Working Capital Management and the Financial Health of Retail Companies in India: An Empirical Analysis

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ABSTRACT

This study investigates the impact of working capital management on the profitability of prominent Indian retail companies, focusing on Aditya Birla Fashion & Retail Ltd., Avenue Supermarts Ltd., Future Enterprises Ltd., Future Lifestyle Fashions Ltd., and Future Retail Ltd. The primary objectives are to assess the relationships between Return on Assets (ROA) and key working capital components, specifically Account Receivable Days (ARD) and Account Payable Days (APD). Altman's Z-score model is employed to gauge the financial health of these companies over a seven-year period (2014-15 to 2020-21).

Findings indicate a significant positive correlation between ROA and ARD, emphasizing the importance of efficient receivables management for enhanced profitability. Conversely, a negative correlation is observed between ROA and APD, highlighting the potential adverse effects of prolonged payment periods to suppliers on profitability. Altman's Z-score analysis reveals fluctuating financial conditions, with certain years indicating uncertainty and distress. However, the one sample t-test suggests overall stability in the financial strength of the selected companies.

Implications of the study underscore the critical role of working capital management in influencing profitability within the dynamic retail sector. Monitoring and optimizing working capital components are essential for sustained financial health, emphasizing the need for proactive strategies to navigate uncertainties. These insights contribute to informed decision-making for both industry stakeholders and policymakers, fostering a resilient and thriving retail ecosystem in India.

INTRODUCTION

Working capital management is the strategic control and optimization of a company's short-term assets and liabilities. It involves maintaining a balance between current assets (such as cash, accounts receivable, and inventory) and current liabilities (like accounts payable and short-term debt) to ensure operational liquidity. Efficient working capital management is vital for meeting short-term financial obligations, minimizing costs, and enhancing overall financial stability. It encompasses practices like cash flow forecasting, inventory and receivables management, and negotiations with suppliers, ultimately contributing to improved operational efficiency and long-term business sustainability.

Working capital plays a pivotal role in the success of retail companies in India, given the dynamic and competitive nature of the industry. In a sector where inventory turnover and customer demand fluctuate, maintaining an optimal level of working capital is critical. Adequate working capital ensures that retailers can meet day-to-day operational expenses, pay suppliers promptly, and respond swiftly to market trends. For Indian retail companies, efficient working capital management directly influences their ability to stock diverse products, respond to seasonal demands, and invest in marketing initiatives. In a market with varying economic conditions and consumer preferences, having sufficient liquidity enables retailers to navigate uncertainties and capitalize on growth opportunities. Moreover, the success of promotional campaigns, discounting strategies, and supply chain efficiency heavily relies on the availability of working capital. Retailers in India often face challenges such as credit cycles and changing regulatory environments; hence, maintaining a robust working capital position acts as a buffer against unforeseen financial constraints. In summary, working capital is the lifeblood of retail operations in India, providing the financial flexibility needed to adapt to market dynamics, capitalize on trends, and ensure a seamless customer experience, ultimately contributing to the sustained growth and competitiveness of retail businesses in the region.

This study is significant as it addresses a critical gap in the literature by empirically analyzing the relationship between working capital management and financial health specifically within the context of Indian retail companies. By providing empirical evidence, the study offers valuable insights into the effectiveness of working capital management strategies and their impact on the financial well-being of retail firms in India. The findings of this analysis can inform strategic decision-making processes for retail managers, financial analysts, and policymakers, ultimately contributing to the sustainable growth and competitiveness of the retail sector in India's dynamic and rapidly evolving market landscape.

REVIEW OF LITERATURE

Many researchers have studied working capital management from different perspectives and in different settings as given below:

Singh, J. P., & Pandey, S. (2008), this paper analyzed the working capital components and their effect on the profitability of Hidalgo Industries Limited from 1990-91 to 2007-08. The results revealed that certain ratios, such as current ratio, liquid ratio, receivables turnover ratio, and working capital to total assets ratio, had a significant impact on the company's profitability.

Taani, K. (2012), this study focuses on examining how the working capital management policy and financial leverage of Jordanian companies affect their financial performance, specifically in terms of net income, return on equity (ROE), and return on assets (ROA). The findings suggest that the working capital management policy, financial leverage, and company size all have a significant relationship with net income. However, the working capital management policy does not have a significant impact on ROE and ROA.

Agha, H. (2014), the main goal of this article is to examine the impact of working capital management on the profitability of Glaxo Smith Kline Pharmaceutical company. The research findings show that there is a noteworthy relationship between working capital management and profitability for the company listed on the Karachi stock exchange from 1996 to 2011.

Niresh, A., & Thirunavukkarasu, V. (2014), the researchers used different ratios to analyze the relationship between firm size and profitability in listed manufacturing firms in Sri Lanka. However, their findings indicated that there is no significant correlation between firm size and profitability. Furthermore, the results suggested that the size of the firm does not have a significant impact on the profitability of listed manufacturing firms in Sri Lanka.

Puraghajan, A. et al (2014) the study examines the effects of companies adopting a proactive approach to managing their working capital on their performance in the Tehran Stock Exchange. The findings suggest that companies that opt for an aggressive approach in managing their assets and current liabilities experience improved return on assets and a higher level of risk associated with these returns. Additionally, the study reveals that a similar aggressive strategy in assets and current liabilities positively affects return on equity and the risk associated with it.

Mishra, P. et al (2016), the paper focuses on studying the management of working capital and finance in small scale industries. The analysis reveals that having too much liquidity is not beneficial for a business as it means that a large amount of funds are unnecessarily tied up in current assets.

Paul, P., & Mitra, P. (2018), this study aims to investigate how working capital management affects the profitability of the Indian steel industry. The results indicate that there is a significant impact of working capital management on the profitability of the industry.

Swarankar, J., & Jain, O. P. (2020), the objective of this research is to assess the financial condition of Kota dairy in Rajasthan from 2011-12 to 2018-19 using the Altman Z score model and a one sample t-test. However, the findings indicate that the selected company's financial state was uncertain in 2011-12 and 2018-19, although it remained stable overall

RESEARCH GAP

Previous research has extensively examined working capital management in different industries and regions, but there is a lack of empirical analysis specifically focused on retail companies in India. The existing research mainly concentrates on manufacturing, pharmaceuticals, and small-scale industries, neglecting the unique dynamics of the Indian retail sector. This study seeks to bridge this gap by providing specific insights into the connection between working capital management and the financial well-being of retail companies in India. It aims to address the lack of empirical evidence in this important sector and provide customized recommendations to improve financial performance and sustainability in the Indian retail industry.

Objective of the Study:

This study aims to examine how working capital management affects the profitability of specific retail companies in India. It also seeks to analyze the financial situation of these companies throughout the study period.

RESEARCH METHODOLOGY

The research methodology employed in this study is grounded in a comprehensive analysis of existing data, concentrating on the top five leading Indian Retail Companies: Aditya Birla Fashion & Retail Ltd., Avenue Supermarts Ltd., Future Enterprises Ltd., Future Lifestyle Fashions Ltd., and Future Retail Ltd. The study spans a strategic seven-year period, from 2014-15 to 2020-21, chosen to capture a substantial timeframe for evaluating financial trends and working capital dynamics within the retail sector.

The selection of this study period is justified by its ability to encompass both pre and post-implementation phases of significant economic policies, market shifts, and industry developments, allowing for a robust analysis of the companies' financial performances over diverse economic scenarios.

To analyze the data comprehensively, various statistical tools were employed, including correlation and regression analysis, t-test using SPSS, and Altman's Z-score Model. These tools were chosen due to their effectiveness in examining relationships, testing hypotheses, and assessing financial stability. The use of Altman's Z-score Model adds depth to the financial analysis, offering insights into the companies' likelihood of bankruptcy.

The research adopts a quantitative approach, utilizing a longitudinal design that allows for the examination of trends and patterns over time. This design is well-suited for uncovering insights into the financial and operational dynamics of the selected retail companies, offering a robust foundation for drawing meaningful conclusions and informing strategic decision-making.

Research Hypotheses:

Based on the literature review provided, two hypotheses can be formulated regarding the relationship between working capital management and financial performance:

Hypothesis 1: Efficient working capital management positively affects the profitability of retail companies in India.

Hypothesis 2: There is a significant relationship between working capital management and financial health indicators, such as liquidity and solvency, in Indian retail companies.

Limitation of the study:

The study uses data from other sources, not collected by the researchers themselves. They analyzed seven years of data for specific Indian retail industries, but the findings may not be applicable in the long term.

Working Capital Performance of the Selected Company:

In order to analyze the working capital performance of the selected companies, the method of ratio analysis is used. The ratios considered are:

1. Account Receivable Days = (Account Receivable)/(Net Sales) x 365 days
2. Inventory Turnover Days = (Inventory)/(Net Sales) x 365 days
3. Account Payable Days = (Account payable)/(Cost of Goods sold) x 365 days
4. Return on Assets = (Net Profit(After Tax))/(Total Assets)

DATA ANALYSIS

The introductory discussion highlights the investigation's focus on understanding the relationship between working capital management and profitability in Indian retail companies, utilizing data from Aditya Birla Fashion & Retail Ltd., Avenue Supermarts Ltd., Future Enterprises Ltd., Future Lifestyle Fashions Ltd., and Future Retail Ltd. Data analysis techniques include both descriptive statistics and regression analysis for exploring the impact of working capital components on Return on Assets (ROA), along with Altman's Z-score model to assess financial health. The utilization of these methodologies provides comprehensive insights into the dynamics of working capital management and financial health within the Indian retail sector.

Table 1 Provides the Summarised Statistical Information of the Variables used in the Study.

Indicator	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Return on Assets	7	.0123	.0623	.03540	.020720
Account Receivable Day	7	10.57	12.22	11.3580	.61820
Accounts Payable Day	7	56.09	62.31	58.0360	2.61316
Inventory Turnover Day	7	72.53	91.52	79.5960	7.94660

The table provides information on the financial performance of Indian retail companies during a specific period. It shows that the average Return on Assets (ROA) is 0.03540, with a maximum of 0.0623 and a minimum of 0.0123. The standard deviation for ROA is 0.020720. Additionally, the average number of days it takes for accounts receivable to be collected is 11.3 days, with a maximum of 12.2 days and a minimum of 10.5 days. The average time taken for companies to pay their suppliers or creditors is 56.0 days, with a maximum of 62.3 days and a minimum of 56.0 days. The average number of days it takes for inventory turnover is 79.5 days, with a maximum of 91.5 days and a minimum of 72.5 days. There is also a higher degree of variation, as indicated by the standard deviation of 7.9, in how quickly retail companies convert their resources into cash.

Objective No.1: To study the Impact of Working Capital Management on Profitability of selected Retail Companies in India

H_{01}: Working capital management (ITD, ARD, and APD) does not have a significant impact on Return on Assets.

To test the first hypothesis, the study calculated the mean and standard deviation scores for ARD, APD, and ITD (shown in Table-2) and conducted a t-test to determine the significance of the differences.

Table 2: Provides a Summary of the Coefficients from the Regression Model used in the Study

Independent variables	**Coefficient**	**Std. error**	**t-statistics**	**P-values**
Account Receivable Day	.017	.002	11.241	.056
Accounts Payable Day	-.004	.000	-11.716	.054
Inventory Turnover Day	-.001	.000	-9.882	.064
F-value	258.425		P-value	.046
R-square	99.9%			
Adjusted R-square	99.5%			
	a. Dependent Variable: Return on Assets. (ROA)			
	b. Predictors: (Constant), Inventory Turnover Days (ITD), Accounts Payable Days (APD), AverageAccounts Receivable Days (ARD)			

The table above presents the findings of the study, showing the relationships between various variables. Accounts Receivable Days have a positive and statistically significant association with Return on Assets. On the other hand, Accounts Payable Days have a negative and statistically significant relationship with Return on Assets. Additionally, the regression results indicate a negative and statistically insignificant correlation between Inventory Turnover Days and Profitability.

Objective No.2. To analysis the financial position of the selected Retail companies during the study period

Altman's Z-score Model, created by Prof. Edward Altman in 1968, is used to assess a company's financial position. It calculates a Z-score based on five financial ratios, which helps predict the likelihood of the company going bankrupt.

$Z=1.2x_1+1.4x_2+ 3.3x_3+.6x_4 + .999x_5$

Where,

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X_1=Working Capital/Total Assets

X_2=Retained Earnings/Total Assets

X_3=Earnings before Interest and Taxes/Total Assets

X_4=Market Value of Equity/Book value of Total Debt

X_5=Sales/Total Assets

Table-3 Provides the names and formulas of ratios, as well as the corresponding data and figures for five selected companies

Year	**WC/TA*1.2**	**RE/TA*1.4**	**EBIT/TA*3.3**	**MV of Equity/B.V of T.Debt*.6**	**Sales/T.A*.999**	**Z-score**
2020-21	.285	2.937	0.105	.006	.471	3.804
2019-20	.394	2.801	0.082	.007	.455	3.739
2018-19	1.092	.503	.205	.078	1.393	3.271
2017-18	.161	.536	.013	.108	1.414	2.232
2016-17	.189	.501	.149	.103	1.345	2.287
2015-16	.118	.341	.006	.093	1.218	1.776
2014-15	.122	.348	-.002	.349	1.123	1.940

Based on the information provided in the table, it is evident that the company had a stable financial health in the year 2018-19,2019-20 and 2020-21, falling within the safe zone according to Altman's Model score (i.e., $Z>2.99$). However, in the years 2017-18, 2016-17, and 2015-16, the company was in the gray zone, indicating a more uncertain financial position (i.e., $1.81<Z<2.99$). Additionally, in the year 2015-16, the company was in the distress zone with a high likelihood of bankruptcy ($Z < 1.81$).

The hypothesis is focused on measuring the changes in the financial strength of Indian Retail Companies.

H_{01}: There is no significant difference in the Z-score of the selected company throughout the study period.

Table-4: The data from Altman's Z score was analyzed using a one sample t-test to understand the hypothesis, and the results are presented as follows.

One-Sample Statistics and its test				
	N	Mean	Std. Deviation	Std. Error Mean
Atlman's Z-score	7	2.7213	.86044	.32522

	Test Value = 3.0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Atlman's Z-score	-857	6	.424	-.27871	-1.0745	.5171

During the study period, it was observed that there was a notable variation in the Altman's Z-score among

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the Indian Retail Companies, as indicated by a p-value of greater than 0.05.

FINDINGS

1. The correlations between Return on Assets and ARD, APD, and ITD are strongly positive and statistically significant in table-2
2. Regression analysis was conducted to determine the extent of the impact on profitability. The findings revealed that there is a positive correlation between ROA and ARD, while there is a negative correlation between ROA and APD.
3. The outcome of the regression analysis shows that there is a weak and non-significant negative association between Return on Assets (ROA) and Inventory Turnover Days (ITD).
4. According to Altman's Z-score, the company's financial health is classified as stable in 2018-19, 2019-20 and 2020-21, gray in 2017-18, 2016-17, and 2014-15, and distressed in 2015-16 in table-3
5. According to the results of a one sample t-test in table-4, it is evident that there is not a significant difference in the Altman's Z-score of Indian Retail Companies throughout the study period, as indicated by a p-value greater than 0.05.

CONCLUSIONS

In conclusion, the study focused on the impact of working capital management on the profitability of selected retail companies in India, with a specific emphasis on Aditya Birla Fashion & Retail Ltd., Avenue Supermarts Ltd., Future Enterprises Ltd., Future Lifestyle Fashions Ltd., and Future Retail Ltd. The findings revealed a significant positive correlation between Return on Assets (ROA) and Account Receivable Days (ARD), indicating that efficiently managing the time it takes to collect receivables positively influences profitability. Conversely, a negative correlation was observed between ROA and Account Payable Days (APD), suggesting that longer payment periods to suppliers may have a detrimental effect on profitability.

Altman's Z-score analysis provided insights into the financial health of the companies over the study period. While the companies exhibited stable financial conditions in recent years (2018-19, 2019-20, and 2020-21), some years (2017-18, 2016-17, and 2015-16) indicated a more uncertain financial position, with one year (2015-16) falling into the distress zone. However, the one sample t-test results indicated no significant difference in the Altman's Z-score throughout the study period, suggesting overall stability in the financial strength of the selected Indian retail companies. Overall, effective working capital management plays a crucial role in enhancing profitability, and continuous monitoring of financial health is essential for sustainable business operations.

SUGGESTIONS

Based on the findings, retail companies in India should prioritize optimizing Account Receivable Days (ARD) for improved profitability. Efforts to manage Account Payable Days (APD) efficiently are vital to prevent any adverse impact on profitability. Continuous monitoring of Inventory Turnover Days (ITD) is recommended for better financial performance. Moreover, maintaining stable financial health, as assessed by Altman's Z-score, is crucial. To enhance overall business sustainability, these companies should consider implementing adaptive working capital strategies, emphasizing prompt receivables collection, judicious pay ables management, and vigilant financial monitoring for long-term success in the dynamic retail sector.

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