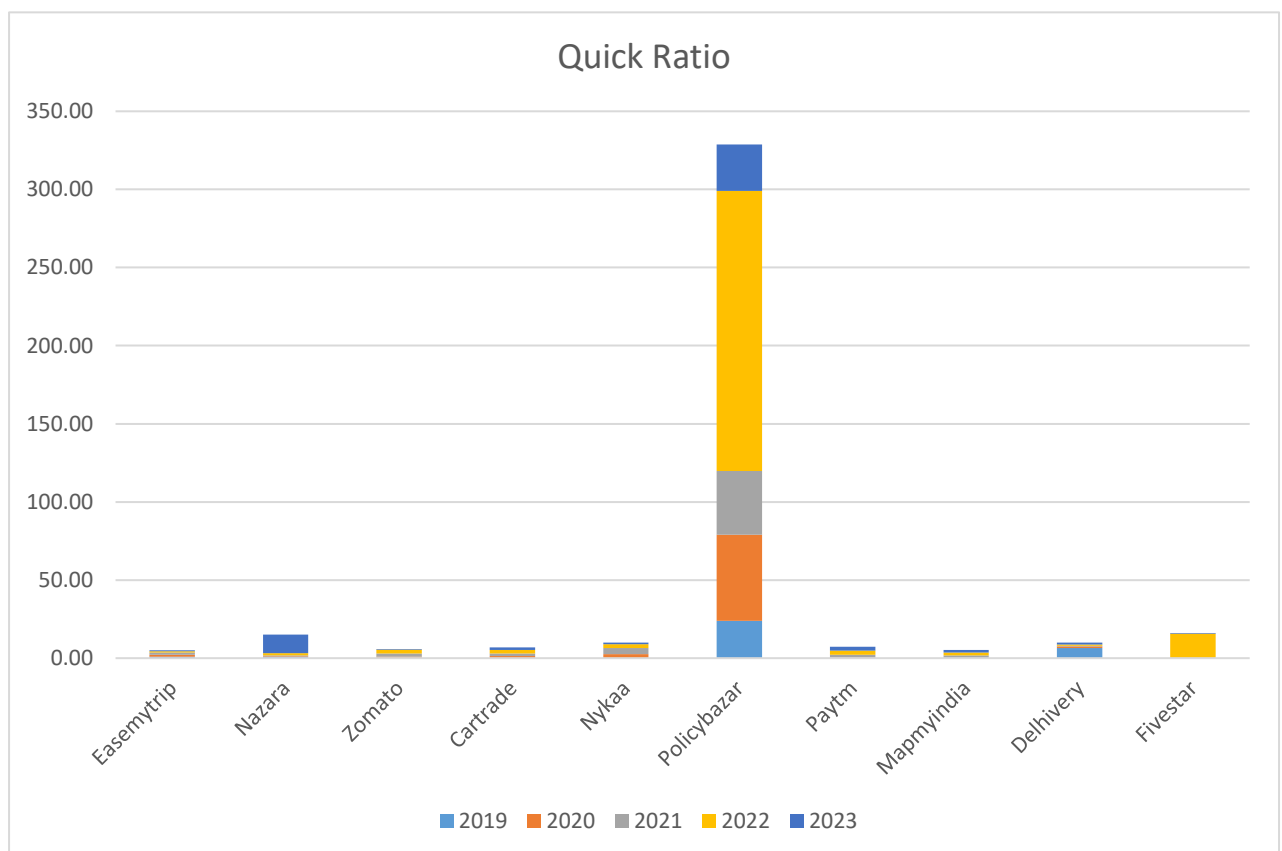
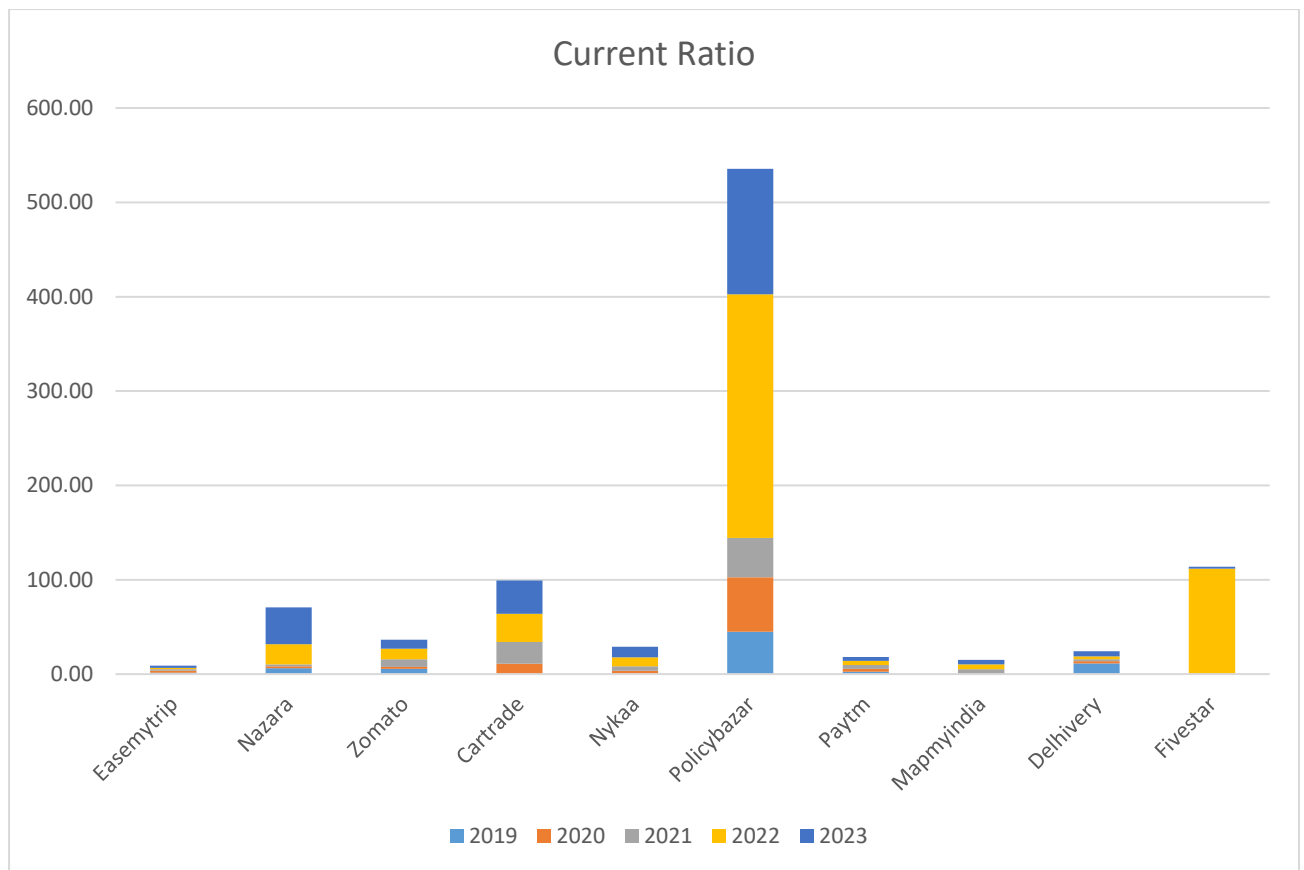
3.2 Tools used for analysis

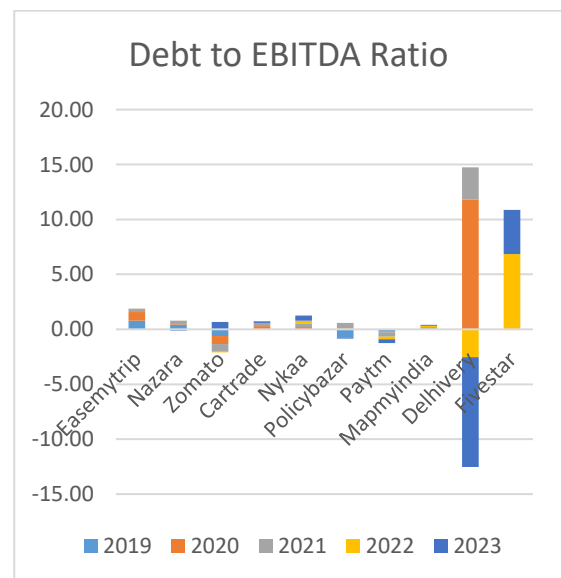
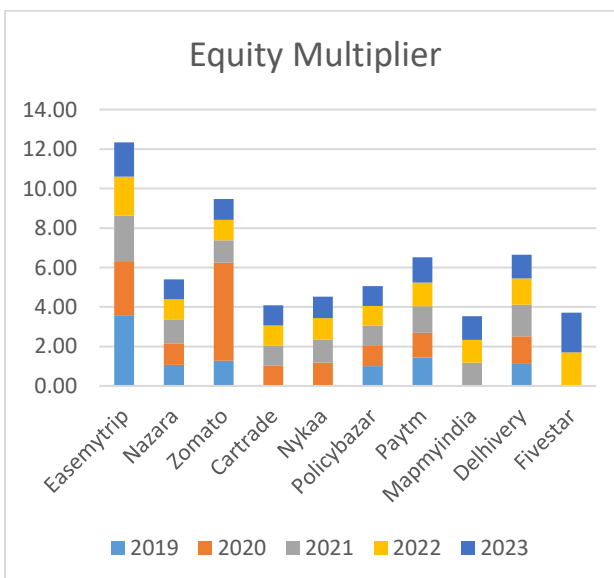
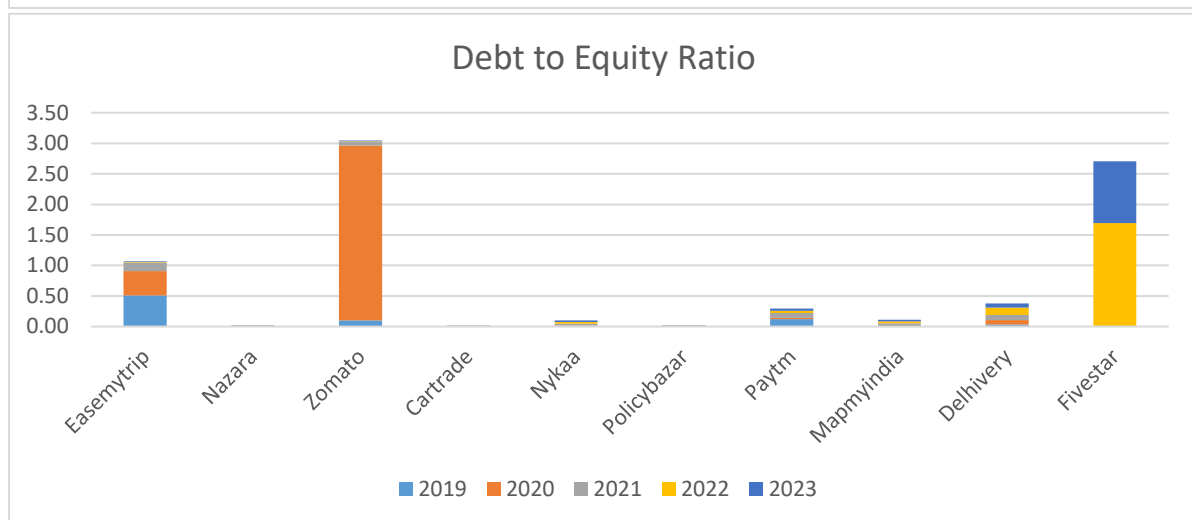
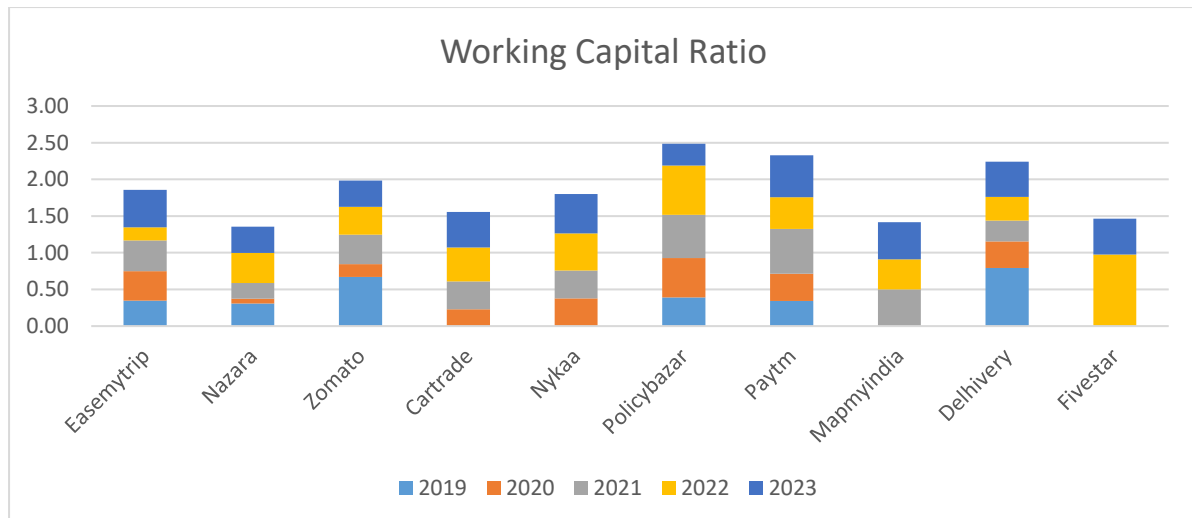
Financial ratios of 18 no's are used for the study of the financial efficiency of Indian unicorns, and their formulas are mentioned (Annexure-1). The Statistical tools of Mean value, Minimum value, Maximum value, Range value, Standard deviation, Coefficient variation, skewness, and Kurtosis are used to examine the relationship of financial variables among the sample companies. All the values are presented in the decimal unit of measurement of the variations.

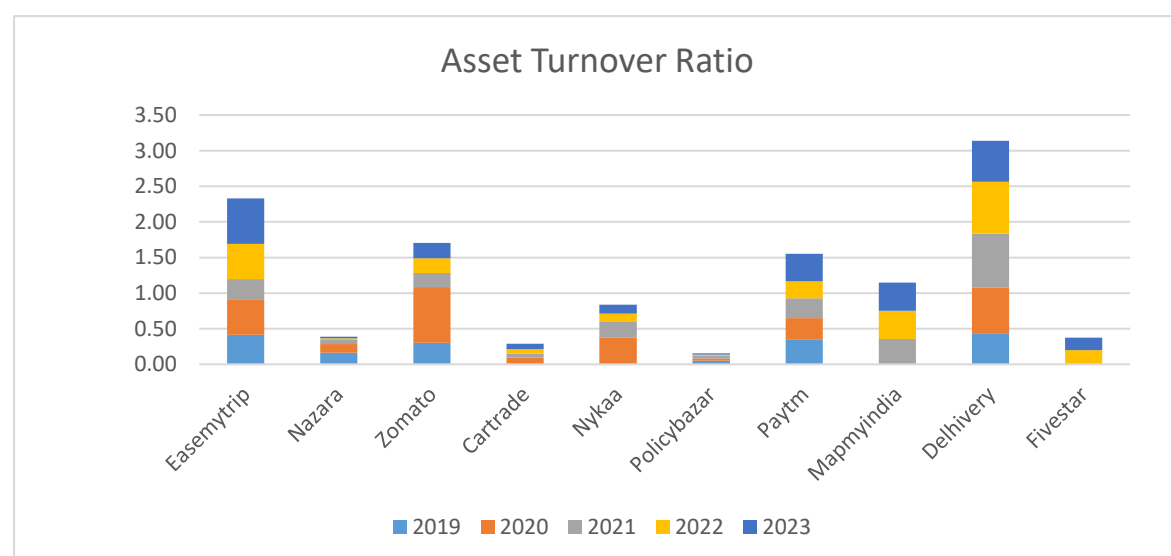
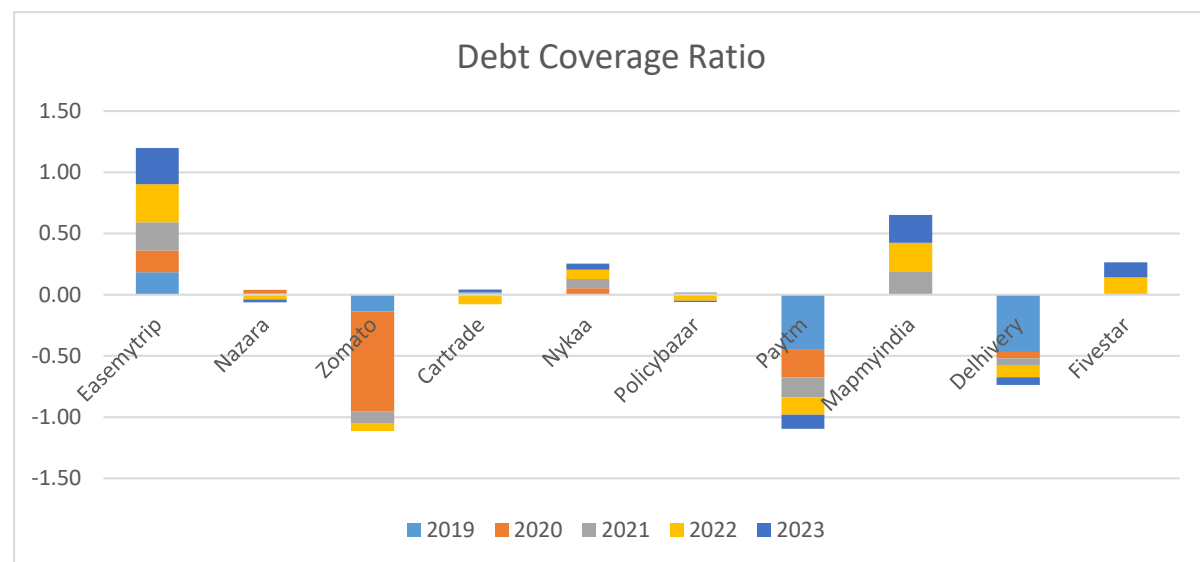
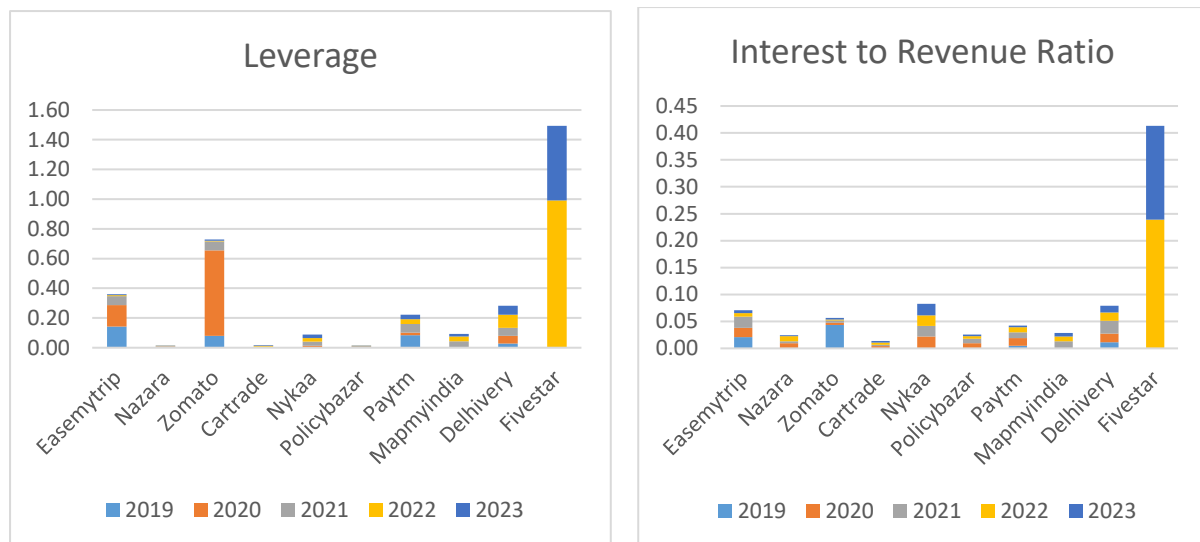
4. Results and analysis of the financial efficiency of unicorns

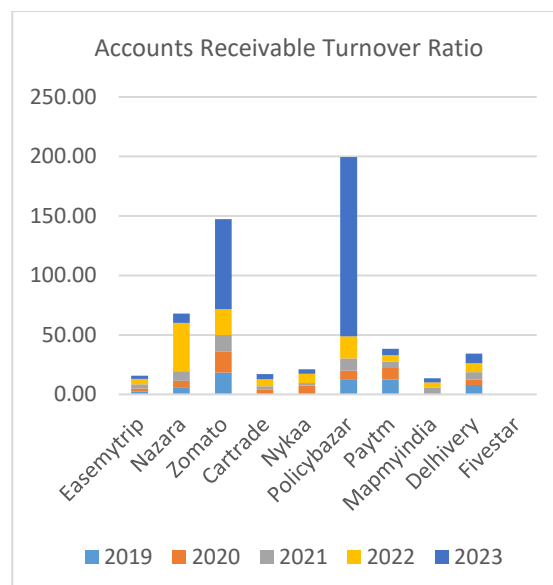
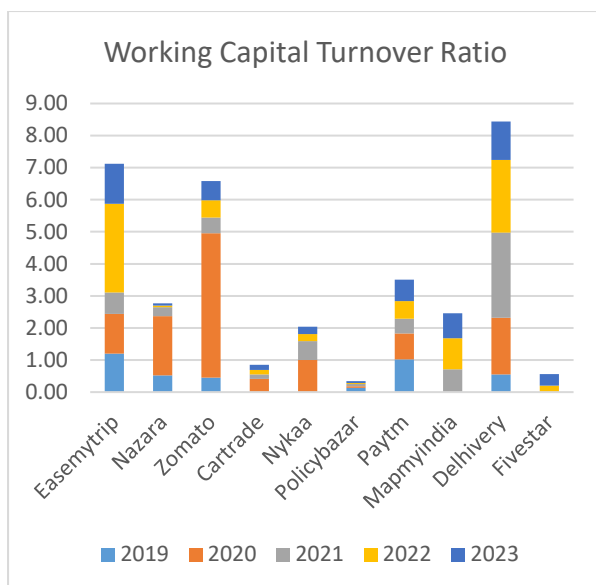












The average values of Operating Margin (-.05), with the highest in five-star (+.71) and the lowest in Paytm (-.70). The average values of Profit Margin (-.08), with the highest in MapmyIndia (+.56) and the lowest in Paytm (-.71). The average values of Return on Assets (-.02), with the highest in Easmytrip (+.17) and the lowest in Zomato (-.23). The average values of Return on Sales (.00), with the highest in Fivestar (+.72) and the lowest in Paytm (-.66). The average values of Return on Investments (1.96), with the highest in Fivestar (+25.70) and the lowest in Policybazar (-6.20). The average value of Cash ratio (8.43), with the highest in Policybazar (+65.45) and the lowest in Easemytrip (+.68). The average value of the Current ratio (23.26), with the highest in Policybazar (+107.11) and the lowest in EaseMyTrip (+1.77). The average value of Quick Ratio (8.84), with the highest in Policybazar (+65.75) and the lowest in EaseMyTrip (+1.02). The average value of the Working Capital ratio (.45), with the highest in Fivestar (+.73) and the lowest in Nazara (+.27). The average values of Debt to Equity ratio (.24), with the highest in Fivestar (+1.35) and the lowest in Nazara, Cartrade, and Policybazar (+.003). The average values of Equity Multiplier (1.43), with the highest in Easemytrip (+2.47) and the lowest in Policybazar (+1.01). The average values of Debt to EBDITA ratio (.64), with the highest in Fivestar (+5.44) and the lowest in Zomato (-.29). The average values of leverage (.11), with the highest in Fivestar (+.75) and the lowest in Nazara (+.0). The average values of Interest to Revenue ratio (.03), with the highest in Fivestar (+.21) and the lowest in Nazara (+.0), Cartrade (+.0). The average values of Debt Coverage ratio (.24), with the highest in Easemytrip (+.24), the lowest in Paytm (-.22). The Average values of Asset Turnover (.27), with the highest in Delhivery (+.63) and the lowest in Policybazar (.03). The average values of Working Capital Turnover (.76), with the highest in Delhivery (+1.69) and the lowest in Policybazar (+.07). The average values of Accounts Receivable (12.74), with the highest in Policybazar (39.92) and the lowest in Easemytrip (+3.13)

4.1 Statistical analysis, a sample of 10 selected observations (Table 1)

| Variables | Mean Value | Minimum Value | Maximum Value | Range Value | Std. Dev. | Cof. Var. | Skewness | Kurtosis |
|----------------------------------|-------------------|----------------------|----------------------|--------------------|------------------|------------------|-----------------|-----------------|
| Operating Margin | -0.05 | -0.70 | 0.71 | 1.42 | 0.51 | -11.32 | 0.29 | -1.88 |
| Profit Margin | -0.08 | -0.71 | 0.56 | 1.27 | 0.48 | -6.19 | 0.23 | -1.97 |
| ROA | -0.02 | -0.23 | 0.17 | 0.40 | 0.14 | -7.61 | -0.33 | -1.03 |
| ROS | 0.00 | -0.66 | 0.72 | 1.39 | 0.50 | 281.64 | 0.24 | -1.83 |
| ROI(Return on Investment) | 1.96 | -6.20 | 25.70 | 31.90 | 9.25 | 4.73 | 1.82 | 3.70 |
| Cash Ratio | 8.43 | 0.68 | 65.45 | 64.77 | 19.12 | 2.27 | 3.10 | 9.67 |
| Current Ratio | 23.26 | 1.77 | 107.11 | 105.35 | 32.07 | 1.38 | 2.12 | 4.26 |
| Quick Ratio | 8.84 | 1.02 | 65.75 | 64.74 | 19.07 | 2.16 | 3.10 | 9.71 |
| Working Capital Ratio | 0.45 | 0.27 | 0.73 | 0.46 | 0.11 | 0.25 | 1.34 | 3.82 |
| Debt to Equity Ratio | 0.24 | 0.00 | 1.35 | 1.35 | 0.41 | 1.72 | 2.33 | 5.41 |
| Equity Multiplier | 1.43 | 1.01 | 2.47 | 1.46 | 0.46 | 0.32 | 1.32 | 0.92 |
| Debt to EBITDA Ratio | 0.64 | -0.29 | 5.44 | 5.72 | 1.62 | 2.52 | 3.04 | 9.44 |
| Leverage | 0.11 | 0.00 | 0.75 | 0.74 | 0.22 | 1.91 | 2.96 | 9.01 |
| Interest to Revenue Ratio | 0.03 | 0.00 | 0.21 | 0.20 | 0.06 | 1.97 | 3.12 | 9.79 |
| Debt Coverage Ratio | 0.00 | -0.22 | 0.24 | 0.46 | 0.16 | 35.13 | -0.04 | -1.09 |
| Asset Turnover | 0.27 | 0.03 | 0.63 | 0.60 | 0.18 | 0.67 | 0.51 | -0.39 |
| Working | 0.76 | 0.07 | 1.69 | 1.62 | 0.52 | 0.69 | 0.54 | -0.99 |

| Capital Turnover | | | | | | | | |
|------------------------------|-------|------|-------|-------|-------|------|------|------|
| Accounts Receivable Turnover | 12.74 | 3.13 | 39.92 | 36.79 | 12.30 | 0.96 | 1.64 | 1.76 |

4.2 Result & Discussion

The ratios of Operating Margin, Profit Margin, Return on Assets, Return on Sales, Return on Investments, Cash ratio, Current ratio, Quick ratio, Debt to Equity ratio, Debt to EBITDA ratio, Leverage, Interest to Revenue ratio, and Debt Coverage ratio have a significant deviation from their respective means. The second group of ratios such as the Working capital ratio, Equity multiplier, Asset Turnover, Working capital turnover, and Accounts Receivable turnover ratio exhibit less deviation from their respective means which indicates the lower value of their coefficient of variations.

The ratios, Return on Assets, and Debt coverage ratios are negative skewness values which indicates that most of the values are skewed to the left whereas the rest of the ratios are skewed to the right with positive values.

The kurtosis values of Cash ratio, Quick ratio, Debt to EBITDA ratio, Leverage, and Interest to Revenue ratios comparatively more to the Kurtosis values of rest indicate that the distribution of variables is more peaked (less dispersed) than the distributions of the rest of the variables. To sum up, the study found the difference in profitability, liquidity, solvency, and efficiency of selected sample companies.

5. Points for Summarization:

The study shows that the majority of unicorns are not profitable and have very poor returns. (Specifically about Return on investment) over the examined period. Higher liquidity was experienced by each of the chosen samples. Assets are mostly financed by the Investors. For every unicorn seen during the examined times, there is an increased turnover.

5.1 Suggestions and Recommendations

The study was based on the financial efficiency of listed unicorns, our conclusions may be useful to others who are considering investing in them. As different dynamics of financial ratios are applied from a practical perspective, these results may offer some understanding of the potential financial success of particular unicorns and which one will yield higher profits. Moreover, ratios used in this study be useful for stakeholders to understand the strengths and weaknesses of specific unicorns to make decisions. This analysis would help identify the very nature and characteristics of the Indian unicorn industries to make strategic decisions.

5.2 Limitations of the study

Currently, only a dozen unicorns are listed on stock exchanges in India. Data collecting is limited because the majority of unicorns are privately held businesses. Secondly, the sample size is very small and represents different sectors, so the financial performance results are also different and hence, cannot be compared. Third, the study is based on the past five-year financial statement which is not fair for reaching conclusions. The financial data usually remains inconsistent with short-term series. Lastly, Findings cannot be compared with non-unicorn enterprises.

5.3 Scope for Future Research:

A company's health condition can be analyzed from the four perspectives i.e. Profitability, Liquidity, Solvency, and efficiency. These perspectives can be used as a financial performance benchmark. This research is based on data from a sample of ten listed unicorns and for five years only. There is enough scope for the researcher to make wider in terms of several samples and the number of years for reaching better conclusions.

Annexure- 1

Ratios used for the analysis.

| Ratios | Formulas used by the authors | Units of Measurement |
|-----------------------------------|--|----------------------|
| Operating Margin | Profit Before Interest &Tax/Sales | Decimal |
| Profit Margin | Profit Before Tax/Sales | Decimal |
| Return on Assets (ROA) | Profit after tax/Total Assets | Decimal |
| Return on Sales (ROS) | EBITDA/Total Sales | Decimal |
| Return on Investment (ROI) | Profit before interest &tax/Investment | Decimal |
| Cash Ratio | Cash Equivalents/Current Liabilities | Decimal |
| Current Ratio | Current Assets/Current Liabilities | Decimal |
| Quick Ratio | Quick Assets/Current Liabilities | Decimal |
| Working Capital Ratio | Net Working Capital/Total Assets | Decimal |
| Debt to Equity Ratio | Debt/Equity | Decimal |
| Equity Multiplier | Total Assets/Total Equity | Decimal |
| Debt to EBITDA Ratio | Debt/EBITDA | Decimal |
| Leverage | Debt/Total Assets | Decimal |
| Interest to Revenue Ratio | Total Interest Expenses/Total Revenue | Decimal |
| Debt Coverage Ratio | EBIT/Total Liabilities | Decimal |
| Asset Turnover | Sales/Total Assets | Decimal |

| Working Capital Turnover | Sales/Net Working Capital | Decimal |
|-------------------------------------|-----------------------------------|----------------|
| Accounts Receivable Turnover | Sales/ Accounts Receivable | Decimal |
| | | |

Conclusion:

In sum the above summations are summarizing that a multivariate ratios analysis of Indian listed unicorns reveals a dynamic financial landscape with varying degrees of efficiency and growth. While some unicorns demonstrate strong performance across multiple ratios, others exhibit weaknesses, highlighting the importance of tailored financial strategies and deeper analysis beyond basic profitability metrics. Factors like net worth significantly influence funding attraction, but further research is needed to understand the interplay between funding, profitability, and long-term sustainability.

Key findings for future research work:

a) Net worth as a Funding Predictor:

Net worth emerges as a significant predictor of funding for unicorns, suggesting that investors prioritize a strong financial foundation.

b) Mismatch between Funding and Profitability:

The study highlights a potential mismatch between the high levels of funding received by some unicorns and their actual profitability, prompting further investigation into the factors driving this discrepancy.

c) Need for Deeper Analysis:

The research suggests that a comprehensive understanding of unicorn financial health requires going beyond basic profitability ratios and exploring the interplay of various financial metrics and their impact on long-term sustainability.

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