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# EFFECT OF WORKING CAPITAL MANAGEMENT ON FIRM' FINANCIAL PERFORMANCE: A SURVEY OF WATER PROCESSING FIRMS IN PUNTLAND

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**Abstract**
*The study aimed to establish the effect of working capital management on financial performance of water processing firms in Puntland state of Somalia. The study period of 2011 to 2015 was divided into financial quarters with working capital and financial performance variables determined for each of these quarters. It is worth mentioning that the three theories used in the study are the agency theory, transactional cost theory and working capital management cycle theory. The study used descriptive survey to accomplish the objectives. The study focused on a convenient sample of four companies located in Garowe. It used multiple linear regression of return on assets (ROA) on the four independent variables of cash conversion cycle ratio (CCR), stock turnover ratio (STR), receivables turnover ratio (RTR) and payables turnover ratio (PTR). The findings from descriptive statistics indicated that all the variables are very volatile given the high values of coefficient of variation for each of the variables. From inferential statistics, the study found out that CCR and STR have a positive effect on return on assets of the water companies in Garowe. Receivables turnover, the indicator of receivables management had*

*however a negative effect of ROA. The last working capital variable, payables turnover ratio had no effect on financial performance of water companies as indicated by ROA. The study concludes that the findings which in some cases are not similar to findings from elsewhere could be because of the unstable nature of the business environment in Puntland state in particular and Somalia in general.*

*Keywords: Cash management, Inventory management, Receivables management, Payables management, Financial performance*

## INTRODUCTION

Working capital performance provides critical insight into the state of a company's financial position. As an important indicator of financial fitness, the availability of a company's working capital is one of the first items a lender or investor will examine on a balance sheet (Financial Executives International Canada, 2013).Globally 1000 companies lose about $2 billion per year due to poor working capital management. The recent financial and economic crisis has shown how important it is for firms to maintain a healthy cash position. The risk of becoming illiquid always increases in times of credit constraints and economic downturn. However, companies are still unable to properly assess their cash needs (Frankfurt Business Media, 2012).

In Garowe, there are many shareholders who have invested heavily in manufacturing firms to take advantage of the market opportunities that Garowe attracted a lot people due to its peace and stability compared to other towns in the region, and on the other hand there were no manufacturing firms in Garowe during the central government of Somalia that collapsed in 1991. Therefore these stakeholders expected such companies to perform to their expected standards. Some companies have so far performed well while others have suffered declined performance. According to annual financial reports of selected water processing firms in Garowe (2014), it is evident that these manufacturing firms do not pay dividends consistently, and when they pay, the level of payout is very low contrary to shareholders' expectations. So with this in mind, there was need and motivation to undertake this study.

However, whereas, working capital management is expected to affect profitability, it is not clear how the various components of working capital affect such profit. This is because stock management, cash management, receivables management and payables management may have varying effects on profitability. The problem is, we do not know and we are not aware of any study that investigates whether or not working capital management has an impact on profitability of manufacturing firms in Garowe, Puntland-Somalia. So, this is to be evaluated for

these selected water processing firms in Garowe. Therefore, in this study the researcher was to find out how working capital components affect the financial performance selected water processing firms in Garowe.

**Specific Objectives**

1. To assess the effect of cash management on the financial performance of water processing firms in Puntland State of Somalia.
2. To examine the effect of inventory management on the financial performance of water processing firms in Puntland State of Somalia.
3. To establish the effect of receivables management on the financial performance of water processing firms in Puntland State of Somalia..
4. To determine the effect of payables management on financial performance of water processing firms in Puntland State of Somalia.

## LITERATURE REVIEW

### Theoretical Framework

This section discusses the theories that relate to the working capital management and firm's profitability. Theories of working capital management are applicable to run an organization. These theories are designed and developed for promising positive cash flow and maximizing the profit to stakeholders. Working capital theories comprise of large complex strategies for administration, maintenance of financial operations and minimizing risk involve in different aspects of such operations. By using financial management theories and principles, it becomes easy for executives to figure out way to handle various affairs of an organization. Some of the theories that are applicable to run an organization are as follows:

### Agency Theory

Agency theory deals with the people who own a business enterprise and all others who have interest in it like managers, banks, creditors, family members and employees. The agency theory postulates that the day to day running of a business enterprise is carried out by managers as the agents who have been engaged by the owners of the business as principals who are also known as shareholders. This theory places emphasis on transaction costs, contracting analysis following the work of Coase (1937) Jensen and Meckling (1976) and most important, Stiglitz and Weiss (1981).

The work of these writers all point to the challenges that surround ownership, contractual agreements, management interrelationship, credit rationing etc between SMEs and external

providers of finance, thereby subjecting firms to the risk of asset substitution which in practice means a change in the firm's asset structure. For very small and micro-enterprises this asset substitution may well take place between the enterprise and the owners household. As described in the report by South African Reserve Bank (2004).

The presence of these problems in firms may explain the greater use of collateral lending to firms as a way of dealing with these agency problems. Lenders" strategies for dealing with these problems also add significantly to the cost of dealing with this sector. For a large enterprise the evaluation of an application for finance may be limited to the assessment of an (audited) set of financial statements and supporting documentation provided by the applicant, while for SMEs the assessment frequently has to go far beyond this, implying a substantially higher transaction cost

The theory is on the notion of the principle of two sided transaction. It holds that any financial transactions involve two parties and both act on best interest but with different expectations. The major problem associated with this theory includes information asymmetry, moral hazard and adverse selection (Kwame, 2010). According to Stiglitz and Weiss (1981), agency problems such as asymmetric information and moral hazards can impact on the availability of credit and hence the capital structure of SMEs. Stiglitz and Weiss termed this phenomenon as credit rationing.

**Transaction Cost Theory**

The Transaction Cost Theory was formulated by Commons (1934) and reinforced by Coase (1937), Arrow (1969, 1974) and Williamson (1985, 1991). According to Arrow (1969), transaction costs are the costs involved in running the economic system. Coase (1988) suggests that there are always costs for carrying out market transactions. Therefore, a firm would prefer transactions to be organised within the firm if the cost would be less than the cost of carrying out the transaction in the market. However, as the additional costs of transactions within the firm exceed the cost of carrying out the transaction through the market, firms attempt to reduce transaction costs by vertical integration (Williamson, 1991). Therefore, the rationale behind the transaction cost theory is that market costs are usually too high for firms to overcome individually. This leads to the creation of linkages for small firms (Thorelli, 1986).

From a transaction theory perspective, a firm needs to consider two main costs, market transaction costs and control costs, as their part of internationalization process (Williamson, 1985; Hennart, 1989). These costs occur as the result of environmental and behavioral uncertainties, opportunism, and asset specificity (RindfleischHeide, 1997). Heide (1994) states both environmental and behavioral uncertainties refer to the market changes that is

unpredictable together with the uncertainty of possible firm action of reaction. Such unpredictability leads to the contractual constraints, which denote every possibility and consequent response become more ineffective (Heide, 1994). The opportunism can be defined as acting based on self-interest with astuteness (Williamson, 1985). Lastly, Williamson (1985) also suggests that asset specificity refers to the fact that the relation between partners is transaction-specific assets that cannot be reorganized easily. Transaction cost theory (TCE) at its core, focuses on transaction and the costs that attend completing transactions by one institutional mode rather than 38 another (Williamson, 1975). The transaction, a transfer of a good or service is the unit of analysis in the TCT and the means of effecting the transaction is the principal outcome of interest (Williamson, 1985).

The theory's central claim is that transactions will be handled in such a way as to minimize the costs involved in carrying them out. The goods in this case refer to finances committed to for working capital management. In working capital management, the four elements cash, debtors, stock and creditors stand out as the key problems, whose management involves rigorous planning and resource commitment. For example, stocks can be modeled mathematically to formulate a basic policy outlining when stocks should be ordered, what quantity and the associated cost. In a SME environment, the tools for such action may be lacking or the cost of such adoption may offset the benefits of use. In most practical circumstances, firms can choose between the relative benefits of two basic types of strategies for net working capital management; they can minimize working capital investment or they can adopt working capital policies designed to increase sales. Thus, the management of a firm has to evaluate the trade-off between expected profitability and risk each of them representing an opportunity cost of the other before deciding the optimal level of investment in current assets.

**Working Capital Cycle Theory**

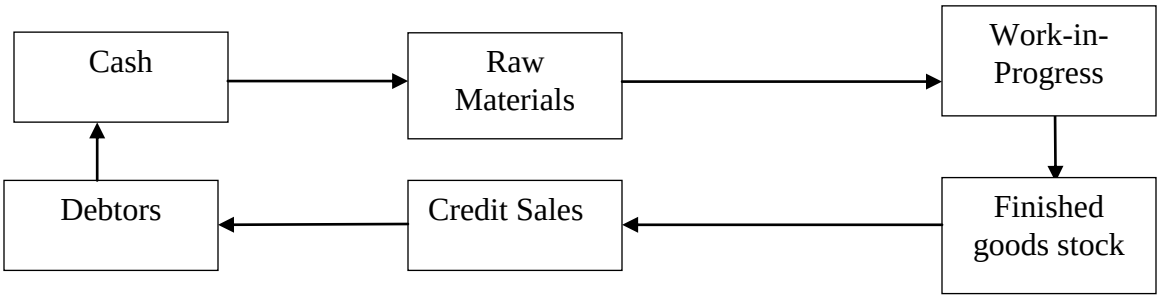
The theory states that working capital management following a cycle depending on the kind of company under analysis (Brealey & Myers, 2002). Using such cycle, a company can determine its working capital needs at any point in time. By definition, the working capital cycle is that duration it takes for a company to convert its cash into raw materials or finished goods to the time it receives cash from its debtors.

The cycle will vary from company to company and as such should be computed bearing in mind the characteristic features of the company such as its size, its products, its asset, etc. According to Brealey & Myers (2002) working capital cycle for a manufacturing company will look like as follows:

I. Cash is converted into a raw material.

II. Raw materials are converted into work-in-progress.
III. Work-in-progress is converted into finished goods stock.
IV. Finished goods stock is converted into debtors (trade credit).
V. Debtors are converted into cash.

It can be illustrated diagrammatically as follows:




**REVIEW OF EMPIRICAL STUDIES**

Working capital management is the administration of current assets and current liabilities. It deals with the management of current assets and current liabilities and directly affects the liquidity and profitability of the company (Deloof, 2003; Eljelly, 2004; Raheman and Nasr, 2007; Appuhami, 2008; Christopher and Kamalavalli, 2009; Dash and Ravipati, 2009). Management of working capital has profitability and liquidity implications and proposes a familiar front for profitability and liquidity of the company.

To reach optimal working capital management, firm manager should control the trade-off between profitability maximization and liquidity accurately (Raheman and Nasr, 2007). An optimal working capital management is expected to contribute positively to the creation of firm value (Howorth and Weshead, 2003; Deloof, 2003; Afza and Nazir, 2009).

**Financial Performance**

According to Kabethi (2013), the financial performance is the process of measuring the results of a Firm's policies and operations in monetary terms. Machiuka (2010) argues the analysis of financial performance reflects the financial position of the company, the level of the competitiveness in the same sector, and a thorough knowledge about the cost and profit centers within the firm. Financial performance may be defined as a general measure of a company's overall financial health over a given period of time, and can be used to compare similar companies across the same industry or to compare industries or sectors in aggregation (Maymand, 2014).

**Cash Management**

Cash is taken as the most liquid asset held by a firm (Horne and Wachowicz, 2000). It is therefore important for a firm to have a clear picture of its cash conversion cycle.

According to Gul *et al*. (2013) who investigated the influence of working capital management (WCM) on performance of small medium enterprises (SMEs) in Pakistan from 2006 to 2012 and used regression analysis to determine the relationship between Working Capital Management and Performance of SMEs in Pakistan, found out that there exists a negative relationship between Cash Conversion Cycle and Profitability.

Akoto, Awunyo-Vitor and Angmor (2013) analyzed the relationship between working capital management practices and profitability of listed manufacturing firms in Ghana. The study used data collected from annual reports of all the 13 listed manufacturing firms in Ghana covering the period from 2005-2009. Therefore, using panel data methodology and regression analysis, the study found a significant positive relationship between Cash Conversion Cycle and Profitability.

**Inventory Management**

Inventory represents stock available within the asset structure of a business and incorporates finished goods, work-in-progress and raw materials (Horne and Wachowicz, 2000).

Oladipupo and Okafor (2013) did a study on the implications of a firm's working capital management practice on its profitability and dividend pay-out ratio. The study targeted on the extent of the effects of working capital management on the Profitability and Dividend Pay-out Ratio. Financial data were obtained from 12 manufacturing companies quoted on the Nigeria Stock Exchange over 5years period (2002 to 2006). Pearson product moment correlation technique and ordinary least square (OLS) regression technique were used. In this study, it was found that there is a negative coefficient relationship between inventory conversion period and profitability.

According to Mathuva (2010) who used a sample of 30 firms listed on the Nairobi Stock Exchange in Kenya for a period of 16 years from 1993-2008 to examine the influence of working capital management components on corporate profitability. In that study, Ported OLS and the fixed effects regression models were used. Mathuva (2010) found that there exists a highly significant positive relationship between inventory conversion period and profitability. He has the view that costs of possible interruptions in the production process and loss of business due to scarcity and products can be reduced if firms maintain highly sufficient inventory levels.

**Accounts Receivables management**

Accounts receivables also called debtors arise from sales on credit (Horne and Wachowicz, 2000). Accordingly, a company accrues accounts receivables when it sells its goods on credit. Depending on the payment terms, the company might receive cash in weeks or even months.

Almazari (2013) conducted a study on the relationship between the working capital management (WCM) and the firms' profitability for the Saudi cement manufacturing companies. The sample included 8 Saudi cement manufacturing companies listed in the Saudi Stock Exchange for the period of 5 years from 2008-2012. Pearson Bivariate correlation and regression analysis were used. In that study, it was found that, there is a significant negative correlation between Accounts Receivable Period and Gross Operating Profit.

Deloof (2003) conducted a study on effects of Working Capital Management on Belgian firms. He used a sample of 1009 large Belgian non-financial firms for a period of 1992- 1996. He used correlation and regression analysis and found that there is a significant negative relationship between gross operating income and the number of days in accounts receivables.

**Accounts Payable Management**

Accounts Payable, the money that a company is obligated to pay out over the short term, is also a key component of working capital management (Deloof, 2003). Companies seek to strike a balance between maintaining maximum cash flow by delaying payments as long as is reasonably possible and the need to maintain positive credit ratings and good relationships with suppliers and creditors.

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## RESEARCH METHODOLOGY

### Research Design

The study used a descriptive survey design to investigate the working capital management and financial performance in water processing firms in Puntland. The study used descriptive in that the researcher intended to describe the levels of working capital management and financial performance. It will also use the comparative in comparing different companies in respective variables such as cash management, inventory management, accounts receivables management and accounts payables management.

Descriptive correlational design was used to establish whether there is a significant relationship between working capital management and profitability. It was also a cross-sectional, since data was collected from employees of manufacturing companies at once and for a short period of time. The researcher approaches employees once and collect data from employees by each at once.

The researcher used both primary and secondary data. Primary data collected through questionnaires and secondary data from the financial reports of the firms.

### Research Population

The population of the study was all the 19 water processing companies in Puntland state of Somalia. This population is considered adequate because Puntland state is one of the most stable states in Somalia such that businesses including water processing firms have been able to conduct business over a long period of time including the time focus of this study which is 2011 to 2015.

### Sampling Design

The sampling design defines the sampling frame, the sampling method and sample size of the study. The sampling frame is a list of companies from which the sample was drawn. The Puntland chamber of Commerce provides a list of 19 water processing firms as at December 2015. These firms are spread out among the major urban areas in Puntland state including Garowe, Bosaso and Galkaio. The list of water processing firms in is shown in Appendix 1.

The study used convenient sampling such that only water processing firms located in Garowe was analyzed. This is considered a fair sample that would be representative of all the water companies in Puntland. Their data is readily available since Garowe is the headquarters of the State and therefore most of the companies have either headquarters or representative offices in Garowe. In addition, the selected four are the best performing firms.

The sample size is therefore conveniently determined to be all the water processing companies in Garowe incorporate four firms as indicated in Appendix 2. The findings from the study was therefore considered to be generalizable to the other areas of Puntland state.

**Data and Data Collection**

The study used secondary data to assess the effect of working capital management on financial performance of water companies in Puntland state. Since both financial performance and working capital data are found in financial statements the study used secondary data for interrogating the research objectives. The specific data that was collected were derived from the statement of financial position and the statement of financial position.

Firstly was the financial performance information which was derived from the income statements of the water companies in Garowe. The data collected in this case is the net profit. It was used to compute profitability ratios which were then used in analysis of the financial performance. Table 1 indicates the data items that were collected from the water companies' financial statements.

Table 3.1: Data and Data Sources

| Variable | Type of Variable | Data | Data Source |
|---|---|---|---|
| **1. Financial Performance** | • Dependent | • Net profit | • Income Statement<br>• Statement of financial Position |
| **2. Cash Management** | • Independent | Cash conversion cycle data from:<br>• Debtors<br>• Creditors<br>• Inventory<br>• Cash | • Statement of financial Position |
| **3. Inventory Management** | • Independent | • Stock turnover data | Statement of financial Position |
| **4. Receivables Management** | • Independent | • Credit sales<br>• Receivables | • Income Statement<br>• Statement of financial Position |
| **5. Payables Management** | • Independent | • Credit Purchases<br>• Payables | • Income Statement<br>• Statement of financial Position |

From the statement of financial data was derived data concerning inventory management, cash management, accounts receivable management and accounts payable management. These were used to compute ratios that were important in establishing the effect of working capital management on financial performance.

**Data Processing and Analysis**

Both descriptive and inferential statistics are used in the study. With respect to descriptive statistics, mean, standard deviation and coefficient of variation are used to establish the core characteristics of the dependent and independent variables. To make intercompany comparison on the differences between the variables, the ANOVA and F-test is used. The hypothesis stated in this respect that there is no significance difference in the variables of the water companies among variables as indicated by the various ratios measuring the dependent and the independent variables. For inferential statistics, a regression model that relates the dependent variable (financial performance) to the independent variables (cash management, inventory management, receivables management and payables management) is used. The model is specified in equation (i)

$$\boldsymbol{ROA = \beta_0 + \beta_1 CCR + \beta_2 STR + \beta_3 RTR + \beta_4 PTR + e} - - - - (\boldsymbol{i})$$

**ANALYSIS AND DISCUSSION OF FINDINGS**

**Descriptive Statistics**

In this section, the descriptive statistics used are the mean, median, standard deviation, range, and coefficient of variation. The first four are absolute measures of performance and working capital data. To relate these with company characteristics particularly size, the coefficient of variation (CV) is computed as the ratio of standard deviation to the mean of each of the variables.

***Performance Statistics***

Financial performance in this study was measured using return on assets (ROA). The descriptive statistics of the quarterly ROA over the period 2011 to 2015 are indicated in Table 2.

Table 2: ROA Descriptive Statistics

| | |
|---|---|
| Mean | 0.0984 |
| Median | 0.0929 |
| Standard Deviation | 0.0405 |
| Range | 0.1207 |

| | |
|---|---|
| Coefficient of variation | 0.4114 |
| Minimum | 0.0495 |
| Maximum | 0.1702 |
| Confidence Level (95.0%) | 0.0190 |

***Cash Management Statistics***

One of the independent variables in the study represented cash management as an aspect of working capital management. This aspect in this study was measured using Cash conversion cycle ratio (CCR). The descriptive statistics of the quarterly CCR over the period 2011 to 2015 are indicated in Table 3.

Table 3: CCR Descriptive Statistics

| | |
|---|---|
| Mean | 0.329084 |
| Median | 0.26342 |
| Standard Deviation | 0.259457 |
| Range | 0.760165 |
| Coefficient of variations | 0.788419 |
| Minimum | 0.020326 |
| Maximum | 0.780491 |
| Confidence Level (95.0%) | 0.121429 |

**Inventory Management Statistics**

The other independent variable in the study represented inventory management as an aspect of working capital management. This aspect in this study was measured using stock turnover ratio (STR). The descriptive statistics of the quarterly STR over the period 2011 to 2015 are indicated in Table 4.

Table 4: STR Descriptive Statistics

| | |
|---|---|
| Mean | 47.52 |
| Median | 40.49 |
| Standard Deviation | 21.54 |
| Range | 69.02 |
| Coefficient of Variation | 45.34 |
| Minimum | 10.72 |
| Maximum | 79.74 |
| Confidence Level (95.0%) | 0.1008 |

**Receivables Management Statistics**

The other independent variable in the study represented receivables management as an aspect of working capital management. This aspect in this study was measured using receivables turnover ratio (RTR). The descriptive statistics of the quarterly RTR over the period 2011 to 2015 are indicated in Table 5.

Table 5: RTR Descriptive Statistics

| | |
|---|---|
| Mean | 41.44 |
| Median | 35.21 |
| Standard Deviation | 20.22 |
| Range | 68.61 |
| Coefficient of Variation | 0.4880 |
| Minimum | 20.53 |
| Maximum | 89.14 |
| Confidence Level (95.0%) | 0.0947 |

***Payables Management Statistics***

The last independent variable in the study represented payables management as an aspect of working capital management. This aspect in this study was measured using payables turnover ratio (PTR). The descriptive statistics of the quarterly PTR over the period 2011 to 2015 are indicated in Table 6.

Table 6: PTR Descriptive Statistics

| | |
|---|---|
| Mean | 27.13 |
| Median | 13.36 |
| Standard Deviation | 32.17 |
| Range | 20.03 |
| Coefficient of Variation | 1.1859 |
| Minimum | 1.38 |
| Maximum | 21.41 |
| Confidence Level (95.0%) | 0.1506 |

**Inferential Statistics**

To achieve the objectives of the study, a regression of ROA on CCR, STR, RTR and PTR was run on the data obtained over the period 2011 to 2015. The findings from the regression output are indicated in table 7.

Table 7: Regression Output Data

| **Regression Statistics** | | | | | | |
|---|---|---|---|---|---|---|
| R Square | 0.7099 | | | | | |
| Standard Error | 0.0245 | | | | | |
| Observations | 20 | | | | | |
| ANOVA | | | | | | |
| | *df* | *SS* | *MS* | *F* | *Signif F* | |
| Regression | 4 | 0.02212 | 0.00553 | 9.17860 | 0.00059 | |
| Residual | 15 | 0.00904 | 0.00060 | | | |
| Total | 19 | 0.03116 | | | | |
| | *Coefficients* | *SE* | *t Stat* | *P-value* | *Lower 95%* | *Upper 95%* |
| Intercept | 0.07444 | 0.01563 | 4.76231 | 0.00025 | 0.04113 | 0.10776 |
| CCR | 0.08851 | 0.02370 | 3.73458 | 0.00199 | 0.03800 | 0.13903 |
| STR | 0.13238 | 0.05053 | 2.61978 | 0.01932 | 0.02468 | 0.24009 |
| RTR | -0.15138 | 0.04485 | -3.37540 | 0.00416 | -0.24697 | -0.05579 |
| PTR | -0.02398 | 0.03650 | -0.65702 | 0.52112 | -0.10178 | 0.05382 |

***Effect of Cash Management on Financial Performance***

Cash management policy in working capital management was indicated by cash conversion cycle ratio (and also converted to days). The regression output provides a coefficient of 0.0885. This indicates that cash management has a positive effect on financial performance since the coefficient is positive.

This can be contrasted with the findings of Gul *et al*. (2013) who in a study in Pakistan relating working capital management to financial performance of SMEs found out that there exists a negative relationship between cash conversion cycle and profitability. The difference with this study could be because of the differences in operating environments.

In Ghana Akoto et al. (2013) found results that are similar to the findings in this study. In their study covering the period 2005 to 2009 among listed manufacturing companies in Ghana, they found out that there is a significant positive relationship between cash conversion cycle and profitability. The contrast shows that the effect of cash management on financial performance depends on the operation environment and industry of focus.

***Effect of Inventory Management on Financial Performance***

Inventory management in working capital management was indicated by stock turnover ratio (STR) which is also converted to days. The regression output provides a coefficient of 0.1324.

This indicates that inventory management has a positive effect on financial performance since the coefficient is positive.

This can be compared with the findings of Almazari (2013) who conducted a study in Saudi Arabia. In his study of the relationship between working capital management and firms' profitability of Saudi cement manufacturing firms listed on the Saudi Stock Exchange over the period 2008-2012, he found that there is a significant negative relationship between inventory conversion period and gross profitability

***Effect of Receivables on Financial Performance***

Receivables management in working capital management was indicated by receivables turnover ratio (RTR) which is also converted to days. The regression output provides a coefficient of -0.1514. This indicates that inventory management has a negative effect on financial performance since the coefficient is negative.

This can be compared with the findings of Gul *et al.* (2013) who in a study in Pakistan relating working capital management to financial performance of SMEs found out that there exists a negative relationship between cash conversion cycle and profitability. The difference with this is consistent with the findings of this study. Other studies like Akoto et al. (2013) in Ghana, Oladipupo and Okafor (2013) in Nigeria and Deloof (2003) in Belgium find similar results to those in this study. The similarity seems to show that the effect of receivables management on financial performance is almost universal across many countries.

***Effect of Payables Management on Financial Performance***

Payables management in working capital management was indicated by payables turnover ratio (STR) which was also converted to days. The regression output provides a coefficient of -0.0240 this indicates that payables management has a negative effect on financial performance since the coefficient is negative.

This effect is however not statistically significant. This is indicated by the inferential statistic whose coefficient provides a t-statistic of 0.657 is less than the critical t-value of 2.000.

The findings contradict those of similar studies which show that payables management is statistically significant in establishing financial performance. Gul et at. (2013) for instance who in a study in Pakistan relating working capital management to financial performance of SMEs found out that there exists a positive relationship between payables management and profitability.

The possible reason why this variable is not statistically significant for water processing companies in Puntland is the nature of the operating environment where most transactions are

cash based with very limited transactions on credit. In addition some of the inputs used in water purification are sourced from abroad and involve cash payment.

## CONCLUSION

On the basis of empirical findings, five conclusions are arrived at from the study. These include: Firstly, there is a high level of fluctuations in financial performance as the working capital components as indicated by the high coefficient of variation values from ROA, CCR, STR, RTR and PTR. This is maybe because of the unstable business environment in Somalia.

Secondly, cash cycle management as indicated by the cash conversion cycle ratio has a positive effect on financial performance as indicated by ROA. Water companies can improve their financial performance by improving on their cash conversion cycle ratios. Hence good cash management, improves financial performance of water companies especially those in Puntland state of Somalia.

Thirdly, inventory management as indicated by the stock turnover ratio has a positive effect on financial performance as indicated by ROA. Water processing companies can improve their financial performance by improving on their stock turnover ratios. Hence good inventory management, improves financial performance of water companies especially those in Puntland state of Somalia.

Fourthly, receivables management as indicated by the receivables turnover ratio has a negative effect on financial performance as indicated by ROA. Water processing companies can improve their financial performance by reducing their receivables rate of collection. Hence relaxed receivables management, improves financial performance of water companies especially those in Puntland state of Somalia.

Lastly, payables management as indicated by the payables turnover ratio has a no effect on financial performance as indicated by ROA. Water processing companies cannot influence their financial performance by changing the nature of their payables management on creditors' policy. Hence payables management policy has no effect on financial performance of water companies especially those in Puntland state of Somalia.

## RECOMMENDATIONS

### Policy Recommendations

These are recommendations on how water processing firms in Garowe fcan improve their financial performance based on working capital management. Four recommendations in line with the four objectives of the study are made.

Firstly, the firms should increase their cash conversion cycle ratios. This is because the high ratios are associated with better financial performance as indicated by the positive effect of CCR on ROA.

Secondly, the firms should increase their stock turnover ratios by reducing the number of days water inventories are held in stock. This is because the high ratios of STR are associated with better financial performance as indicated by the positive effect of STR on ROA.

Thirdly, the firms should reduce their receivables turnover ratios by increasing the number of days water receivables are collected. This is because the low ratios of RTR are associated with better financial performance as indicated by the positive effect of RTR on ROA. However, this contradicts financial management theory and careful analysis should be done before the policy is implemented.

Finally, there should be no big change in payables management policy since payables turnover ratio does not seem to affect financial performance of water companies in Garowe.

**Recommendations for Further Research**

The limitations of the study makes necessary to make the following two recommendations for further studies.

Firstly the sample size was small for this study. It is therefore recommended that a similar study on effect of working capital management be done on water companies in the entire country.

Secondly, only water processing firms were considered in this study. It is recommend that the effect of working capital management be evaluated for a wider scope of companies including retail businesses, oil marketing firms and possibly agricultural companies. Their findings could be compared with those from this study.

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