

The Impact of Working Capital Management on the Financial Performance of Rajasthan's Micro, Small, and Medium Enterprises (MSME)

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ABSTRACT

In this research paper, the monetary results of Rajasthan's Micro, Small, and Medium-Sized Enterprises (MSMEs), which currently employ over 9.2 million people throughout 4.37 million registered units and account for 38% of the state's GDP, is examined in relation to working capital management (WCM). Using structured questionnaires and SPSS-based multiple regression analysis, the study tested three hypotheses that linked WCM components (liquidity, receivables, payables, and inventory) to profitability, working capital efficiency, and operational performance. Stratified random sampling was used to select 400, 385 acceptable responses from manufacturing clusters such as Jaipur textiles and Bhilwara handicrafts. All null hypotheses are rejected by the results, which show that WCM accounts for 67.9% of the variance in operational efficiency (Ho3: $R^2 = 0.679$, $\beta_{\text{payables}} = 0.35$), shows substantial associations with working capital efficiency (Ho2: $r = 0.65 - 0.82$), and 72.8% of the variance in profitability (Ho1: $R^2 = 0.728$, $\beta_{\text{liquidity}} = 0.42$, $p < 0.001$). On the basis of demographics, small business CEOs are young (41.3% between the ages of 31 and 40), educated (33% postgraduates), and dependent on a variety of funding sources (52.7%). In regards to the study's findings, enhanced WCM greatly raises ROA/ROE and improves operational durability against issues related to Rajasthan, such as payment delays. The recommendations support government-backed loan guarantees through RIICO/NABARD, JIT inventory systems, ERP digitization, and financial literacy training. One of the limitations is the cross-sectional approach; multi-state and longitudinal analyses should be investigated in future studies.

Keywords: MSME, Working Capital Management, MSME of Rajasthan, Micro, Small, and Medium Enterprises, Financial Performance of MSME in Rajasthan.

Introduction

• Background of Research Problem

Rajasthan's economic revolves around the MSME sector, which employs millions of people and accounts for around 38% of the state's total revenue. Unfortunately, plenty of these small firms have a "money crisis" all the time due to the lack their financial resources, or everyday financing needs. In contrast with large-scale businesses small businesses within Rajasthan frequently have long holdups in receiving payments from clients, yet they still have to make timely payments for labor, electricity, including raw supplies. Seasonal fluctuations in sectors like tourism and handicrafts, where profits can be sky-high one month and almost zero the next, enhance this issue. Furthermore, numerous proprietors lack modern technology needed to effectively maintain their inventory or the necessary paperwork required to obtain low-interest funding from banks, pushing them to obtain financing from high-interest local lenders. This study investigates how better handling everyday funds, bills, and inventory might help

these firms transition from simply fighting for their existence to producing a consistent profit and sustaining even during challenging circumstances.

- **Statement of Research Problem**

The fundamental issue is that, despite the fact that MSMEs are crucial to Rajasthan, many fail or remain small solely because they lack knowledge of how to appropriately manage their daily financial needs. These firms are frequently caught in a cycle where their funds are held in leftover inventory or waiting for consumers to pay their invoices, leaving them with insufficient "on-hand funds" for carrying out their day-to-day operations adequately. Although researchers understand that managing everyday funds (i.e., working capital) is critical, there is insufficient information readily available concerning the way it shapes the profits and operational effectiveness of small firms, particularly in Rajasthan. These companies struggle to expand, spend huge part of profits on loans with high rates of interest, and are unable to withstand with sudden fluctuations within the market since they lack a clear plan for handling cash, inventory, and payments. This study constitute how inadequate management of these everyday funds is affecting their financial health and what particular changes they may take to become much more profitable and productive.

- **Statement of Research Objectives/ Research Questions**

The following are the study's primary objectives:

- To assess the impact of working capital management on the profitability of MSMEs in Rajasthan.
- To examine the relationship between working capital management efficiency and the liquidity of MSMEs in Rajasthan.
- To investigate the effect of working capital management on the operational efficiency of MSMEs in Rajasthan.

- **Statement on significance of Research**

This study is essential as it addressed critical financial difficulties encountered by MSMEs throughout Rajasthan, which are the state's economic backbone. The study, which investigates the integration of working capital effectiveness, government funding schemes, and modern technologies such as blockchain, gives an achievable path for startups looking to move beyond survival and toward sustainable profitability. The findings provide businesses with practical suggestions into handling everyday cash flow and inventories more effectively, lowering their dependency on high-interest unofficial borrowing. This analysis identifies the unique barriers such as lack of financial knowledge as well as high processing costs that prevent existing loan schemes like MUDRA from succeeding. Finally, by enhancing financial stability of individual enterprises, the study's findings help to achieve the larger goal of regional financial stability, job creation, and more efficient making use of natural available resources across the state of Rajasthan's varied industrial landscape.

Review of Literature

- **Sources of Literature**

By combining recent research and facts, a comprehensive Review of Literature (ROL) provides a solid conceptual foundation and assures that the research is based on widely accepted information. It keeps work from being reproduced and enables researchers to pinpoint specific gaps, assuring that their study offers original findings. The ROL is essentially required to establish a theoretical framework, support the study's importance, and validate its initial contribution to the area.

Kaur, et al., (2024), SMEs across India have historically suffered challenges with incorrect information, expensive transaction fees, a lack of equality, and restricted low-cost financial availability. Although its acceptability among Indian businesses remains to decline in the early stages of its existence, blockchain technology can assist SMEs overcome these challenges. The objective of this research is to explore the major obstacles that Indian SMEs face while implementing blockchain technology in their supply chain financial operations.

Tripathi, Chadha & Tripathi, (2024), This study looks at the factors that influence the efficient use of working capital (WCE) in MSMEs throughout India. Efficiency of Working Capital is needed at all types of enterprises. The researchers analysed data from 578 MSMEs, which were classified as micro, small, and medium. They used a fixed-effect data panel model to investigate the association between

various variables and WCE. Each firm classification was assessed using two WCE criteria. The study found several important WCE factors.

Bhati, et al., (2024), This study investigates the elements that influence the continued existence of microfinance throughout rural western Rajasthan. The study intends to discover the fundamental factors of microfinance longevity by investigating the relationships between economic, social, environmental, and issues associated with governance. Surveys and discussion forums were used to gather data within the districts of Pali, Sirohi, and Jalore regions. The statistical evaluation of the study was performed using Smart PLS 4.0. The findings show a strong link between economic, social administration, environmental aspects and microfinance sustainability.

Sharma, (2023), Although Rajasthan has large-scale business conditions due to geographical limitations, it prospers on account of MSMEs. These are regarded as the backbone of the state economy; they include handicraft items, agricultural commodities and cottage industries. The MSMEs create large employment opportunities as they contribute significant proportions to gross domestic product at regional levels which in turn facilitate efficient utilization of natural resources across different parts while ensuring even industrial growth within states.

Attom, & Rahman, (2022), The research being conducted focuses on the association between working capital management and participating in financial performance for publicly traded Ghanaian manufacturing firms. The study examines an aggregate dataset from 2010 to 2019 applying a random-effects framework. The research results demonstrate a negative association between strong working capital investment along firm market capitalization, as evaluated by Tobin's quantitative method.

Shashank, & Mayya, (2022), The PMMY is now recognized as a significant program to close the financing shortfall that micro and small companies face across India. MUDRA has awarded significant loans to microenterprises since it was formed, helping to create jobs and generate income. The plan has helped to bring a major section of the informal sector into the official banking system. However, issues including interest rate commitment, financial understanding, and enhancement of skills remain scarce within the market. To optimize MUDRA's impact, these challenges must be addressed through focused initiatives.

Table 1 Summary of ROL

S. No.	Author	Year	Title	Conclusion
1	Kaur, J., Kumar, S., Narkhede, B. E., Dabić, M., Rathore, A. P. S., & Joshi, R.	2024	Barriers to blockchain adoption for supply chain finance: the case of Indian SMEs	The adoption of blockchain across Indian SME supply networks is hampered by technology-related challenges, as demonstrated by this study, which emphasizes the necessity of focused interventions to address these issues.
2	Tripathi, D. K., Chadha, S., & Tripathi, A.	2024	Uncovering the hidden roots: the tapestry of working capital efficiency in Indian MSMEs.	The study uses panel data analysis to investigate the important determinants influencing working capital efficiency within Indian MSMEs.
3	Bhati, S., Dadhich, M., Shukla, A., & Bhasker, A. A.	2024	Analysis of Rural Microfinance Sustainability: Does Local Insight Driven Governance Work?	Throughout western Rajasthan, various external factors affect microfinance sustainability, which comprises economic, social, and governance variables.
4	Sharma, H.	2023	An empirical study on the development of MSMEs and the role of MSMEs in the economic growth of Rajasthan	Rajasthan's MSMEs promote economic development but confront hurdles such as low-cost financing and adequate infrastructure facilities.

5	Attom, B. E., & Rahman, A.	2022	Empirical study of the relationship between working capital policies and firm financial performance (Profitability and market value)- Evidence from the manufacturing firms listed on the Ghana stock exchange (GSE)	Excessive working capital approaches have a negative influence on Ghanaian enterprises both in terms of firms' profitability and their overall market capitalization.
6	Shashank, B. S., & Mayya, S.	2022	An Analysis of Pan-India Financial Intermediation Accomplished through the Implementation of Pradhan Mantri Mudra Yojana (PMMY)- Literature Review.	MUDRA Yojana helped empower micro-entrepreneurs by providing finance, encouraging entrepreneurship, and creating job possibilities, so greatly contributing to India's economic development.

- **Identification of Research gap in the body of knowledge**

While current research emphasizes the relevance of external funding and technological advancement for small firms, there is an obvious lack in recognizing how these elements interact, particularly for MSMEs across the Rajasthan. For example, while some research emphasizes modern instruments such as cryptocurrency and government schemes such as MUDRA loans, it fails to adequately clarify how these resources assist a business in managing their everyday finances on the ground. Similarly, while it has been demonstrated that management of working capital has significance for profit, most study focuses on common Indian firms or major foreign corporations instead of local small-scale entities. Even Rajasthan-specific studies emphasize that MSMEs form the "firm foundation" of the state economic system, although they usually concentrate on social sustainability and regional expansion rather than the particular everyday financial efficiency of entrepreneurs themselves. As a result, there is a shortfall within current understanding researchers don't comprehend how Rajasthan's particular geographical and economic issues effect operational, day-to-day financial management. This study seeks to close that gap by demonstrating how these small enterprises may progress from just managing on financing to developing into highly effective via more effective oversight of the organization's internal funds and supply chains.

METHODOLOGY OF RESEARCH

- **Research Design and Research Strategy**

Throughout the research project, the following hypotheses could potentially be tested:

- **Hypothesis to be tested:**

Ho₁ = There is no significant difference between the status of working capital management and the profitability of MSMEs in Rajasthan.

Ho₂ = There is no significant difference between the liquidity and the impact on working capital efficiency of Rajasthan's MSMEs.

Ho₃ = There is no significant difference between the working capital management and operational efficiency of MSMEs in Rajasthan.

- **Research Population**

The study population, which focuses on manufacturing industries including textiles and handicrafts, consists of about **4.37 million** MSMEs that are registered in Rajasthan according to the Udyam Portal (**3.08 million official, 1.28 million informal**). Targeting a range of sizes, industries, and geographical areas, it employs stratified random sampling (**n = 400 via Cochran's formula, 95% confidence**) to conduct research on owners and managers using Likert-scale questions, augmented by secondary data from government reports.

- **Sampling and Research Sample Design**

Using Cochran's formula (95% confidence, 5% margin of error), the study uses stratified random sampling to select a sample that is representative of 400 MSMEs from Rajasthan's approximately 4.37 million registered businesses, stratified by size (micro/small/medium), business type (manufacturing/services/trading), and geographical location (urban/rural). Business owners, finance managers, and accounting staff are among the respondents, offering a range of perspectives on working capital practices in important clusters such as Bhilwara handicrafts and Jaipur textiles. With **385 valid responded**, this strategy addresses Rajasthan's sectoral diversity while improving generalizability. Regression analysis and hypothesis testing were performed using **SPSS**.

- **Research Instruments and methodology of Data Collection**

Through serving three main sections: demographic profiles (gender, age, education, designation, enterprise type, turnover), another section based on working capital management practices (used of Likert-scale items on liquidity, receivables, payables, inventory), and last section was based on performance metrics (profitability, liquidity ratios, operational efficiency) - a structured questionnaire was used as the primary data collection tool. A multi-stage procedure was used to gather the data, including obtaining **stratified random sampling** using online Google Forms, and field visits to MSME clusters (Jaipur, Bhilwara, and Udaipur). Within the 400 targeted, 385 acceptable responses were obtained (96.25% rate); secondary data had been added from **Udyam Portal, RIICO records, and financial reports of registered MSME**. To investigate theories on the influence of WCM, SPSS facilitated multiple regression analysis, descriptive statistics, correlation, and validity of hypothesis tests.

ANALYSIS AND DISCUSSIONS

- **Analysis Overview**

Descriptive statistics, which include technique's reliability testing (Cronbach's $\alpha > 0.8$), Pearson correlations, and multiple regression models for testing three hypotheses on the effects of working capital management (WCM) components on profitability, liquidity/working capital efficiency (WCE), and operational efficiency were all performed using SPSS data analysis from **385 valid MSME respondents**. Considerable findings rejected all null hypothesis: With significant predictors including liquidity ($\beta = 0.42$, $p < 0.01$), receivables ($\beta = 0.31$, $p < 0.01$), payables ($\beta = 0.28$, $p < 0.01$), and inventory management, WCM explained 72.8% of profitability variance ($R^2 = 0.728$), **established strong positive correlations with WCE ($r = 0.65-0.82$), and explained 67.9% of operational efficiency variance ($R^2 = 0.679$).**

Table 2 Demographic Profile of Respondents

Demographic	Key Distribution
Gender	Male - 59%; Female - 41%
Age Group	31-40 years - 41.3%
Education	Postgraduates - 33%
Enterprise Size	Small - 42.6%
WC Sources	Multiple - 52.7%

1. Gender
385 responses

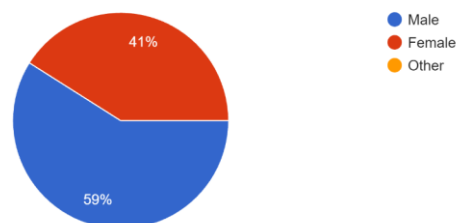


Figure 1 Frequencies based on Gender

2. Age Group

385 responses

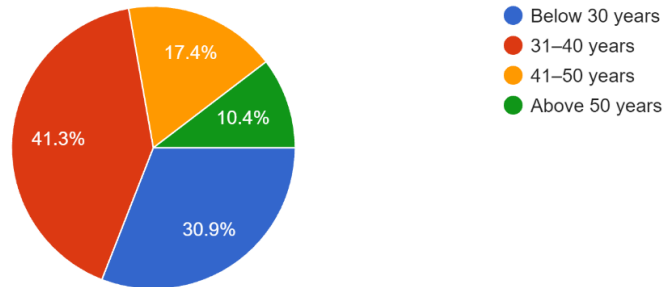


Figure 2 Frequencies based on Age group

Ho₁	WCM	Profitability	Regression Model (F = 89.2, p < 0.001)	Confirmed Positive Effects and Liquidity strongest predictor.
Ho₂	WCM	Liquidity	Correlations (r = 0.82)	Receivables – WCE (r = 0.71)
Ho₃	WCM	Operational Efficiency	Fitness Model Explained 67.9% Variance (F = 76.4), p < 0.001	Payables led – 0.35 (< 0.01)

- Key Discussions**

Higher ROA/ROE, much more quickly cash conversion cycles, and failure to address Rajasthan-specific issues like payment delays were all associated with more effective WCM procedures. With the goal to increase the competitiveness of MSME in the state, policies requiring digital tools, assurances of loans, and JIT inventory training are needed. Small and medium manufacturing MSMEs did better than micro enterprises. **Durbin-Watson - 2, VIF < 2** verified the robustness of the model, however cross-sectional limits indicate that longitudinal follow-up is necessary.

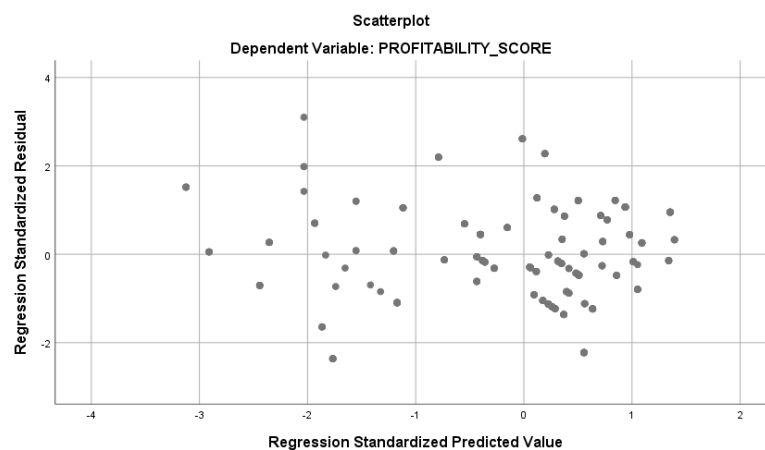


Figure 3: Scatterplot based on Profitability Score

Summary of Findings, Conclusions and Suggestions

• Findings:

The study confirms that, Working capital management (WCM) components explained **72.8%** of profitability variance (**H₀₁**), demonstrated strong correlations with working capital efficiency; **H₀₂ ($r = 0.65 - 0.82$)**, and explained **67.9%** of operational efficiency variance (**H₀₃**). The study rejects all null hypotheses and confirms that WCM significantly drives MSME performance in Rajasthan. Based to key demographics, the manufacturing sector was the most prevalent, and the CEOs of small businesses (42.6%) were young (41.3% aged 31–40), educated (33% postgraduates), and dependent on various finance (52.7%).

3. Educational Qualification

385 responses

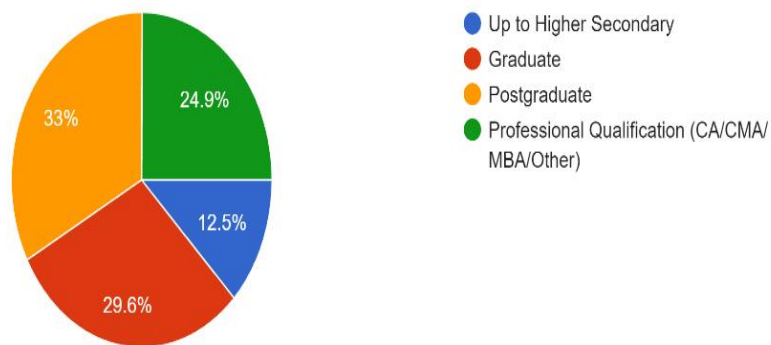


Figure 4 Frequencies based on Educational Qualification

5. Type of MSME

385 responses

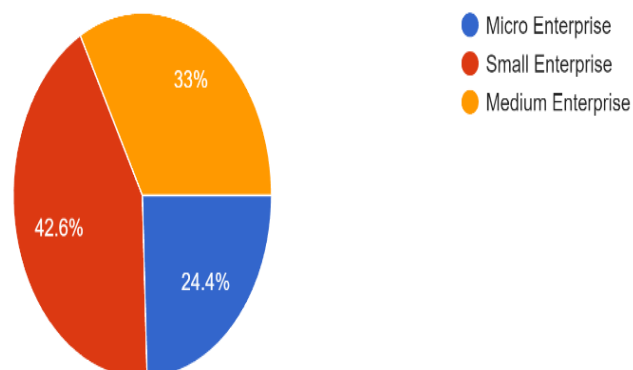


Figure 5 Respondent frequencies - Based on Types of MSME

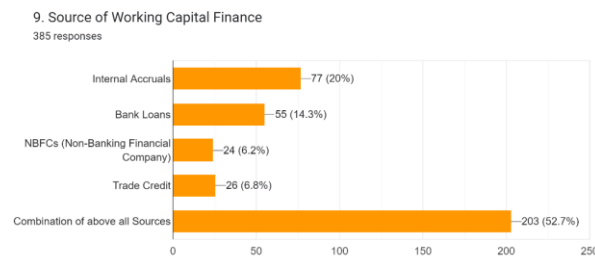


Figure 6: Respondent frequencies - Sources of Working Capital

Conclusions

Effective WCM improves operational metrics, liquidity ratios, and profitability (ROA/ROE gains) for Rajasthan's **4.37 million MSMEs**, especially in textile and handicraft clusters. This is achieved through streamlined liquidity, payables negotiation, receivables collection, and inventory control. Strong indicators ($VIF < 2$, $Durbin-Watson = 2$) confirm dependability despite cross-sectional restrictions; small/medium enterprises outscored micros, confirming the representativeness of **stratified sample from 385 respondents**.

Suggestions:

In accordance with the findings, experts make the following recommendations:

- **Strategic:** Use ERP digitization for real-time WCM, structured credit policies, and JIT inventories.
- **Training:** Financial literacy initiatives that focus on optimizing receivables and payables for young and microbusiness owners.
- **Policy:** RIICO/NABARD cluster-specific subsidies, interest subsidies, and government-backed loan guarantees.
- **Future Research:** Longitudinal/multi-state studies that include the effects of digital transformation and ESG.

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