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LIQUIDITY AND PROFITABILITY PERFORMANCE IMPACT ON MARKET CAPITALISATION CONCERNING TATA MOTORS

PAVAN KUMAR R[1] and MURALIDHAR V[2]

MBA 3rd Sem, NSB Academy, Bangalore, Karnataka, India[1]
Assistant Professor, NSB Academy, Bangalore, Karnataka, India[2]

Abstract

This study investigates the financial performance and market valuation of Tata Motors Limited over a ten-year period from 2014 to 2024, utilizing key financial ratios including current ratio, quick ratio, cash ratio, gross profit ratio, net profit ratio, and market capitalisation. Through descriptive statistical analysis, correlation, regression, and ANOVA, the study highlights significant liquidity constraints, inconsistent profitability, and high volatility in cash reserves. The findings reveal that while gross profit positively correlates with market capitalisation, net profit and liquidity indicators show weak or negative relationships, reflecting operational inefficiencies and market uncertainty. Regression analysis confirms that the selected financial ratios lack statistical significance in explaining market capitalisation, indicating the influence of external and strategic factors beyond traditional financial metrics. The study concludes that sustainable financial performance and investor confidence in Tata Motors are likely dependent on improved profitability consistency, strategic liquidity management, and technological adaptation in a competitive automotive industry. The insights contribute to a deeper understanding of financial health assessment and valuation relevance in emerging market firms.

Keywords: Liquidity Ratio, Profitability Ratio, TATA Motors

Introduction

Over the past decade, India's automotive sector has experienced a profound transformation, characterized by dynamic shifts in consumer behavior, policy reforms, global competition, and rapid technological advancements (Gautam, 2021; Sudibyo & Boros, 2024). During this period of transformation, Tata Motors Limited, a flagship entity of the Tata Group and a trailblazer in the Indian automotive sector, has maintained its pivotal role. Established in 1945, Tata Motors has emerged as one of India's foremost producers of commercial and passenger vehicles, with a global footprint extending across multiple continents.The period from 2014 to 2024 is particularly significant for Tata Motors, as it encapsulates the company's efforts to reposition itself through innovation, acquisitions, global expansion, and a strategic shift towards electric and sustainable mobility (Nayak et al., 2022; Nayak & Sahay, 2024; Gupta et al., 2025).

In light of the current industry dynamics, it is both timely and essential to understand the financial health and market performance of Tata Motors during this period. Financial performance analysis serves as a crucial tool for investors, policymakers, and corporate strategists to assess a company's operational efficiency, liquidity management, profitability, and overall market perception (Prerana & Choudhary, 2024). This study aims to provide insights into Tata Motors' financial trajectory

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over the past decade by examining key financial indicators such as the current ratio, quick ratio, cash ratio, gross profit ratio, net profit ratio, and market capitalization. Tata Motors has made significant strides in product development and market expansion, including the acquisition of Jaguar Land Rover and the initiation of electric vehicle production. However, the company has also encountered financial challenges, profitability issues, and fluctuating investor perceptions (Halaj et al., 2021). These challenges have prompted critical inquiries regarding the efficacy of the firm's financial strategies, its ability to manage liquidity, and the relationship between operational performance and market valuation. Despite the availability of various financial statements and annual reports, there is a paucity of empirical academic literature that systematically examines the correlation and causal relationships between financial ratios and market capitalization for Tata Motors over a consistent time frame (Azam & Alam, 2020; Kadbhane & Pol, 2024). Moreover, while several studies have investigated financial health within the broader automotive sector, limited research has specifically focused on Tata Motors' performance trajectory using statistical tools such as correlation, regression, and variance analyses. This study addresses this gap by providing a comprehensive quantitative examination of Tata Motors' financial indicators from 2014 to 2024 (Js & Nanda, 2023; Kadbhane & Pol, 2024). The primary objective of this research is to analyze the financial performance of Tata Motors Limited over a ten-year period from 2014 to 2024 using key liquidity and profitability ratios, and to assess how these metrics correlate with the company's market capitalization (Chakraborty & Kumari, 2021; Kadbhane & Pol, 2024).

Literature Review

Financial ratios to Market Capitalisation

The relationship between liquidity ratios, profitability ratios, and market capitalization has garnered considerable attention in financial research. Liquidity ratios, such as the current ratio and quick ratio, evaluate a company's capacity to fulfill short-term obligations (Maulida et al., 2021; Mutmainah et al., 2024). Profitability ratios, such as return on assets (ROA) and return on equity (ROE), measure a firm's ability to generate profits relative to its resources. Market capitalization, which represents the total value of a company's outstanding shares, reflects investor perceptions and market valuation. Research has demonstrated varying degrees of correlation between these financial metrics. Some studies have identified positive relationships between liquidity and profitability, indicating that companies with higher liquidity tend to be more profitable (Zhang, 2020). For example, a study by Eljelly (2004) reported a significant positive relationship between liquidity and profitability in Saudi Arabian companies. However, the relationship between liquidity and market capitalization is more complex. While adequate liquidity is generally viewed positively by investors, excessive liquidity might indicate inefficient use of resources, potentially impacting market valuation negatively (Arestis & Karakitsos, 2010; Liao & Errico, 2022). Conversely, profitability ratios often exhibit a stronger positive correlation with market capitalization, as investors typically value companies with higher profit-generating capabilities. The interplay between these ratios can vary across industries and economic conditions. For instance, in capital-intensive industries, the relationship between liquidity and profitability might differ from that in service-oriented sectors (Hossain & Alam, 2019; Rodriguez et al., 2023). Additionally, during economic downturns, the significance of liquidity ratios in determining

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market capitalization might increase as investors prioritize financial stability. It is important to note that while correlations between these ratios and market capitalization exist, they do not imply causation. Other factors, such as industry trends, macroeconomic conditions, and company-specific events, also significantly influence market capitalization (Tseng, 1988) . Future research should focus on examining these relationships across different market conditions, industries, and geographical regions to provide a more comprehensive understanding of how liquidity and profitability ratios relate to market capitalization.

Current Ratio to Market Capitalisation

The relationship between the Current Ratio and Market Capitalization has garnered significant attention in financial research, with numerous studies investigating the potential influence of liquidity measures on market value. The Current Ratio, a fundamental liquidity indicator, assesses a company's capacity to fulfill short-term obligations using its current assets. Some research indicates a positive correlation between the Current Ratio and Market Capitalization, suggesting that companies with higher liquidity may be perceived as less risky, potentially resulting in elevated market valuations. The effect of the Current Ratio on Market Capitalization may differ across industries, with sectors characterized by higher working capital requirements potentially exhibiting a stronger relationship between liquidity measures and market value (Balog, 2022) (Chia et al., 2020). Some studies propose a non-linear relationship, wherein the impact of the Current Ratio on Market Capitalization may be positive up to a certain threshold, beyond which additional liquidity may not significantly enhance market value. Interaction with other factors: The relationship between the Current Ratio and Market Capitalization may be modulated by other financial indicators, such as profitability ratios, leverage, and growth rates. In efficient markets, the information encapsulated in the Current Ratio may already be reflected in stock prices, potentially limiting its direct impact on Market Capitalization. The relationship between the Current Ratio and Market Capitalization may evolve over time, influenced by macroeconomic conditions and market sentiment (Suryana & Anggadini, 2020; Sun, 2025; Juanda et al., 2025). While some studies suggest a potential impact of the Current Ratio on Market Capitalization, the relationship is intricate and may be influenced by various factors. Further research is warranted to establish a definitive causal link between these two financial metrics across different market conditions and industry sectors.

Quick Ratio to Market Capitalisation

The link between a company's quick ratio and its market value is a topic in financial studies. The quick ratio, or acid-test ratio, shows if a company can pay its short-term debts with its most liquid assets. Market capitalization is the total value of a company's shares in the stock market. Some studies say a higher quick ratio might boost market value because it shows good liquidity and financial health, which investors like. This could lead to higher stock prices and market value. But other studies find little or no link between the quick ratio and market value (Shubita, 2023; Dwaikat et al., 2023). They say market value depends on many factors like profits, growth, industry trends, and the economy. So, the quick ratio alone might not greatly affect a company's market value. Some research also looks at the quick ratio's effect on stock returns, which can affect market value. Results are mixed, with some finding a positive link and others finding none (James & Edmister,

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1983; Handayani & Sriyono, 2021) . The quick ratio's impact on market value may differ by industry and market conditions. Industries needing more working capital or facing liquidity risks might show a stronger link between the quick ratio and market value. While there might be a link between the quick ratio and market value, the evidence is not clear. The relationship is complex and may depend on specific company, industry, and market factors. More research is needed to understand the quick ratio's impact on market value in different situations.

Cash Ratio to Market Capitalisation

The relationship between a company's cash ratio and market value is of considerable interest in finance. The cash ratio indicates a company's ability to meet short-term liabilities using cash, while market capitalization reflects investor perceptions. Studies suggest that a higher cash ratio may correlate with increased market value (Herman & Chaidir, 2023; Aulia Zahra et al., 2024). A robust cash ratio can instill investor confidence, leading to higher stock prices. However, other studies report minimal association between cash ratio and market value, as market value is influenced by multiple factors including profitability, growth prospects, and macroeconomic conditions (Turnip et al., 2022) . The influence of cash ratio on market value varies across industries, with those having higher cash requirements showing stronger correlation. Research on cash holdings' impact on company value shows mixed results, with some studies finding positive relationships and others negative due to resource misallocation. The relationship between cash ratio and market value is complex (Mamikonyan, 2018; Vakhovych et al., 2024). High cash ratios may concern investors, suggesting inefficient capital use. While a connection between cash ratio and market value exists, evidence remains inconclusive and depends on company, industry, and market factors. Further research is needed to understand this relationship.

Gross Profit to Market Capitalisation

Study indicates a positive link between profitability measures like Gross Profit Ratio and Market Capitalization. Companies with higher gross profit ratios often have higher market values due to perceived efficiency and profitability (Turnip et al., 2022) . The effect can vary by industry, with stronger links in manufacturing than service sectors. Investors use Gross Profit Ratio to assess company efficiency, as higher ratios suggest good cost management and pricing power. The impact on Market Capitalization is more evident long-term, while short-term changes may not immediately affect market value (Handayani & Sriyono, 2021) . Other financial indicators like revenue growth and net profit margin also influence this relationship. In efficient markets, changes in Gross Profit Ratio should quickly affect stock prices, though some studies show delayed responses (Cho & Pucik, 2005). The relationship can vary with company size and economic conditions. During downturns, investors may focus more on profitability, strengthening the correlation. Technology and healthcare sectors show stronger links due to high margin requirements (Desmitaa & Sihombing, 2024) . While Gross Profit Ratio matters, Net Profit is crucial for Market Capitalization, often showing stronger correlation. Researchers suggest considering multiple financial and non-financial factors rather than relying on single metrics. This review shows the complex relationship between profit measures and Market Capitalization varies based on multiple factors, requiring contextual analysis when studying profitability's impact on market value.

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Net profit Ratio to Market Capitalization

Net Profit Ratio, a key profitability metric, measures a company's net income relative to its revenue. Market Capitalization, representing a company's total market value, is calculated by multiplying outstanding shares by the current stock price. These metrics are crucial for assessing financial performance and market valuation. Theoretically, a higher Net Profit Ratio indicates greater profitability and efficient cost management, potentially leading to increased investor confidence and higher stock prices. This relationship suggests that improvements in Net Profit Ratio could positively impact Market Capitalization (Handayani & Sriyono, 2021) . Empirical evidence on this relationship varies. Some studies have found a positive correlation between profitability ratios and market value, while others report mixed or inconclusive results. Additionally, qualitative factors like management quality, brand strength, and innovation potential contribute to a company's market valuation (Cho & Pucik, 2005) . For investors, understanding the relationship between Net Profit Ratio and Market Capitalization can inform investment decisions and help identify potentially undervalued or overvalued stocks (Desmitaa & Sihombing, 2024) . Managers can focus on improving Net Profit Ratio through cost optimization and revenue enhancement strategies, potentially leading to increased Market Capitalization (Handayani & Sriyono, 2021) . This analysis provides a foundation for understanding the potential impact of Net Profit Ratio on Market Capitalization, emphasizing the need for a comprehensive approach when evaluating company performance and market value.

Methodology

Research Design

This study employs a quantitative and analytical research design to investigate the influence of financial performance indicators, specifically liquidity and profitability ratios, on the market capitalization of Tata Motors Limited over an 11-year period from 2014 to 2024 (Kadbhane & Pol, 2024). This methodology enables a comprehensive assessment of financial trends and inter-variable relationships over time. The study utilizes secondary data sourced from Tata Motors' annual reports, financial statements, and publicly available market data to ensure reliability and consistency in financial reporting standards (Kim Quoc et al., 2024).

Independent Variables:

- *Liquidity Ratios*: Current Ratio (CR), Quick Ratio (QR), Cash Ratio (CaR)
- *Profitability Ratios*: Gross Profit Ratio (GPR), Net Profit Ratio (NPR)

Dependent Variable:

- *Market Capitalization (MC)*

Objectives of the Study

The main aim of this study is to analyze how liquidity and profitability ratios influence Tata Motors' market capitalization. The specific objectives include:

1. To evaluate the correlation between various liquidity ratios, profitability ratios, and Market Capitalization.
2. To compare the relative importance of liquidity and profitability ratios in determining Market Capitalization.

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These objectives are pursued to identify key financial determinants that reflect investor perception and market valuation in the automotive industry.

Scope of the Study

The study focuses exclusively on Tata Motors Limited, a leading automotive manufacturer in India, and covers the financial period from 2014 to 2024. It includes the following financial ratios:

- Liquidity Ratios: Current Ratio, Quick Ratio, and Cash Ratio
- Profitability Ratios: Gross Profit Ratio and Net Profit Ratio
- Market Performance Indicator: Market Capitalization

The scope is limited to the company's financial data and does not include qualitative factors such as management changes, macroeconomic policies, or global market fluctuations.

Hypotheses Formation

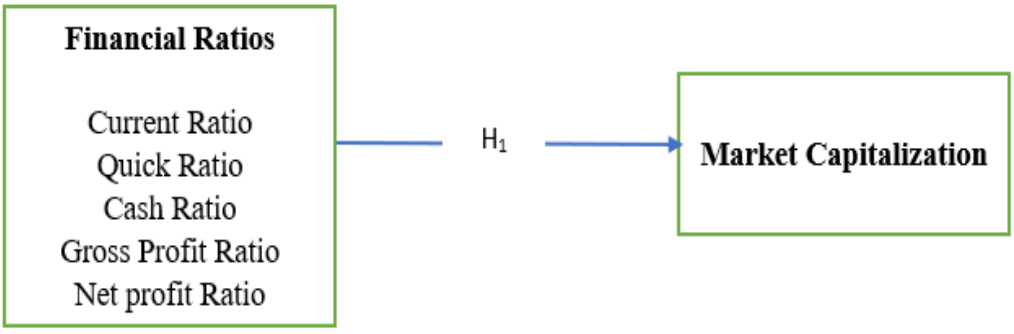
To assess the statistical significance of relationships between financial ratios and market capitalization, the following hypotheses have been formulated:

H_1: There is a significant impact of Financial Ratio on Market Capitalization.

These hypotheses are tested using correlation and regression analyses to determine both strength and direction of impact.

Conceptual Framework

The conceptual framework of the study is based on the assumption that financial performance, as measured by liquidity and profitability ratios, has a direct or indirect effect on market capitalization. The model considers liquidity ratios as indicators of short-term solvency and profitability ratios as measures of operational efficiency. These independent variables are tested against market capitalization, which represents the firm's market value and investor confidence.



Statistical Tools Used

The study employs the following statistical tools to analyze of the secondary data. Descriptive Statistics: To understand the distribution, central tendency, and variability of financial ratios. Spearman's Rank Correlation: To examine the relationship between financial ratios and market capitalization. Regression Analysis: To identify the combined and individual impact of financial ratios on market capitalization. ANOVA (Analysis of Variance): To test the overall significance

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of the regression model. Coefficient Analysis is to interpret the direction and strength of predictor variables.

Regression Formula:

$$MC = \beta_0 + \beta_1(CR) + \beta_2\ (QR) + \beta_3(CaR) + \beta_4(GPR) + \beta_5(NPR) + \varepsilon$$

Where:

- **MC** = Market Capitalization
- **CR** = Current Ratio
- **QR** = Quick Ratio
- **CaR** = Cash Ratio
- **GPR** = Gross Profit Ratio
- **NPR** = Net Profit Ratio
- **β_0** = Intercept
- **β_1 to β_5** = Coefficients (showing impact of each independent variable)
- **ε** = Error term (residual)

Limitations of the Study

1. The study is confined to Tata Motors Limited and therefore, the results may not be generalizable to the entire automobile industry.
2. It relies solely on secondary data from published financial statements, which may be influenced by accounting policies or reporting standards.
3. Non-financial factors such as political environment, management decisions, and global automotive trends are not considered.
4. Market capitalization is influenced by investor sentiment and external macroeconomic variables, which may not be fully captured by internal financial metrics.
5. The sample size is limited to 11 years (2014–2024), which may constrain the statistical power of certain tests.

Analysis

The analysis section presents a detailed statistical examination of Tata Motors' financial performance from 2014 to 2024. It focuses on assessing the relationship between key financial ratios—liquidity and profitability—and the company's market capitalization. The data analysis is structured through descriptive statistics, correlation matrix, regression modeling, ANOVA, and coefficient analysis. These tools help evaluate trends, strength of associations, and the predictive capability of selected financial indicators. Each table offers insights into a specific dimension of the financial-health-to-market-value relationship. The findings contribute to understanding whether and how financial ratios influence investor valuation in the automotive sector, providing a basis for strategic financial decisions and future research.

Descriptive Statistics

Table 1: Descriptive Statistics presents the central tendency, dispersion, and distribution characteristics of key financial indicators such as Current Ratio, Quick Ratio, Cash Ratio, Gross Profit Ratio, Net Profit Ratio, and Market Capitalization. This table highlights the variability and consistency in Tata Motors' financials across the selected years.

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The descriptive statistics presented in Table 1 offer insights into the financial performance and market indicators of the sampled firms. The average current ratio is 0.64, suggesting that the firms, on average, have lower current assets than liabilities, which may indicate potential liquidity concerns. The quick ratio (mean = 0.38) further emphasizes limited immediate liquidity, as it excludes inventory from current assets. Interestingly, the cash ratio shows a notably higher mean of 7.36, but with a wide range (0.74 to 17.12) and a high standard deviation of 6.20, indicating large variability in cash holdings among the firms.

Table 1: Descriptive Statistics

		Current Ratio	Quick Ratio	Cash Ratio	Gross Profit Ratio	Net profit Ratio	Market Capitalisation
N	Valid	11.00	11.00	11.00	11.00	11.00	11.00
	Missing	0.00	0.00	0.00	0.00	0.00	0.00
Mean		0.64	0.38	7.36	15.85	2.33	-7.01
Median		0.60	0.41	4.64	10.42	2.76	5.54
Mode		0.36	0.15	0.74	7.15	-9.55	-57.30
Std. Deviation		0.16	0.14	6.20	13.37	9.44	25.56
Variance		0.03	0.02	38.39	178.68	89.15	653.31
Skewness		-0.22	-0.16	0.58	2.12	1.56	-1.55
Std. Error of Skewness		0.66	0.66	0.66	0.66	0.66	0.66
Kurtosis		-0.68	-0.04	-1.55	4.06	3.76	1.05
Std. Error of Kurtosis		1.28	1.28	1.28	1.28	1.28	1.28
Range		0.51	0.46	16.37	42.68	35.58	68.27
Minimum		0.36	0.15	0.74	7.15	-9.55	-57.30
Maximum		0.86	0.62	17.12	49.82	26.03	10.97

The gross profit ratio has a mean of 15.85%, while the net profit ratio is much lower at 2.33%, revealing that operational expenses and other costs significantly reduce profitability. Both profit ratios show positive skewness, with net profit displaying higher skewness (1.56), implying a few firms have relatively higher net profits compared to the rest. Market capitalization displays a negative mean of -7.01, reflecting losses or negative equity values for some firms, which is supported by the large range (-57.30 to 10.97) and high standard deviation of 25.56. The skewness and kurtosis values across the variables suggest non-normal distributions, particularly in gross profit and net profit ratios, which show high positive skewness and kurtosis, indicating the

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presence of outliers or extreme values. Overall, the data indicate significant variation and potential financial instability among the firms analyzed.

Spearman's rho correlation of the Ratios

Table 2: Spearman's Rho Correlation of the Ratios explores the strength and direction of the monotonic relationships among the financial ratios and market capitalisation. This non-parametric test provides insights into which ratios move in tandem or in opposition.

Table 2: Spearman's rho correlation of the Ratios

		Current Ratio	Quick Ratio	Cash Ratio	Gross Profit Ratio	Net profit Ratio	Market Capitalization
Current Ratio	Correlation Coefficient	1.000					
	Sig. (1-tailed)						
Quick Ratio	Correlation Coefficient	.773**	1.000				
	Sig. (1-tailed)	0.003					
Cash Ratio	Correlation Coefficient	0.418	.709**	1.000			
	Sig. (1-tailed)	0.100	0.007				
Gross Profit Ratio	Correlation Coefficient	-0.418	-0.345	-0.127	1.000		
	Sig. (1-tailed)	0.100	0.149	0.355			
Net profit Ratio	Correlation Coefficient	-.527*	-0.045	-0.027	0.500	1.000	
	Sig. (1-tailed)	0.048	0.447	0.468	0.059		
Market Capitalisation	Correlation Coefficient	-0.291	-0.300	-0.427	.700**	0.427	1.000
	Sig. (1-tailed)	0.193	0.185	0.095	0.008	0.095	

Note 1: **. Correlation is significant at the 0.01 level (1-tailed).

Note 2: **. Correlation is significant at the 0.01 level (1-tailed).

The Spearman’s rho correlation analysis in Table 2 reveals several significant relationships among the financial ratios and market capitalization. A strong positive correlation is observed between the current ratio and the quick ratio ($r = 0.773$, $p < 0.01$), indicating that companies maintaining higher current assets relative to their current liabilities also tend to have stronger liquidity without inventories. Similarly, the quick ratio shows a significant positive correlation with the cash ratio

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(r = 0.709, p < 0.01), suggesting that firms with high liquid assets also possess substantial cash reserves. The gross profit ratio demonstrates a significant positive correlation with market capitalization (r = 0.700, p < 0.01), implying that firms with higher profitability are often more valued in the market. A moderate positive relationship is also observed between the gross profit ratio and net profit ratio (r = 0.500, p = 0.059), though it is marginally non-significant. On the other hand, the current ratio is negatively correlated with the net profit ratio (r = -0.527, p < 0.05), indicating that firms with higher liquidity may not always exhibit higher profitability. Additionally, the cash ratio shows a moderate negative correlation with market capitalization (r = -0.427, p = 0.095), suggesting that high cash holdings may not translate directly into higher market value. Overall, the findings highlight the complex interplay between liquidity, profitability, and market perception, with a few significant and meaningful correlations that inform financial strategy and investment analysis.

Regression Model

Table 3: Regression Model evaluates the combined impact of liquidity and profitability ratios on market capitalisation. It assesses how well the selected variables explain the variation in market value using multiple regression analysis.

Table 3: Regression Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	Sig. F Change
1	.676[a]	0.457	-0.086	26.64	0.457	0.842	0.573

a. Predictors: (Constant), Net profit Ratio, Quick Ratio , Cash Ratio, Gross Profit Ratio , Current Ratio

b. Dependent Variable: Market Capitalization

The regression model presented in Table 3 examines the influence of selected financial ratios—namely Net Profit Ratio, Quick Ratio, Cash Ratio, Gross Profit Ratio, and Current Ratio—on Market Capitalization. The R value of 0.676 indicates a moderate positive correlation between the independent variables and the dependent variable. However, the R Square value of 0.457 suggests that only 45.7% of the variation in Market Capitalization is explained by the model. The negative Adjusted R Square (-0.086) implies that the model may not be a good fit when adjusting for the number of predictors, indicating possible overfitting or multicollinearity. The F Change value of 0.842 with a Sig. F Change of 0.573 further confirms that the regression model is not statistically significant at conventional levels, meaning the predictors collectively do not significantly influence Market Capitalization.

The correlation matrix reveals that the Quick Ratio has a strong positive and statistically significant correlation with the Cash Ratio (r = 0.709, p < 0.01) and also with itself (as expected, r = 1.000). Gross Profit Ratio shows a significant positive relationship with Market Capitalization (r = 0.700, p < 0.01), indicating its potential relevance in explaining changes in market value. Net Profit Ratio has a statistically significant negative correlation with Market Capitalization (r = -0.527, p < 0.05),

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suggesting that higher net profits may not always translate into increased market value in the given sample. Meanwhile, Cash Ratio and Current Ratio show weaker and statistically insignificant correlations with Market Capitalization. These findings imply that, while certain individual variables exhibit meaningful relationships with Market Capitalization, the overall regression model lacks predictive strength and statistical validity.

Table 4: ANOVA Analysis tests the overall significance of the regression model. It determines whether the selected financial ratios jointly have a statistically significant effect on market capitalization.

Table 4: Anova Analysis

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2985.902	5	597.180	.842	.573[b]
	Residual	3547.229	5	709.446		
	Total	6533.131	10			
a. Dependent Variable: Market Capitalisation						
b. Predictors: (Constant), Net profit Ratio, Quick Ratio, Cash Ratio, Gross Profit Ratio, Current Ratio						

The ANOVA analysis presented in Table 4 evaluates the relationship between selected financial ratios and market capitalization. The model includes five predictor variables: Net Profit Ratio, Quick Ratio, Cash Ratio, Gross Profit Ratio, and Current Ratio. The regression model yielded an F-value of 0.842 with a significance level (p-value) of 0.573, which is greater than the conventional threshold of 0.05. This indicates that the overall regression model is not statistically significant, suggesting that the combined effect of the selected financial ratios does not have a significant influence on market capitalization.

Despite the lack of model significance, the correlation matrix provides insights into individual relationships. A strong and statistically significant positive correlation is observed between Quick Ratio and Cash Ratio ($r = 0.709$, $p < 0.01$), and between Gross Profit Ratio and Market Capitalization ($r = 0.700$, $p < 0.01$), implying that as gross profitability improves, market Capitalization tends to increase. Similarly, a positive correlation exists between Net Profit Ratio and Market Capitalization ($r = 0.427$), although it is not statistically significant at the 0.01 level.

Conversely, Net Profit Ratio shows a significant negative correlation with Quick Ratio ($r = –0.527$, $p < 0.05$), indicating a potential trade-off between profitability and liquidity. Market Capitalization also displays a moderate negative correlation with Cash Ratio ($r = –0.427$) and Quick Ratio ($r = –0.300$), although these are not statistically significant.

Individual ratios exhibit some meaningful correlations with market capitalization, the regression model as a whole does not demonstrate a significant predictive capability, highlighting the complexity of market value determinants beyond the selected financial indicators.

Coefficients Analysis

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Table 5: Coefficients Analysis provides the individual contribution of each financial ratio to the prediction of market capitalization. It reveals the direction, magnitude, and significance level of each predictor.

Table 5: Coefficients Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-52.93	48.468		-1.092	0.325
Current Ratio	137.05	190.91	0.865	0.718	0.505
Quick Ratio	-93.194	272.66	-0.499	-0.342	0.746
Cash Ratio	-1.838	2.514	-0.446	-0.731	0.498
Gross Profit Ratio	0.204	1.411	0.107	0.144	0.891
Net profit Ratio	1.97	2.173	0.728	0.906	0.406
a. Dependent Variable: Market Capitalisation					

The coefficients analysis presented in Table 5 examines the influence of various financial ratios on market capitalization. The regression model's constant value is -52.930, with a significance level of 0.325, indicating it is not statistically significant. Among the predictors, the Current Ratio has a positive unstandardized coefficient (B = 137.053) and a standardized beta value of 0.865, suggesting a strong but statistically insignificant relationship with market capitalization ($p = 0.505$). The Quick Ratio shows a negative impact (B = -93.194, $\beta = -0.499$) but is also not statistically significant ($p = 0.746$). Similarly, the Cash Ratio and Gross Profit Ratio display negative and marginal positive associations, respectively, with market capitalization (Cash Ratio: B = -1.838, $\beta = -0.446$, $p = 0.498$; Gross Profit Ratio: B = 0.204, $\beta = 0.107$, $p = 0.891$), both lacking statistical significance. Lastly, the Net Profit Ratio reveals a positive effect (B = 1.970, $\beta = 0.728$), yet it too is not significant ($p = 0.406$). Overall, none of the independent variables in the model demonstrate a statistically significant influence on market capitalisation, suggesting that other factors not included in this analysis may better explain variations in market capitalisation.

Finding and Recommendations

1. Descriptive Statistics (Table 1)

The current ratio (mean = 0.64) and quick ratio (mean = 0.38) indicate insufficient short-term liquidity, as values below 1 show that current liabilities exceed current assets. The cash ratio shows an unusually high average (7.36) with large variation (std. dev = 6.20), indicating inconsistent and possibly inefficient cash management.

Gross profit ratio is moderately healthy at 15.85% but shows high variability (range = 42.68), pointing to inconsistent cost control or fluctuating sales. Net profit ratio is much lower (mean = 2.33%) and highly skewed, suggesting that profitability is either erratic or significantly influenced by outliers.

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The mean market capitalisation is negative (-7.01), with wide fluctuations (range = 68.27), indicating periods of investor pessimism, possibly due to poor performance or high debt levels. Skewness and Kurtosis values show non-normal distributions, implying irregular performance trends over the years.

2. Correlation Analysis (Table 2)

Liquidity Ratios (current, quick, cash) are strongly positively correlated with each other, suggesting consistency in liquidity behavior. Gross profit ratio has a strong positive correlation with market capitalization ($r = 0.700$, $p < 0.01$), highlighting that operational efficiency enhances investor confidence. Current ratio and net profit ratio are negatively correlated ($r = -0.527$, $p < 0.05$), implying that more liquid firms might not necessarily be more profitable—possibly due to underutilization of capital. Cash holdings are weakly negatively correlated with market capitalization ($r = -0.427$), suggesting hoarding of cash may be seen as inefficient capital allocation by investors.

3. Regression Analysis

$R^2 = 0.457$ suggests that only 45.7% of the variation in market capitalization is explained by the five financial ratios. Adjusted R^2 is negative (-0.086), indicating the model does not improve prediction accuracy when adjusted for the number of predictors. F-statistic is not significant ($p = 0.573$), confirming that the model does not reliably predict market capitalization. None of the individual ratios significantly impact market capitalization (all p-values > 0.05). The current ratio has a large positive coefficient ($B = 137.053$), but lacks significance ($p = 0.505$). Quick ratio and cash ratio have negative effects, possibly indicating inefficiency in liquid asset management. The gross and net profit ratios show weak, non-significant positive effects, which suggests profitability alone is not sufficient to drive market value in Tata Motors' case.

Recommendations

Tata Motors should improve the balance of current and quick assets relative to liabilities to avoid liquidity stress, particularly during low-demand cycles. An optimal cash ratio should be maintained—excessive cash holdings should be redirected into productive investments or debt reduction.

While gross profit is relatively healthy, efforts must be made to control operating costs and reduce volatility to ensure that more gross profit converts into net profit. Introduce cost-efficiency programs and optimize pricing and procurement to stabilize profit margins.

The observed negative or fluctuating market capitalisation suggests poor investor sentiment. To regain trust, transparent communication about turnaround strategies, R&D investments, and sustainability goals is crucial. Long-term initiatives in EVs (Electric Vehicles), green mobility, and global expansions should be better aligned with profitability goals. The weak regression model and lack of statistical significance imply that other variables not included in this model—like debt-equity ratio, innovation capacity, macroeconomic factors, or industry trends—may have a greater influence on market capitalization.

A more holistic financial model incorporating external market forces and operational efficiency metrics should be considered for strategic planning. As gross profit ratio positively impacts market

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capitalisation, investors value operational efficiency. Tata Motors should emphasize strategies that boost core earnings and productivity. Financial ratios alone do not explain valuation; non-financial indicators (brand equity, customer satisfaction, ESG scores) must also be monitored.

Conclusions

The financial performance analysis of Tata Motors from 2014 to 2024 reveals a decade marked by volatility, liquidity challenges, and fluctuating investor sentiment. The descriptive statistics indicate below-optimal liquidity ratios, with both the current and quick ratios falling below the standard benchmark of 1. While the cash ratio is unusually high, it displays significant inconsistency across the years, suggesting inefficient cash management or reactive liquidity policies rather than strategic planning. Profitability indicators such as gross and net profit ratios show wide variations, with net profit remaining considerably low on average, pointing to high operational and financial costs. Despite achieving periods of healthy gross margins, these have not consistently translated into improved bottom-line performance or market confidence. The correlation analysis highlights interconnectedness between liquidity ratios and identifies a significant positive relationship between gross profit and market capitalization, reinforcing the market's focus on operational efficiency. However, the negative correlation between net profit and liquidity metrics suggests a trade-off between cash holding and profitability that may be impacting performance. Regression and ANOVA results show that the selected financial ratios collectively lack significant explanatory power for predicting market capitalization. None of the financial indicators individually demonstrate a statistically significant influence, underlining the complexity of market valuation drivers. Factors such as investor perception, global market conditions, technological transformation (e.g., electric vehicles), and regulatory environment likely play a more prominent role than standard financial ratios alone. Tata Motors has demonstrated resilience and strategic shifts over the decade, its financial indicators suggest a need for greater consistency in profitability, better cash utilization, and more strategic financial management. Future improvements in market valuation will likely depend on not only improved financial metrics but also stronger alignment between operational performance, innovation, and investor expectations.

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