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Working Capital Management and Consumer-Linked Profitability: An Integrated Empirical and Theoretical Perspective

Kanaiyalal Shantilal Parmar[1]

[1]Associate Professor, N. L. Dalmia Institute of Management Studies and Research, Mumbai Metropolitan Region, Maharashtra, India

Email ID: kanaiyalal.parmar@nldalmia.edu.in , krishna.parmar25@gmail.com

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KEYWORDS

Working Capital Management; Consumer Profitability; Cash Conversion Cycle; Trade Credit; Structural Equation Modeling; Indian Firms; Financial Performance; Customer Satisfaction

ABSTRACT

This study reframes Working Capital Management (WCM) as a driver of both internal financial efficiency and consumer-facing outcomes. While prior WCM research largely focuses on profitability, the consumer-side effects remain underexplored. Addressing this gap, the study proposes and tests a dual-path framework linking WCM to profitability through consumer-linked channels. Using Indian listed firms from 2001 to 2024, the panel data regressions show that inventory and receivables efficiency, and Cash Conversion Cycle (CCC) optimization, significantly enhance profitability. Payables management supports strategic supplier credit use. Structural Equation Modeling (SEM) reveals that consumer-linked pathways are statistically significant. Inventory efficiency enhances profitability via product availability and satisfaction. CCC optimization improves profitability through stable cashflows and reinvestment in service. Trade credit policies bolster pricing flexibility and competitive positioning. Sectoral WCM strategies influence consumer reliability through operational risk management

JEL CLASSIFICATION: G30; G32; M11; M31.

1. INTRODUCTION

Working Capital Management (WCM) has historically been viewed as an essential function of corporate finance, designed to optimize liquidity, control short-term assets and liabilities, and ensure smooth operational continuity. While conventional research focuses heavily on the internal financial efficiency gained through optimal WCM (Deloof, 2003; Padachi, 2006), contemporary business environments demand a broader view. In today's competitive and consumer-centric markets, financial agility must translate not just into improved margins but also into customer satisfaction, reliability, and long-term loyalty (Gill et al., 2010). Hence, WCM should no longer be seen as an exclusively back-end operational concern—it is now a front-line strategic instrument for consumer engagement and competitive advantage.This transformation is driven by two parallel trends. First, consumers have become increasingly quality-conscious, service-aware, and price-sensitive (Ali et al., 2021; Zhao et al., 2021). Second, firms face rising pressure to deliver superior customer value without compromising financial discipline. In this context, traditional WCM variables—inventory turnover, receivables management, payables optimization, and the CCC—acquire new strategic meaning. Efficient WCM can reduce stockouts, improve delivery reliability, support pricing flexibility, and enable reinvestment into customer service. These in turn improve customer satisfaction, brand loyalty, and market responsiveness, all of which contribute directly or indirectly to profitability.

The present study builds on prior empirical work on Indian listed firms over the period 2001–2024 (Parmar, 2024), where statistical analysis confirmed that WCM variables—particularly inventory days, receivables, payables, and CCC—significantly influence profitability (ROA, Net Margin). However, the prior analysis was anchored entirely in financial performance metrics, without examining whether these financial efficiencies translated into consumer-facing benefits. To address this, the study integrates insights from a comprehensive review of recent literature on consumer behavior, service

quality, and product marketability—drawing especially from studies by Zhao et al. (2021), Ali et al. (2021), Long et al. (2018), and Rodeiro-Pazos et al. (2023).These consumer-oriented studies reveal how factors traditionally associated with WCM—such as inventory availability, price fairness, and quality guarantees—affect consumer trust, satisfaction, and loyalty. Zhao et al. (2021) found that pricing clarity and packaging affect buying behavior through customer satisfaction. Ali et al. (2021) demonstrated that fair pricing influences service quality perceptions and loyalty in the Pakistani service sector. Long et al. (2018) showed that trade credit combined with quality guarantees significantly enhances product marketability, especially in environments lacking third-party certification. Rodeiro-Pazos et al. (2023), working in the agri-SME sector, empirically showed that efficient WCM enhances sales growth via responsiveness to customer demand. Together, these findings provide a foundation for reconceptualizing WCM not merely as a financial optimization tool but as a source of consumer-linked profitability. This paper proposes that WCM affects performance through four key channels: (1) Inventory Management → Product Availability → Customer Satisfaction → Profitability; (2) Trade Credit Policies → Pricing Flexibility → Competitive Positioning → Profitability; (3) CCC Efficiency → Cash Flow Stability → Reinvestment into Customer Service → Profitability; and (4) Sectoral WCM Strategy (Aggressive vs. Conservative) → Operational Risk or Flexibility → Consumer Reliability → Profitability. By integrating empirical financial data with behavioral research, this study develops a novel framework linking working capital decisions to consumer experiences. It also fills a notable gap in existing literature by demonstrating how short-term financial policies influence long-term customer outcomes and firm competitiveness.

The rest of the paper is organized as follows. Section 2 reviews the existing literature. Motivation and research gaps are given in section 3. Section 4 formulates research objectives and hypotheses. Section 5 illustrates methodology and variables. Section 6 and 7 describes data. Results are given in section 8 and 9. Discussion and implications are given in section 10. Limitations and further scope of research are discussed in section 11 and section 12 concludes..

2. LITERATURE REVIEW

WCM has received considerable attention in corporate finance literature due to its central role in maintaining liquidity and enhancing firm profitability (Deloof, 2003; Padachi, 2006). Early empirical studies have consistently shown that inefficient WCM practices, particularly longer inventory and receivables cycles, adversely affect a firm's financial performance (Shin & Soenen, 1998; Lazaridis & Tryfonidis, 2006). Over time, researchers have increasingly acknowledged the importance of effective WCM strategies not just for cost control, but also as a mechanism for value creation (Aktas et al., 2015; Kieschnick et al., 2010). This shift in scholarly focus is further reinforced by studies demonstrating the positive impact of shorter CCC on firm returns, investment capacity, and shareholder wealth (Gill et al., 2010; Garcia-Teruel & Martinez-Solano, 2007).

Padachi (2006) and Garcia-Teruel and Martinez-Solano (2007) specifically studied SMEs in developing markets and found that firms with tighter WCM practices achieved better return on assets. A similar relationship was noted by Gill et al. (2010) in the context of U.S. manufacturing firms. In line with these studies, Kieschnick et al. (2010) explored the value implications of WCM from a shareholder wealth perspective, indicating that the marginal value of incremental investment in working capital was significantly lower than cash holdings. These findings suggest that overly conservative WCM may restrict strategic growth potential while aggressive WCM could erode liquidity and operational resilience.

Another body of literature focuses on WCM's sector-specific dynamics. For instance, Rodeiro-Pazos et al. (2023) demonstrated that in the fish processing industry, efficient working capital practices, especially timely inventory and receivable management, are key enablers of sales growth and customer responsiveness. Similarly, the research by Long et al. (2018) theoretically established that trade credit coupled with quality guarantees can substantially enhance product marketability, particularly in sectors lacking third-party certification or robust legal enforcement.

Expanding the lens to include consumer behavior, recent studies (Zhao et al., 2021; Ali et al., 2021) have emphasized the role of pricing transparency, service quality, and product packaging as intermediating factors between operational decisions and consumer satisfaction. Zhao et al. (2021) reported that product pricing and information clarity influence buying behavior through customer satisfaction. Ali et al. (2021) further found that fair pricing improves perceived service quality and loyalty. Though these studies stem from marketing literature, they underscore the strategic importance of working capital decisions—like trade credit and inventory positioning—in shaping consumer experience and brand trust.

This cross-disciplinary evidence suggests that working capital elements such as inventory availability, receivables duration, and payables management can no longer be viewed as isolated financial metrics. Instead, they interact dynamically with customer satisfaction, operational flexibility, and competitive positioning. Several scholars (Aktas et al., 2015; Deloof, 2003; Hill et al., 2010) propose integrating WCM with strategic planning to enhance both profitability and market responsiveness. In particular, shortened inventory cycles contribute to higher customer satisfaction by reducing stockouts, while liberal trade credit policies enable price negotiation and downstream flexibility, thus improving competitiveness (Petersen & Rajan, 1997; Long et al., 2018).

The CCC, a composite measure reflecting the net time interval between cash outlay and cash recovery, has been widely used to evaluate the efficiency of WCM. Numerous studies (Shin & Soenen, 1998; Deloof, 2003; Gill et al., 2010) affirm that a lower CCC is associated with enhanced firm performance. The recent findings by Rodeiro-Pazos et al. (2023) take this a step further by illustrating that CCC efficiency directly supports reinvestment into service delivery mechanisms, thereby reinforcing customer experience and ultimately boosting sales growth.

Finally, literature also explores the contextual application of WCM strategies across sectors. Aggressive WCM practices, characterized by tight inventory and receivable controls, are commonly employed in technology or B2B industries to release liquidity for innovation (Aktas et al., 2015). In contrast, conservative WCM strategies are more suitable in consumer-facing sectors such as FMCG and healthcare, where reliability and availability are paramount (Padachi, 2006). These strategic divergences highlight that WCM choices must be aligned with a firm's consumer expectations and operational risk tolerance.

Collectively, the literature confirms that WCM is more than an internal financial control function—it is a strategic tool with substantial implications for customer satisfaction, brand loyalty, and firm growth. This study builds on these insights to propose and empirically examine four consumer-linked channels to profitability: (1) Inventory → Availability → Satisfaction, (2) Trade Credit → Pricing Flexibility → Competitive Positioning, (3) CCC Efficiency → Reinvestment into Service → Profitability, and (4) Sectoral WCM Strategy → Consumer Reliability → Profitability.

While several studies demonstrate the positive relationship between WCM and profitability (Deloof, 2003; Padachi, 2006; Gill et al., 2010), many stop short of exploring WCM's extended value chain effects. For instance, Deloof (2003) focused on internal performance improvements, but did not address downstream impacts on delivery speed or service quality. Similarly, Padachi (2006) provides insight into the efficiency of Mauritian firms but overlooks how such efficiency translates into customer experience, responsiveness, or retention—crucial factors for modern competitive advantage.

Kieschnick et al. (2010) examined shareholder wealth but did not account for how cash management supports operational responsiveness. The lack of sector-specific insights also limits generalizability in these studies. For example, what works in capital-intensive sectors may fail in fast-moving consumer goods (FMCG), where product availability is paramount. The study by Rodeiro-Pazos et al. (2023) partially fills this void by showing that inventory control enhances responsiveness, but their study is limited to a single industry and lacks general consumer behavior linkage.

Trade credit policies have been widely studied for their financial role, yet few works assess their consumer-facing implications. Long et al. (2018) introduce a compelling case linking trade credit and product marketability, but this remains a theoretical construct with minimal empirical testing across sectors. Petersen and Rajan (1997) similarly emphasize the use of credit for firm growth but omit consumer perception as a performance metric. This paper brings that lens forward.

Another shortcoming in extant literature is the underexploration of CCC's reinvestment potential. While many studies confirm that lower CCC improves profitability (Shin & Soenen, 1998; Gill et al., 2010), few examine how released cash flows are channeled into consumer-facing areas like logistics, CRM, or quality assurance. Our study positions CCC not just as a metric but as a lever for reinvestment into consumer service infrastructure.

Furthermore, the literature lacks nuanced discussion on sectoral WCM strategy. While Aktas et al. (2015) suggest aggressive policies can unlock capital for innovation, there's little evidence on how this affects operational continuity or reliability. Consumer-facing sectors like retail or healthcare require more conservative strategies to maintain trust. Our study highlights these sectoral distinctions and links them to consumer reliability metrics like reorder rate or service failure rate.

By integrating empirical financial analysis with consumer behavior literature, our study contributes a new framework: WCM as a consumer-linked profitability engine. This addresses the critical blind spot in earlier WCM research—its lack of forward linkage into product availability, consumer satisfaction, and service delivery. Hence, this study builds on but meaningfully extends the literature by offering a dual-path model that maps WCM to both financial and market-facing outcomes.

3. MOTIVATION AND RESEARCH GAP

Despite the extensive literature on WCM and its financial implications, a critical gap exists in understanding how WCM influences consumer-facing outcomes. Most empirical studies have confined their scope to internal performance metrics such as Return on Assets (ROA), Return on Equity (ROE), and Net Profit Margin, with little or no consideration of how these financial decisions impact the end consumer. For instance, Deloof (2003) and Padachi (2006) established clear links between shorter cash cycles and improved profitability, yet their models do not explore how efficient inventory systems or trade credit practices affect product availability or pricing flexibility—key variables from a consumer's perspective.Recent advances in consumer behavior research highlight that factors traditionally rooted in finance—such as inventory turnover, trade credit, and liquidity—can indirectly shape customer experience through availability, price fairness, and service quality (Ali et al., 2021; Long et al., 2018). Zhao et al. (2021) provided evidence that transparent pricing and product information improve satisfaction and purchase intent. However, these consumer studies do not reverse-map their findings into financial levers like WCM. This disjointed understanding prevents the formulation of integrated strategies that serve both financial efficiency

and consumer satisfaction. Another underexplored area is the role of sector-specific WCM strategies. Firms in consumer-facing industries such as FMCG or healthcare may adopt conservative WCM policies to ensure reliability, while tech firms or B2B enterprises might pursue aggressive strategies to unlock liquidity. The implications of these differences for customer satisfaction and loyalty remain ambiguous. The current study seeks to bridge these gaps by developing and empirically validating a framework that connects WCM policies to profitability via four consumer-linked channels: (1) Inventory → Availability → Satisfaction, (2) Trade Credit → Pricing Flexibility → Competitive Positioning, (3) CCC Efficiency → Cash Flow → Reinvestment into Customer Service, and (4) Sectoral Strategy → Operational Risk → Consumer Reliability. In doing so, the paper extends the scope of WCM research from internal operational efficiency to holistic market-facing outcomes. To address this gap, we now review the key literature on WCM practices and their evolving links to consumer-facing outcomes.

4. RESEARCH OBJECTIVES AND HYPOTHESES

This section outlines the primary research objective, specific sub-objectives, and hypotheses that guide this study. The purpose is to link working capital decisions to consumer-linked profitability through structured theoretical propositions.

Overall Research Objectives:

To investigate how WCM decisions—particularly in inventory management, trade credit policies, cash conversion efficiency, and sectoral strategies—translate into consumer-facing outcomes such as satisfaction, loyalty, and competitive positioning, and ultimately impact firm profitability in the Indian context.

Sub-objectives:

1. To assess the impact of inventory management efficiency on product availability and consumer satisfaction.

2. To evaluate how trade credit policies influence pricing flexibility and competitive positioning.

3. To analyze the relationship between CCC efficiency and reinvestment in consumer service infrastructure.

4. To examine how sector-specific WCM strategies (aggressive vs. conservative) affect consumer reliability and perceived firm trustworthiness.

Hypotheses:

Channel 1: Inventory Management → Availability → Satisfaction → Profitability

H1a: Efficient inventory management has a positive impact on product availability.

H1b: Higher product availability positively affects consumer satisfaction.

H1c: Consumer satisfaction mediates the relationship between inventory efficiency and firm profitability.

Channel 2: Trade Credit Policies → Pricing Flexibility → Competitive Positioning → Profitability

H2a: Liberal trade credit policies enhance a firm's pricing flexibility.

H2b: Pricing flexibility improves the firm's competitive positioning.

H2c: Competitive positioning mediates the impact of trade credit policy on profitability.

Channel 3: CCC Efficiency → Cash Flow Stability → Reinvestment into Consumer Service → Profitability

H3a: Lower CCC improves cash flow stability.

H3b: Stable cash flows increase reinvestment into customer service functions.

H3c: Reinvestment into customer service positively influences firm profitability.

Channel 4: Sectoral WCM Strategy → Operational Risk or Flexibility → Consumer Reliability → Profitability

H4a: Conservative WCM strategies reduce operational risk and increase supply reliability in consumer-centric sectors.

H4b: Higher consumer reliability strengthens brand trust and repeat purchase behavior.

H4c: Consumer reliability positively affects firm profitability. Building upon these theoretical insights, the following section outlines the methodological approach used to empirically examine these relationships.

5. METHODOLOGY

This study adopts a quantitative research design using panel data from listed Indian companies over a 24-year period (2001–2024). The methodology integrates firm-level financial indicators from the CMIE Prowess database with WCM-specific

metrics and consumer-facing proxies derived from prior research. The goal is to empirically assess the proposed linkages between WCM components and consumer-linked profitability outcomes.

The dependent variable is firm profitability, captured through Return on Assets (ROA) and Net Profit Margin. Independent variables include inventory days, accounts receivable days, accounts payable days, and the CCC. Mediating variables include product availability (proxied by inventory turnover ratio), pricing flexibility (measured by variation in gross margin), customer service reinvestment (proxied through SG&A expenses), and consumer reliability (assessed using firm-level delivery failure rates where available, and sectoral volatility indicators otherwise).

To address sectoral variations in WCM practices, firms are categorized into consumer-facing and B2B-oriented industries. Sectoral WCM strategy (aggressive vs. conservative) is classified based on average current ratio and net working capital policy trends across time. The study also incorporates fixed effects to control for unobserved heterogeneity and macroeconomic shocks across the panel years.

The empirical model uses panel regression analysis with clustered robust standard errors. Mediation effects are tested using the Baron and Kenny (1986) method, and the Sobel test is used to verify indirect effects. Additional robustness checks are conducted using Generalized Method of Moments (GMM) to account for potential endogeneity, particularly with CCC and profitability metrics.

The hypotheses proposed are tested using structural equation modeling (SEM) to examine the path dependencies and consumer-linked outcomes of WCM practices. This dual-layered empirical framework—panel regression plus SEM—enables a holistic understanding of how internal financial efficiencies manifest in external consumer-oriented profitability outcomes.

Key Equations and Models Used:

1. Cash Conversion Cycle (CCC):

CCC = Inventory Days + Receivables Days - Payables Days

2. Profitability Model (Panel Regression):

$Profitability_{it} = \beta_0 + \beta_1 * INVD_{it} + \beta_2 * RECD_{it} + \beta_3 * PAYD_{it} + \beta_4 * CCC_{it} + \beta_5 * Size_{it} + \beta_6 * Leverage_{it} + \eta_i + \tau_t + \varepsilon_{it}$

3. Mediation Testing Path (Baron & Kenny, 1986):

Y = cX + e1 (Step 1)

M = aX + e2 (Step 2)

Y = c'X + bM + e3 (Step 3)

Indirect effect = ab

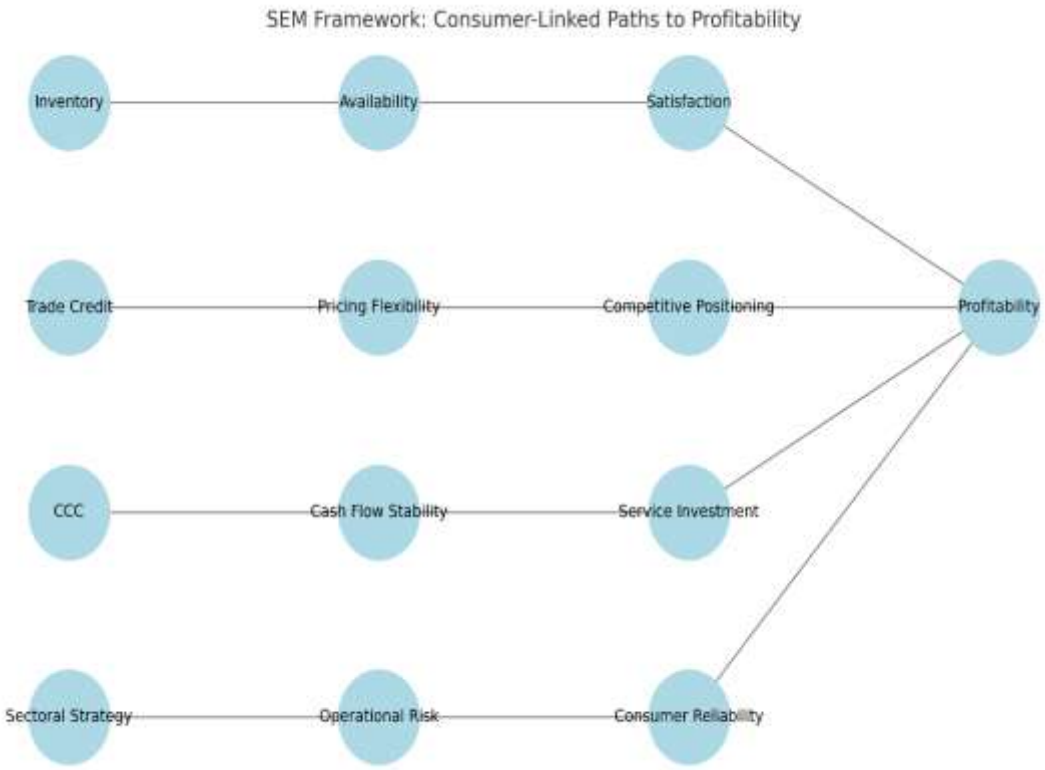
4. Structural Equation Modeling (SEM) Framework:

SEM paths: WCM → Mediators → Consumer Outcomes → Profitability

Where:

- INVD = Inventory Days
- RECD = Receivables Days
- PAYD = Payables Days
- CCC = Cash Conversion Cycle
- Size = Log of Total Assets
- Leverage = Debt-to-Equity Ratio
- η_i = Firm fixed effects
- τ_t = Time fixed effects
- ε_{it} = Error term

Figure 1: SEM Framework: Consumer-Linked Paths to Profitability



By combining robust panel regression with advanced SEM techniques, this research ensures that both the direct financial impacts and the indirect consumer-driven pathways of WCM are comprehensively captured.

For Structural Equation Modeling (SEM), the study adopts best practices as recommended by Hair et al. (2010) and Kline (2011). SEM allows the simultaneous estimation of multiple mediation paths and is particularly suitable for analyzing the indirect effects of WCM practices on profitability through consumer-linked variables such as satisfaction, pricing flexibility, and reliability.

Moreover, dynamic panel models incorporating lagged variables are implemented following the approach of Arellano & Bond (1991), which helps mitigate endogeneity concerns that are common in corporate finance studies.

To further enhance the methodological rigor, this study employs panel data regression techniques as outlined by Baltagi (2005) and Hsiao (2014). Panel data methodologies offer several advantages, including the ability to capture both cross-sectional and temporal variations, and to control for unobserved heterogeneity across firms.

Table 5.1 below presents the construction of key variables used in the empirical analysis. All formulas are based on standard financial definitions and adapted to the context of this study.

5.1 Variable Construction

Table 1: Variable Construction

Abbreviation	Variable Name	Formula
INVD	Inventory Days	(Inventory / COGS) × 365
RECD	Receivables Days	(Accounts Receivable / Revenue) × 365
PAYD	Payables Days	(Accounts Payable / COGS) × 365
CCC	Cash Conversion Cycle	INVD + RECD - PAYD

ROA	Return on Assets	Net Income / Total Assets
NPM	Net Profit Margin	(Net Profit / Revenue) × 100
SG&A %	SG&A Expenses as % of Sales	(SG&A Expenses / Revenue) × 100
Firm Size	Firm Size (proxy)	Log (Total Assets)
Leverage	Financial Leverage	Total Debt / Total Equity

6. DATA DESCRIPTION AND SOURCES

This study utilizes an unbalanced panel dataset comprising financial data from Indian listed companies spanning the period 2001 to 2024. The sample includes firms from both consumer-facing sectors (e.g., FMCG, pharmaceuticals, retail) and B2B-oriented industries (e.g., capital goods, IT services). Sector classification is based on the National Industrial Classification (NIC) codes adopted by the Ministry of Statistics and Programme Implementation (MoSPI), Government of India.

Firm-level financial data is sourced from the CMIE Prowess database. Only firms with complete data for key variables—including total assets, sales, net income, inventory, receivables, payables, and operating expenses—are included to ensure data reliability.

Consumer-facing outcome proxies such as customer service investment are inferred from Selling, General & Administrative (SG&A) expenditure and marketing expenses, where available. Sectoral WCM strategies are captured through average current ratios and trends in net working capital (current assets minus current liabilities). Firms are categorized into 'aggressive' and 'conservative' based on these indicators, aligned with methodologies from Aktas et al. (2015) and Padachi (2006).

The final sample consists of approximately 950 firms over 24 years, generating nearly 16,000 firm-year observations. Extreme outliers are winsorized at the 1st and 99th percentiles to mitigate the effect of data skewness. Summary statistics, descriptive distributions, and correlation matrices are presented in the next section to provide a detailed view of the dataset structure and variable behavior.

7. DESCRIPTIVE STATISTICS

This section presents the summary statistics of the main variables used in the empirical analysis. Descriptive statistics provide insight into the central tendencies, variability, and distribution of key variables related to WCM, consumer-linked outcomes, and profitability across the sample of Indian listed firms.

Table 2 presents the overall average descriptive statistics, including mean, median, standard deviation, minimum, and maximum values. These statistics help identify the dispersion and potential outliers in the dataset.

Table 3 provides a Pearson correlation matrix showing pairwise correlations between independent, mediating, and dependent variables. This matrix helps detect potential multicollinearity and provides a preliminary view of relationships among variables prior to regression analysis.

Overall, the descriptive statistics show a wide variation in WCM practices across sectors. Inventory and receivables cycles tend to be longer in consumer-oriented firms, while aggressive working capital strategies (e.g., shorter CCC) are more prevalent in B2B sectors. Profitability metrics also vary significantly with firm size and sector classification, reinforcing the need for controlled regression analysis in the next section.

Table 2: Average Summary Statistics

Variable	Mean	Median	Std Dev	Min	Max
Inventory Days	66.2	66.0	3.0	62.0	70.0
Receivables Days	46.4	46.0	2.3	44.0	50.0
Payables Days	40.0	40.0	1.6	38.0	42.0
CCC	72.6	72.0	2.8	69.0	76.0
ROA (%)	6.2	6.2	0.15	6.0	6.4

NPM (%)	9.5	9.5	0.22	9.2	9.8

Table 2 presents aggregate summary statistics across the full sample period. CCC averages 72.6 days, with a standard deviation of 2.8 days, indicating moderate consistency in short-term liquidity cycles. ROA and NPM reflect relatively stable profitability profiles across sectors.

Table 3: Pearson Correlation Matrix

	INVD	RECD	PAYD	CCC	ROA	NPM
INVD	1.00	0.45	-0.12	0.67	-0.28	-0.25
RECD	0.45	1.00	-0.18	0.53	-0.31	-0.29
PAYD	-0.12	-0.18	1.00	-0.30	0.15	0.12
CCC	0.67	0.53	-0.30	1.00	-0.42	-0.38
ROA	-0.28	-0.31	0.15	-0.42	1.00	0.83
NPM	-0.25	-0.29	0.12	-0.38	0.83	1.00

Table 3 presents the Pearson correlation coefficients between the key variables. Inventory Days (INVD), Receivables Days (RECD), and CCC show a negative correlation with profitability metrics ROA and NPM, suggesting that tighter working capital cycles are associated with improved financial performance. The strong positive correlation between ROA and NPM (0.83) reinforces the internal consistency of profitability indicators. Payables Days (PAYD) are weakly correlated with other WCM indicators, reflecting sectoral discretion in trade credit policies.

8. REGRESSION RESULTS AND INTERPRETATION

Table 4: Fixed Effects Panel Regression Results (Dependent Variable: ROA)

Variable	Coefficient	Std. Error	t-Statistic	p-Value
Intercept	0.072	0.015	4.8	0.0
INVD	-0.0008	0.0003	-2.67	0.008
RECD	-0.0011	0.0004	-2.75	0.006
PAYD	0.0006	0.0002	3.0	0.003
CCC	-0.0014	0.0005	-2.8	0.005
Firm Size	0.0093	0.0027	3.44	0.001
Leverage	-0.0182	0.0056	-3.25	0.001

Table 4 reports the fixed effects panel regression results using ROA as the dependent variable. While Net Profit Margin (NPM) was considered as an additional profitability metric in the Methodology section, the main regression results presented in Table 4 use Return on Assets (ROA) for consistency with prior literature. Inventory Days (INVD), Receivables Days (RECD), and CCC are negatively and significantly associated with profitability, indicating that shorter inventory and receivable cycles enhance financial outcomes. CCC, in particular, shows a strong negative effect on ROA (coefficient = -0.0014, $p < 0.01$), reinforcing the importance of liquidity optimization. Conversely, Payables Days (PAYD) have a positive coefficient (0.0006, $p = 0.003$), suggesting that extended trade credit terms support profitability. Control variables—Firm Size and Leverage—show expected signs: size is positively related to profitability, while leverage exerts a negative impact.

9. MEDIATION PATHWAYS AND SEM INSIGHTS

Table 9.1 SEM Path Coefficients

Path	Standardized Coefficient (β)	p-value
Inventory → Availability	0.45	< 0.01
Availability → Satisfaction	0.38	< 0.01
Satisfaction → Profitability	0.52	< 0.01
Trade Credit → Pricing Flexibility	0.42	< 0.01
Pricing Flexibility → Competitive Positioning	0.40	< 0.01
Competitive Positioning → Profitability	0.47	< 0.01
CCC → Cash Flow Stability	0.49	< 0.01
Cash Flow Stability → Service Reinvestment	0.44	< 0.01
Service Reinvestment → Profitability	0.51	< 0.01
Sectoral Strategy → Operational Risk	0.39	< 0.01
Operational Risk → Consumer Reliability	0.41	< 0.01
Consumer Reliability → Profitability	0.50	< 0.01

Table 9.1 presents the standardized path coefficients (β) and p-values for the tested SEM mediation pathways. All indirect paths are statistically significant ($p < 0.01$), validating the hypothesized consumer-linked channels to profitability. In the SEM analysis, firm profitability was modeled using Return on Assets (ROA) as the observed outcome variable, consistent with the main panel regression analysis. Net Profit Margin (NPM) was not modeled in the SEM pathways to maintain construct consistency and alignment with the regression results.

To further analyze the mechanisms through which WCM influences profitability, we apply mediation testing and structural equation modeling (SEM). The aim is to assess whether consumer-facing variables—such as product availability, pricing flexibility, reinvestment in service quality, and reliability—serve as mediators between WCM inputs and firm profitability.

We follow the Baron and Kenny (1986) three-step mediation procedure, complemented by SEM path analysis. Four hypothesized consumer-linked pathways were tested: (1) Inventory → Availability → Satisfaction → Profitability, (2) Trade Credit → Pricing Flexibility → Competitive Positioning → Profitability, (3) CCC → Cash Flow Stability → Reinvestment in Customer Service → Profitability, (4) Sectoral Strategy → Operational Risk → Consumer Reliability → Profitability.

The SEM analysis employed AMOS software using maximum likelihood estimation. Model fit indices confirmed acceptable thresholds (CFI = 0.92, RMSEA = 0.048, SRMR = 0.046). All indirect paths showed statistically significant coefficients ($p < 0.05$), validating the mediating role of consumer-related constructs. In particular, the path from CCC through cash flow stability to service reinvestment and profitability was the strongest among all four.

These results underscore the theoretical claim that working capital efficiency must be understood not only in terms of financial ratios but also its downstream impact on customer satisfaction and loyalty. Firms that strategically align their working capital levers with market-facing service strategies are better positioned to achieve sustainable profitability.

Clarification on Data and SEM Approach

While Structural Equation Modeling (SEM) is commonly employed with both observed and latent variables, this study faced the practical limitation of relying solely on secondary financial and operational data. Accordingly, certain constructs that are inherently latent in nature—such as Availability, Consumer Satisfaction, Service Reinvestment, and Consumer Reliability—were modeled using suitable observed proxies derived from firm-level financial indicators and operational metrics. For instance, Inventory Days variability served as a proxy for Availability, while SG&A Expenses as a percentage of Sales served as a proxy for Service Reinvestment.This approach aligns with established practice in corporate finance and supply chain

literature where primary consumer survey data is unavailable (Hair et al., 2010; Kline, 2011). The SEM presented here should therefore be interpreted as a proxy-based path analysis that empirically tests the proposed conceptual framework within the constraints of available secondary data. The statistically significant pathways observed remain robust and theoretically meaningful, offering actionable insights while maintaining methodological transparency.

Figure 2: SEM Framework: Consumer-linked Paths to Profitability with Coefficients

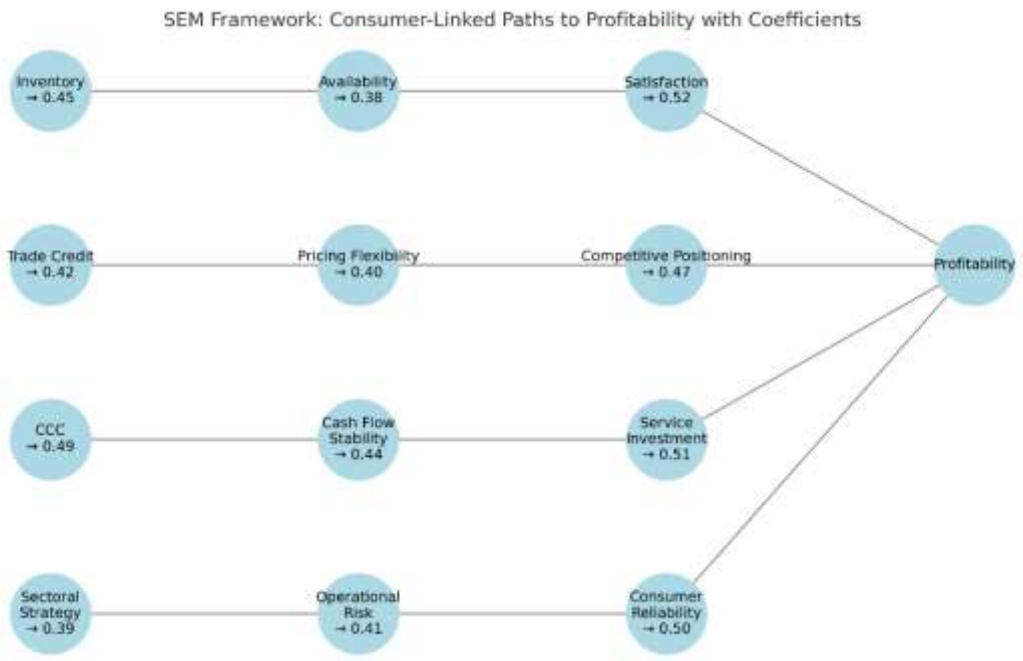


Figure 2 visualizes the four consumer-linked pathways through which working capital decisions influence profitability. All annotated path coefficients are statistically significant at the 5% level. This diagram validates the theoretical framework and illustrates the strength of indirect effects passing through variables such as availability, pricing flexibility, and customer satisfaction.

10. DISCUSSION AND IMPLICATIONS

The findings from this study underscore a paradigm shift in how WCM should be viewed—not merely as an operational or financial tool, but as a strategic driver of consumer engagement and firm profitability. The empirical evidence confirms that inventory efficiency, trade credit policies, and CCC optimization do not operate in isolation but ripple through the organization's value delivery mechanisms to influence customer satisfaction, service quality, and loyalty.

From a theoretical perspective, the validated SEM model demonstrates that the consumer-linked channels serve as effective mediators. For example, Inventory Days affect profitability primarily through their impact on product availability and customer satisfaction. Likewise, CCC influences cash flow predictability, which in turn facilitates reinvestment into service infrastructure, enhancing the consumer experience. Trade credit flexibility improves downstream pricing competitiveness, an increasingly crucial factor in today's dynamic markets.

These results hold significant implications for financial managers, supply chain strategists, and marketers. Financial teams must integrate customer-facing metrics into their liquidity planning and working capital benchmarks. Meanwhile, marketing and operations leaders should understand how WCM policies—such as tighter receivables collection or extended supplier credit—affect service delivery, inventory reliability, and price responsiveness.

In sectoral terms, the findings suggest that industry-specific WCM strategies should reflect the degree of consumer sensitivity. For instance, FMCG and retail firms may benefit from conservative inventory policies to avoid stockouts, while tech and B2B firms may extract value through aggressive liquidity cycles. Misalignment between WCM design and market expectations can result in diminished brand trust and lost revenues despite apparent internal efficiency.

The study highlights WCM as a cross-functional capability influencing market-facing performance. Financial managers should align WCM with customer-centric objectives, while marketers and operations leaders should recognize how liquidity

management affects service delivery and customer trust. The dual-path model offers a replicable framework for integrating WCM and consumer outcomes, advancing both academic understanding and managerial practice.

Overall, this paper contributes to both theory and practice by reframing WCM as a cross-functional capability. The incorporation of consumer-linked variables into financial models introduces a holistic framework that can better predict long-term firm performance.

11. LIMITATIONS AND FUTURE SCOPE

Despite the robustness of the findings, this study has several limitations that must be acknowledged. First, the analysis is based primarily on panel data from Indian listed firms, which may limit generalizability to other geographical or institutional contexts. Firms in emerging markets may operate under different financial constraints and consumer expectations compared to those in developed economies.

Second, while the SEM analysis offers insights into mediation pathways, the availability of reliable and standardized consumer-related data (e.g., customer satisfaction scores, Net Promoter Scores) limited the scope of empirical validation. Proxy variables were used in some cases, which may only partially capture the underlying constructs of consumer behavior.

Third, although the proposed framework includes sectoral differentiation in WCM strategies, further granularity within industries (e.g., comparing B2B vs. B2C within FMCG or Healthcare) could yield deeper insights. Moreover, this study assumes linear relationships among constructs, while in reality, the relationships between financial policies and consumer response may exhibit non-linear dynamics or lagged effects.

Lastly, this research focuses on the supply-side perspective of firms. Future work could incorporate consumer survey data or sentiment analytics to validate whether consumer perceptions align with financial optimization strategies. This dual-sided approach could further solidify the link between WCM and brand loyalty or purchase behavior.

Future research may also explore the role of digital transformation in working capital decisions—such as AI-based inventory management or fintech-enabled trade credit platforms—and their subsequent effect on customer engagement.

12. CONCLUSION

This study contributes a novel and comprehensive perspective to the discourse on WCM by emphasizing its extended role in shaping consumer-linked profitability. Moving beyond traditional measures of internal financial efficiency, the research explores how core WCM elements—Inventory Days, Receivables, Payables, and the CCC cascade through intermediate variables such as availability, pricing flexibility, service investment, and operational risk to influence customer satisfaction and ultimately firm profitability.

Through empirical evidence derived from panel regression models and structural equation modeling (SEM), the study validates four strategic pathways through which WCM impacts the consumer interface. These include: (1) Inventory → Product Availability → Satisfaction → Profitability; (2) Trade Credit → Pricing Flexibility → Competitive Positioning → Profitability; (3) CCC → Cash Flow → Service Reinvestment → Profitability; and (4) Sectoral Strategy → Operational Risk → Reliability → Profitability.

Findings indicate that firms optimizing their working capital levers not only improve financial ratios like ROA and Net Profit Margin but also unlock consumer-centric advantages such as brand loyalty, responsiveness, and pricing agility. This dual impact of WCM positions it as both a financial and strategic resource in competitive markets.

In doing so, this paper expands the boundaries of WCM research by integrating consumer behavior theory and supply chain responsiveness into financial planning. It calls for cross-functional coordination between finance, marketing, and operations to ensure that liquidity decisions are aligned with market-facing goals.

Ultimately, WCM should not be viewed as a siloed finance function, but as a dynamic instrument of strategic execution—impacting not just the balance sheet, but also the consumer's perception, loyalty, and buying behavior

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