



# WORKING CAPITAL MANAGEMENT PRACTICES AND PERCEIVED FINANCIAL PERFORMANCE: SURVEY EVIDENCE FROM WATER PURIFICATION COMPANIES IN KISMAYO, JUBALAND STATE, SOMALIA

Aways Mohamed Hussein

Master of Business Administration, School of Management, Asia e University, Kuala Lumpur, Malaysia

(In Collaboration with Mogadishu University, Mogadishu, Somalia).

RIYAADA Institute for Leadership & Governance, Mogadishu, Somalia. ORCID: <https://orcid.org/0009-0001-5788-6725>

Article DOI: <https://doi.org/10.36713/epra29088>

DOI No: 10.36713/epra29088

## ABSTRACT

**Purpose** – This study examines how three working capital management (WCM) practices affect the financial performance of water purification companies in Kismayo, Jubaland State, Somalia, as reported by their staff. The practices are management of the cash conversion cycle (CCC), the accounts receivable period (ARP) and the inventory turnover ratio (ITR). Water supply there is essential, and it is provided by private firms in a fragile post-conflict economy.

**Design/methodology/approach** – A cross-sectional survey was administered to 85 managers and staff drawn from a population of 150 employees. Six five-item Likert scales captured the three WCM practices and three performance dimensions: return on investment (ROI), gross profit margin (GPM) and net profit margin (NPM). The analysis used reliability tests, Pearson correlations and ordinary least squares regression with bootstrapped confidence intervals. It also used hierarchical regression with demographic controls, chi-square tests, comparisons of means and moderation analysis.

**Findings** – All three practices correlate strongly and positively with perceived financial performance ( $r = 0.767\text{--}0.797$ ,  $p < 0.001$ ). Together they explain 72.4% of its variance ( $F(3,81) = 70.68$ ,  $p < 0.001$ ). Each practice has a significant independent effect (CCC:  $\beta = 0.286$ ; ARP:  $\beta = 0.359$ ; ITR:  $\beta = 0.279$ ; all  $p \leq 0.006$ ), and these effects survive demographic controls ( $\Delta R^2 = 0.546$ ). Receivables management has the largest effect and is the only practice that predicts net profit margin independently. Work experience does not significantly moderate the relationship.

**Research limitations/implications** – The evidence rests on perceptions gathered in a single city with a convenience sample and a cross-sectional design. Causal claims are therefore not warranted, and common-method bias cannot be ruled out entirely.

**Practical implications** – Managers should formalise credit and collection routines first, then inventory and cash-cycle monitoring. Policymakers and development partners can support this through financial-management training for essential-service enterprises.

**Originality/value** – This is the first empirical study of WCM in Jubaland's water sector. It adds primary-data evidence on unlisted essential-service firms, which are under-represented in a literature built mainly on listed companies.

**Keywords:** Working capital management; Cash conversion cycle; Accounts receivable; Inventory turnover; Financial performance; Water purification; Somalia; Fragile states.

## 1. INTRODUCTION

Working capital management (WCM) covers decisions about the level, composition and financing of current assets and current liabilities. It is a central concern in corporate finance because it drives a firm's liquidity, risk and profitability (Smith, 1980; Deloof, 2003). A firm that holds too little working capital risks stock-outs, lost sales and default on short-term obligations. One that holds too much ties up funds that could earn a higher return elsewhere. The resulting liquidity–profitability trade-off is well documented (Eljelly, 2004; Baños-Caballero et al., 2014), and a meta-analysis of 46 studies concludes that more efficient WCM is generally associated with higher profitability (Singh et al., 2017).

Most of this evidence, however, comes from firms listed on stock exchanges in developed and large emerging economies. These studies rely on audited financial statements (Prasad et al., 2019). Small and medium-sized unlisted firms in fragile economies look very different. They often lack formal accounting systems, have limited access to bank credit and operate under weak market institutions. For such firms, internal working capital discipline may be one of the few levers available for financial sustainability (Peel and Wilson, 1996; Howorth and Westhead, 2003).



Somalia is a clear case. Since 1991, many basic services have been supplied by private enterprises, including the treatment and distribution of drinking water. Kismayo, the port city and commercial centre of Jubaland State, now hosts several private water purification companies. These firms must keep production running, carry stocks of chemicals, filters and bottles, and extend credit to distributors and institutional buyers, all in an uncertain operating environment. Their financial performance matters to their owners and to the reliability and affordability of drinking water for residents. Yet no published study has examined how these firms manage working capital or whether their WCM practices relate to financial performance.

The closest evidence comes from Puntland. Osman Hassan et al. (2020) analysed quarterly accounting data from four water processing firms in Garowe. Jama et al. (2018) surveyed retail firms in the same city. Both studies found mixed or context-specific effects, and they attributed this partly to Somalia's unstable business environment. Evidence from southern Somalia, and from larger samples of respondents inside the firms, is absent.

This study addresses that gap. It asks three questions:

- How is the management of the CCC related to the perceived return on investment (ROI) of water purification companies in Kismayo?
- How is the management of the ARP related to their perceived gross profit margin (GPM)?
- How is the management of the ITR related to their perceived net profit margin (NPM)?

The study makes three contributions. First, it provides the first primary-data evidence on WCM in Jubaland's water sector, an essential-service industry in a fragile state. Second, it shows that the positive association between WCM and performance, well established in audited-data studies, also appears when practices and outcomes are assessed by the people who run the firms. In this sample, receivables management stands out as the most influential practice. Third, it reports a fuller set of robustness, control and moderation tests than earlier Somali studies, which makes future replication easier.

## **2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT**

### **2.1 Theoretical foundations**

Three theoretical perspectives explain why WCM should affect performance.

Trade-off theory, which began as a theory of capital structure (Kraus and Litzenberger, 1973), implies that firms weigh the benefits of liquid buffers against their costs. The costs include idle cash, carrying costs of inventory and the opportunity cost of credit extended to customers. There is therefore an efficient level of working capital beyond which extra investment destroys value. Baños-Caballero et al. (2012, 2014) confirmed this with an inverted-U relationship between working capital and performance, and Afrifa and Padachi (2016) found a similar concave pattern for SMEs.

Pecking-order theory (Myers, 1984; Myers and Majluf, 1984) predicts that firms prefer internal funds to external finance because of information asymmetry. This preference is stronger where credit markets are thin, as in Somalia. Shortening the cash cycle releases internal funds and reduces the need for costly external financing.

Agency theory (Jensen and Meckling, 1976) adds that disciplined WCM limits managers' discretion over free cash. Formal monitoring of receivables and inventory also reduces the scope for inefficiency or leakage.

Taken together, these perspectives predict that firms that manage their cash cycle, receivables and inventory more actively will perform better, at least until working capital becomes too lean.

### **2.2 Cash conversion cycle and return on investment**

The CCC measures the time between paying suppliers and collecting cash from customers. It is calculated as inventory days plus receivable days minus payable days (Richards and Laughlin, 1980). Most studies report a negative relationship between the length of the CCC and profitability. This holds for large Belgian firms (Deloof, 2003), US listed firms (Shin and Soenen, 1998), Spanish SMEs (García-Teruel and Martínez-Solano, 2007), Greek listed companies (Lazaridis and Tryfonidis, 2006) and Pakistani listed firms (Raheman and Nasr, 2007). Shorter cycles also add value for shareholders (Kieschnick et al., 2013; Aktas et al., 2015), and the relationship varies over the business cycle (Enqvist et al., 2014).

Some studies report positive or non-linear relationships. Gill et al. (2010) found a positive CCC–profitability association for US manufacturers. Osman Hassan et al. (2020) found a positive effect of the cash conversion ratio on ROA for Garowe water firms. These results suggest that measurement choices and context matter. For firms without audited accounts, the practical question is whether managers monitor and act on the cash cycle, rather than what its exact length is. Accordingly:

**H1. Effective management of the CCC is positively associated with perceived ROI.**

**2.3 Accounts receivable period and gross profit margin**

Trade credit supports sales and customer relationships, but long collection periods increase bad-debt risk and financing needs. Deloof (2003) and Raheman and Nasr (2007) found that longer receivable periods are associated with lower profitability. Mathuva (2010) reported a highly significant negative relationship between the collection period and profitability among firms listed on the Nairobi Securities Exchange. Survey evidence from Kenyan small enterprises likewise links more efficient receivables management to better performance (Nyabwanga et al., 2012). In Somalia, Osman Hassan et al. (2020) found receivables turnover to be negatively related to ROA, which shows that the direction of the effect depends on the setting. Where credit rests on informal, relationship-based arrangements and contract enforcement is weak, disciplined collection may be especially valuable. Hence:

**H2. Effective management of the ARP is positively associated with perceived GPM.**

**2.4 Inventory turnover ratio and net profit margin**

Inventory buffers production against supply disruption but incurs storage, spoilage and financing costs. Faster turnover generally improves profitability (Deloof, 2003; García-Teruel and Martínez-Solano, 2007; Padachi, 2006). The evidence is not uniform, however. Mathuva (2010) found that Kenyan firms holding larger inventories were more profitable, apparently because the stocks protected them against stock-outs and price volatility. For water purifiers, inventory consists mainly of treatment chemicals, membranes, packaging and finished bottled water. How well it is managed determines both cost control and service continuity. Hence:

**H3. Effective management of the ITR is positively associated with perceived NPM.**

**2.5 Research gap and the role of experience**

Three gaps emerge. Industry-specific evidence from fragile states, especially on essential-service providers, is scarce. Reliance on published statements excludes the unlisted firms that dominate economies such as Somalia's (Prasad et al., 2019). And earlier Somali studies used simple regressions without controls or robustness checks.

Perceptions of WCM may also depend on respondents' experience. Seasoned staff are more likely to have seen how collection delays or stock-outs affect results (Howorth and Westhead, 2003). Experience is therefore tested as an exploratory moderator:

**H4. Work experience moderates the relationship between WCM and perceived financial performance.**

**2.6 Conceptual framework**

Figure 1 summarises the framework. The three WCM practices are independent variables. Perceived financial performance is the dependent variable, measured through ROI, GPM and NPM. Work experience is a moderator, and demographic characteristics are controls.

**Figure 1. Conceptual framework**

| Independent variables (WCM practices)       | Path | Dependent variable (perceived financial performance)    |
|---------------------------------------------|------|---------------------------------------------------------|
| Cash conversion cycle (CCC) management      | H1 → | Return on investment (ROI)                              |
| Accounts receivable period (ARP) management | H2 → | Gross profit margin (GPM)                               |
| Inventory turnover ratio (ITR) management   | H3 → | Net profit margin (NPM)                                 |
| Moderator: work experience (H4)             |      | Controls: gender, age, qualification, employment status |

Source: Author's construction

**3. METHODOLOGY****3.1 Design, population and sample**

The study used a quantitative, cross-sectional survey design. The target population was the 150 managers and employees of water purification companies operating in Kismayo District (13 companies). Resource and security constraints meant that a sampling frame could not be enumerated, so convenience sampling was used. Staff who were available and involved in the companies' operations were invited to take part.

Questionnaires were distributed to 85 respondents through Google Forms in 2024, and all 85 were returned complete. An a priori power analysis for multiple regression with three predictors (medium effect  $f^2 = 0.15$ ,  $\alpha = 0.05$ , power = 0.80) indicates a minimum of 77 cases (Cohen, 1992; Faul et al., 2009), so the sample is adequate for the main model.

**3.2 Instrument and measures**

The questionnaire had two parts. The first recorded respondents' demographic profile. The second contained six scales, each of five items, all measured on a five-point Likert scale (1 = strongly disagree; 5 = strongly agree). Three scales captured the WCM practices:

- CCC: the perceived importance and active management of the CCC in relation to ROI.
- ARP: the management of the ARP in relation to GPM.



- ITR: the management of the ITR in relation to NPM.

The other three scales captured perceived financial performance through the ROI, GPM and NPM dimensions.

Scale scores are item means. The overall financial performance index (FP) is the mean of the three performance dimensions. The items were developed from the WCM literature, reviewed by academic experts for relevance and clarity, and pre-tested in a small pilot with respondents outside the main sample.

### **3.3 Data preparation**

Responses were exported from Google Forms and coded 1–5. During preparation for this article, the original analysis file was checked against the raw response text. The check found that the "agree" and "disagree" categories had been given the same code. All items were therefore recoded directly from the raw text, and every result reported here uses the corrected coding. The frequency distributions of all items are unaffected.

In each WCM scale, items four and five are worded in the opposite direction to the others: one concerns challenges faced, the other the absence of a clear relationship. Reverse-scoring these items produced negative internal consistency. Their item–total correlations with the unreversed scale were positive (0.32–0.69). This pattern indicates that respondents read them as statements about the salience of the practice, consistent with acquiescent responding. The items were therefore scored as worded, and the implications are discussed in Section 6.3.

### **3.4 Validity and reliability**

Content validity was established through the literature review and expert review. Cronbach's  $\alpha$  ranged from 0.750 to 0.844 across the six scales and was 0.927 for the 15-item performance index (Table 2). All values exceed the 0.70 threshold (Nunnally and Bernstein, 1994).

Because both predictors and outcomes came from the same respondents, Harman's single-factor test was applied to all 30 items (Podsakoff et al., 2003). Seven factors had eigenvalues above one, and the first factor accounted for 44.0% of the variance. This is below the 50% threshold, although it does not eliminate common-method concerns.

### **3.5 Data analysis**

SPSS (version 22) was used for data entry, and the corrected dataset was analysed in Python (statsmodels). Descriptive statistics and Pearson correlations were computed first. Chi-square tests (checked with Fisher's exact test), Welch's t-tests and one-way ANOVA (checked with Kruskal–Wallis tests) compared demographic groups. Multiple regression then estimated  $FP = \beta_0 + \beta_1 CCC + \beta_2 ARP + \beta_3 ITR + \epsilon$ , alongside objective-specific models for H1–H3. A hierarchical regression entered demographic controls first and the WCM practices second. Moderation (H4) was tested with a mean-centred  $WCM \times \text{experience}$  interaction (Aiken and West, 1991; Hayes, 2018).

Multicollinearity (VIF), independence (Durbin–Watson), heteroscedasticity (Breusch–Pagan) and residual normality (Shapiro–Wilk) were checked. Because the construct scores are negatively skewed, significance was confirmed with HC3 robust standard errors and 5,000-sample bootstrap confidence intervals. The significance level was 0.05.

### **3.6 Ethical considerations**

Participation was voluntary and anonymous, and informed consent was obtained before the questionnaire began. No names or company identifiers were collected, and respondents could withdraw at any time. The study was approved by [insert name of approving committee and reference number].

## **4. RESULTS**

### **4.1 Respondent profile**

Table 1 shows that respondents were predominantly male (82.4%) and young (71.7% aged 35 or under). They were well educated: 95.3% held a bachelor's or master's degree. Most were experienced, with 60.0% reporting more than five years of work, and permanent staff formed the largest group (44.7%). The profile suggests respondents were well placed to judge their firms' financial practices.

**Table 1. Respondent profile (n = 85)**

| Characteristic    | Category                                 | n                 | %                         |
|-------------------|------------------------------------------|-------------------|---------------------------|
| Gender            | Male / Female                            | 70 / 15           | 82.4 / 17.6               |
| Age (years)       | 18–25 / 26–35 / 36–45 / 46 and above     | 11 / 50 / 18 / 6  | 12.9 / 58.8 / 21.2 / 7.1  |
| Qualification     | Below bachelor / Bachelor / Master / PhD | 3 / 49 / 32 / 1   | 3.5 / 57.6 / 37.6 / 1.2   |
| Work experience   | < 1 / 2–5 / 6–10 / > 10 years            | 4 / 30 / 29 / 22  | 4.7 / 35.3 / 34.1 / 25.9  |
| Employment status | Permanent / Contract / Temporary / Other | 38 / 23 / 10 / 14 | 44.7 / 27.1 / 11.8 / 16.5 |

Source: Survey data (2026)

**4.2 Descriptive statistics and reliability**

Mean scores were above the scale midpoint for all constructs (Table 2). Respondents rated the performance dimensions ( $M = 3.78$ – $3.87$ ) somewhat higher than the WCM practices ( $M = 3.51$ – $3.68$ ). Inventory management scored lowest. On that scale, the lowest item mean ( $M = 3.06$ ) belonged to the statement that the firm monitors turnover but does not clearly understand its effect on net margin. This points to a gap in inventory analysis.

**Table 2. Descriptive statistics and reliability**

| Construct                                   | Items | Mean | SD   | Skewness | Cronbach's $\alpha$ |
|---------------------------------------------|-------|------|------|----------|---------------------|
| Cash conversion cycle management (CCC)      | 5     | 3.68 | 0.76 | –1.52    | 0.771               |
| Accounts receivable period management (ARP) | 5     | 3.66 | 0.78 | –1.46    | 0.778               |
| Inventory turnover ratio management (ITR)   | 5     | 3.51 | 0.80 | –1.26    | 0.750               |
| Return on investment (ROI)                  | 5     | 3.87 | 0.80 | –1.65    | 0.818               |
| Gross profit margin (GPM)                   | 5     | 3.78 | 0.84 | –1.23    | 0.844               |
| Net profit margin (NPM)                     | 5     | 3.81 | 0.79 | –1.72    | 0.799               |
| Financial performance index (FP)            | 15    | 3.82 | 0.74 | –1.93    | 0.927               |

Source: Survey data (2026)

**4.3 Correlation analysis**

All three WCM practices correlate strongly and positively with every performance dimension (Table 3). Correlations with the FP index are 0.778 for CCC, 0.797 for ARP and 0.767 for ITR, all  $p < 0.001$ . The practices are also strongly inter-correlated (0.750–0.787), which suggests that firms tend to adopt them together.

**Table 3. Pearson correlation matrix (n = 85)**

| Variable | 1     | 2     | 3     | 4     | 5     | 6     | 7 |
|----------|-------|-------|-------|-------|-------|-------|---|
| 1. CCC   | 1     |       |       |       |       |       |   |
| 2. ARP   | 0.787 | 1     |       |       |       |       |   |
| 3. ITR   | 0.750 | 0.761 | 1     |       |       |       |   |
| 4. ROI   | 0.727 | 0.702 | 0.738 | 1     |       |       |   |
| 5. GPM   | 0.711 | 0.698 | 0.697 | 0.751 | 1     |       |   |
| 6. NPM   | 0.712 | 0.805 | 0.686 | 0.802 | 0.764 | 1     |   |
| 7. FP    | 0.778 | 0.797 | 0.767 | 0.922 | 0.914 | 0.927 | 1 |

Note: All coefficients are significant at  $p < 0.001$  (two-tailed). Source: Survey data (2026)**4.4 Regression analysis and hypothesis tests**

The main model is highly significant (Table 4):  $F(3,81) = 70.68$ ,  $p < 0.001$ ,  $R^2 = 0.724$ , adjusted  $R^2 = 0.713$ . Each practice has a positive and significant independent effect. ARP has the largest effect ( $\beta = 0.359$ ,  $p = 0.001$ ), followed by CCC ( $\beta = 0.286$ ,  $p = 0.006$ ) and ITR ( $\beta = 0.279$ ,  $p = 0.005$ ). None of the bootstrap confidence intervals includes zero, and all effects remain significant with HC3 robust errors ( $p \leq 0.014$ ).

The diagnostics are satisfactory. VIFs range from 2.77 to 3.19, below the conventional cut-off of 10 (Hair et al., 2019). The Durbin–Watson statistic is 2.19. The Breusch–Pagan test ( $p = 0.098$ ) and the Shapiro–Wilk test of residuals ( $p = 0.053$ ) do not reject homoscedasticity or normality at 5%.

**Table 4. Multiple regression of financial performance on WCM practices**

| Predictor | B     | SE    | $\beta$ | t     | p     | 95% bootstrap CI | VIF  |
|-----------|-------|-------|---------|-------|-------|------------------|------|
| Constant  | 0.632 | 0.224 | –       | 2.815 | 0.006 | [0.220, 1.412]   | –    |
| CCC       | 0.279 | 0.099 | 0.286   | 2.806 | 0.006 | [0.069, 0.480]   | 3.06 |
| ARP       | 0.342 | 0.099 | 0.359   | 3.444 | 0.001 | [0.159, 0.520]   | 3.19 |
| ITR       | 0.259 | 0.090 | 0.279   | 2.871 | 0.005 | [0.063, 0.451]   | 2.77 |

Note: Dependent variable: financial performance index.  $R^2 = 0.724$ ; adjusted  $R^2 = 0.713$ ;  $F(3,81) = 70.68$ ,  $p < 0.001$ ; Durbin–Watson = 2.19. Source: Survey data (2026)

Table 5 reports the objective-specific tests. In bivariate models, each practice significantly predicts its hypothesised performance dimension, so H1–H3 are supported. CCC explains 52.8% of the variance in ROI, ARP explains 48.7% of GPM and ITR explains 47.0% of NPM.

When all three practices are entered together, the pattern is more nuanced. ROI is driven by both CCC and ITR management. GPM depends on CCC and ITR, and ARP is only marginally significant for it ( $p = 0.068$ ). NPM is dominated by ARP ( $B = 0.596$ ,  $p < 0.001$ ).

**Table 5. Objective-specific models (unstandardised B, p in parentheses)**

| Model            | CCC             | ARP             | ITR             | $R^2$ | F        |
|------------------|-----------------|-----------------|-----------------|-------|----------|
| H1: ROI on CCC   | 0.757 (< 0.001) | –               | –               | 0.528 | 92.80*** |
| H2: GPM on ARP   | –               | 0.749 (< 0.001) | –               | 0.487 | 78.86*** |
| H3: NPM on ITR   | –               | –               | 0.676 (< 0.001) | 0.470 | 73.65*** |
| ROI on all three | 0.324 (0.011)   | 0.177 (0.158)   | 0.370 (0.002)   | 0.622 | 44.51*** |
| GPM on all three | 0.345 (0.014)   | 0.254 (0.068)   | 0.294 (0.021)   | 0.585 | 38.02*** |
| NPM on all three | 0.169 (0.149)   | 0.596 (< 0.001) | 0.114 (0.282)   | 0.669 | 54.50*** |

Note: \*\*\*  $p < 0.001$ ;  $df = (1, 83)$  for bivariate models and  $(3, 81)$  for three-predictor models. Source: Survey data (2026)

#### 4.5 Controls, group comparisons and moderation

Table 6 reports the hierarchical regression. In Step 1, the demographic controls explain 20.0% of the variance in FP ( $F(5,79) = 3.96$ ,  $p = 0.003$ ). Adding the WCM practices in Step 2 raises  $R^2$  to 0.746, a change of 0.546 ( $F\text{-change}(3,76) = 54.43$ ,  $p < 0.001$ ). CCC, ARP and ITR all remain significant, and none of the controls does, so the WCM effects are not explained by respondent characteristics.

The chi-square test shows the same pattern with categorical groups. Respondents were classed as reporting high WCM or high FP if their mean score was 4 or above. Of the 21 respondents reporting high WCM, 85.7% also reported high FP, compared with 45.3% of the other 64 ( $\chi^2(1) = 8.87$ ,  $p = 0.003$ ; Fisher's exact  $p = 0.002$ ; odds ratio = 7.24). High FP was not associated with qualification, gender, employment status or experience (all  $p > 0.50$ ).

Mean comparisons found no significant differences in WCM or FP scores by qualification, experience or employment status (all  $p > 0.40$ ). Men reported marginally higher FP than women (3.93 vs 3.32; Welch  $t = 2.01$ ,  $p = 0.062$ ). Respondents aged 35 or under rated WCM practices higher than older colleagues (3.75 vs 3.29;  $p = 0.046$ ), but the non-parametric test did not confirm this ( $p = 0.107$ ).

H4 is not supported. The WCM  $\times$  experience interaction is positive but not significant ( $B = 0.130$ ,  $p = 0.078$ ,  $\Delta R^2 = 0.011$ ). The slope of WCM is 0.73 at one standard deviation below mean experience and 0.96 at one standard deviation above, a weak trend. Educational level also did not moderate the relationship ( $p = 0.999$ ).

**Table 6. Hierarchical regression and moderation (dependent variable: FP)**

| Predictor                         | Step 1: B (p)  | Step 2: B (p)    | Moderation: B (p) |
|-----------------------------------|----------------|------------------|-------------------|
| Male                              | 0.571 (0.006)  | 0.212 (0.081)    | –                 |
| Age group                         | –0.329 (0.005) | –0.035 (0.614)   | –                 |
| Work experience                   | 0.130 (0.198)  | 0.064 (0.283)    | 0.027 (0.577)     |
| Postgraduate qualification        | –0.014 (0.932) | –0.144 (0.140)   | –                 |
| Permanent staff                   | –0.125 (0.409) | 0.074 (0.405)    | –                 |
| CCC                               | –              | 0.272 (0.009)    | –                 |
| ARP                               | –              | 0.283 (0.009)    | –                 |
| ITR                               | –              | 0.302 (0.002)    | –                 |
| WCM (centred)                     | –              | –                | 0.848 (< 0.001)   |
| WCM × experience                  | –              | –                | 0.130 (0.078)     |
| R <sup>2</sup> (ΔR <sup>2</sup> ) | 0.200          | 0.746 (0.546***) | 0.734 (0.011)     |

Note: \*\*\* p < 0.001. Source: Survey data (2026)

## 5. DISCUSSION

The results support the central proposition that more active management of working capital goes with stronger financial performance in Kismayo's water purification companies. Three findings stand out.

The first is the strength of the relationship. Together, the WCM practices account for 72% of the variance in perceived performance. This is higher than most audited-data studies report. It is close to the 63.4% that Nyabwanga et al. (2012) obtained with a similar questionnaire-based design among Kenyan small enterprises. Part of this strength reflects the common-source design, in which respondents who value financial discipline tend to rate both practices and outcomes highly. It also suggests that in small unlisted firms, WCM may be less a technical optimisation problem than a basic management capability. Firms either monitor cash, credit and stock systematically or they do not.

The second finding is the prominence of receivables management. ARP management has the largest standardised effect on overall performance, and it is the only practice that predicts net profit margin independently of the others. This agrees with the negative collection-period–profitability relationships reported by Deloof (2003), Raheman and Nasr (2007) and Mathuva (2010), and with the view that receivables are the component small firms can most directly control (Peel and Wilson, 1996). Where water is sold on credit to distributors and institutions and legal remedies for default are weak, slow collection feeds straight into bad debts and financing costs, which erode net rather than gross margins. That would explain why ARP maps most strongly onto NPM. The result also contrasts with the negative receivables–ROA effect Osman Hassan et al. (2020) found in Garowe. The contrast underlines that the value of credit policy depends on how disciplined collection is, not simply on how much credit is extended.

The third finding concerns the cash conversion cycle and inventory. Both relate significantly to performance, supporting H1 and H3, and they are the main drivers of ROI and GPM in the joint models. This is consistent with the dominant international evidence that shorter cycles and faster turnover improve returns (Shin and Soenen, 1998; García-Teruel and Martínez-Solano, 2007; Singh et al., 2017). It is also consistent with the positive effects of the cash conversion and stock turnover ratios reported for Garowe water firms (Osman Hassan et al., 2020) and Garowe retail firms (Jama et al., 2018). Inventory management received the lowest ratings, and many respondents said its effect on margins was not clearly understood. This suggests the practice matters but is under-developed. The theoretical account in Section 2 would expect further gains before any trade-off-theory threshold of "too lean" working capital is reached (Baños-Caballero et al., 2014).

Theoretical implications. The findings extend pecking-order reasoning to a setting where external finance is scarce and working capital discipline is one of the few ways to release internal funds. The dominance of receivables management fits agency views of trade credit: formal collection routines limit the informality that erodes margins. The non-significant moderation suggests belief in WCM is shared across career stages.

## 6. CONCLUSION

### 6.1 Conclusions

This study examined how WCM practices relate to the financial performance of water purification companies in Kismayo, as reported by their staff. Management of the cash conversion cycle is positively and significantly associated with perceived ROI (H1). Management of the accounts receivable period is positively associated with perceived GPM (H2) and is the strongest predictor of perceived net margin



and overall performance. Management of the inventory turnover ratio is positively associated with perceived NPM (H3). Together, the three practices explain more than seven-tenths of the variance in perceived performance, independent of respondent characteristics. Work experience does not significantly moderate these effects (H4).

### 6.2 Recommendations and implications

For managers, the priority is to formalise credit and collection. This means setting credit limits, specifying payment terms, keeping aged-receivable records and following up overdue accounts. Managers should also track inventory turnover and the cash cycle as routine monthly indicators, since these are the practices respondents understand least.

For industry associations and development partners supporting Somalia's water sector, short courses in practical working capital management and simple bookkeeping tools could improve both firms' finances and the continuity of water supply.

For Jubaland policymakers and regulators, encouraging basic financial reporting among essential-service providers would improve transparency and enable audited-data research.

### 6.3 Limitations and future research

The findings should be read in light of five limitations.

1. Both WCM and financial performance were measured through respondents' perceptions rather than accounting ratios. The performance items capture how respondents evaluate ROI, GPM and NPM, not verified figures.
2. Common-source data may inflate the associations. Harman's test did not indicate a single dominant factor, but it cannot rule out method bias.
3. The negatively worded items behaved as positively keyed items, which suggests acquiescent responding.
4. Convenience sampling within one city, with an undisclosed number of firms, limits how far the results can be generalised.
5. The cross-sectional design supports association, not causation.

Future research should combine firm-level accounting data, measured in days and turnover ratios, with manager surveys. It should add payables management and firm-level controls such as size and age. It should also extend the sample to other Somali cities and states, and apply longitudinal or multi-level designs that can test the non-linear, "optimal working capital" predictions of trade-off theory.

### 6.4 Contribution of the study

The study provides the first evidence on WCM in Jubaland's water purification industry. It shows that the WCM–performance link found in listed-firm studies also holds, as staff report it, in unlisted essential-service firms, and it identifies receivables management as the practice with the greatest leverage.

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