

Effects of Working Capital Management on the Performance of Firms in Kenya: A Case Study of Kenya Ports Authority

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Abstract: For businesses, an efficient working capital management is a vital component of success and survival; in terms of both profitability and liquidity. The crucial part in managing working capital is required maintaining its liquidity in day-to-day operation to ensure its smooth running and meet its obligation. The successful management of working capital enables a firm to react quickly and appropriately to unanticipated changes in market variables, such as interest rates and raw material prices, and gain competitive advantages over its rivals. The purpose of this study was to find out the effects of working capital management on the performance of firms in Kenya. Specific objectives of the study are; to examine the effects of cash inflows and outflows on the firm performance; to determine the effects of accounts payable turnover on the firm performance, to determine the effects of accounts receivable turnover on the firm performance and to analyze the effects of inventory turnover on the firm performance. A descriptive research was undertaken to guide the study. From a target population of 33 included the Head of Departments, the Principals and Head of sections of the finance division of Kenya Ports Authority. A stratified random sampling technique was employed in selecting the sample of 30 respondents at 5 percent level of confidence. In order for the relevant information to be collected, both primary and secondary data collection methods were used. Primary data was obtained using questionnaires administered to the selected respondents while secondary data was collected from the audited financial statements and inventory records with the aid of predesigned desk review checklist. The data collected was thoroughly organized, analyzed, scrutinized, simplified and interpreted. All statistical data analysis was performed on a PC computer using Statistical Package for Social Science (SPSS Version 20.0) for Windows and the information generated was presented in the form of graphs, charts, frequency and percentage tables. Findings of the study suggest that firm performance gets affected by WCM. That is the management of cash inflow & outflow, AP, AR and inventory. The efficiency of WCM can be determined by the cash inflow & outflow, AP, AR and inventory. There is significant evidence that by managing each part of WC component a firm can increase the NPV of its cash flows thus adding to shareholder value. Findings of this study will help the government and employers in devising more effective financial education programs targeted at increasing the levels of liquidity and profitability of an organization which helps in the day to day operations of an organization. The findings from this research have important implication with respect to the need of an organization as far as WCM is concerned. More comprehensive research, investigating broader population and various Organizations is needed to generalize the results of this study. Further research could focus on other components of WCM such as company size, sales growth, and current ratios.

Keywords: Working Capital Management, Performance, Liquidity, Profitability.

1. Introduction

For businesses, an efficient working capital management is a vital component of success and survival; in terms of both profitability and liquidity. The crucial part in managing working capital is required maintaining its liquidity in day-to-day operation to ensure its smooth running and meet its obligation. Liquidity is a precondition to ensure that a firm is able to meet its short-term obligations and its continued flow can be guaranteed from a profitable venture (Gitman, 2005). The successful management of WC enables a firm to react quickly and appropriately to unanticipated changes in market variables, such as interest rates and raw material prices and gain competitive advantages over its rivals.

Among the most important items of working capital are levels of inventory, accounts receivable and accounts payable (Padachi, 2006). WC can be expressed in a positive or a negative way. When a company has more debts than current assets, it has negative WC. When current assets outweigh debts, a company has positive WC (Lazaridis&Tryfonidis, 2006).

In firms where management is putting efforts to identify the elements that affect and speedup efficient management of WC policy in which the ration of current assets is low contrast to total assets or it can choose higher ratio of current liabilities contrast to total liabilities. A higher rate of current assets may affect the firm negatively while low rate results in low liquidity and decrease in stocks which will lead to challenges that the organization will have to face (Belt, 2001). So it has become essential for organizations to study WC and its management.

To keep liquidity and profitability of an organization, its WC should be maintained up to sufficient level (Eljelly, 2004), involving the decision of the amount and composition of current assets and the financing of these assets. Higher ratio of current assets reduces the risk of inadequate or non-availability of cash so all the main elements of WC including cash, marketable securities, receivables and inventory have their own importance in the management of a company which would lead to value creation for the shareholders.

Bagchi and Khamreei (2012) indicate that the WCM is a vital component in financial management. Irrespective of the profit-orientation, size and the nature of business, all firms

require an optimum level of WCM. Inefficiency of WCM may lead the firm into a pitfall (Niresh, 2012). Optimal WCM positively contributes to the creation of firm value. On the one hand, cost of liquidity brings a serious problem and stands against profitability (Dong & Su, 2010).

Further, Bieniasz and Gołas (2011) have conducted a research to examine the influence of WCM on the food industry enterprises profitability in Poland and selected countries in the Eurozone. The research concluded that the food industry with the shortest WC cycles help to obtain the higher rates of profitability. Further results indicate that the cycles of inventory, accounts receivables and current liabilities were negatively correlated with the profitability.

Few studies have been carried out in Sri Lanka as well. For example, Nimalthasana (2010) has done a study using the manufacturing companies in CSE to identify the effect of WCM on profitability. He has found out a negative relationship between CCC and profitability; a positive relationship between the inventory conversion period and profitability. Niresh (2012) has inconclusive findings. Previous studies regarding the WCM have found different relationships among the components of WCM and profitability.

The main concern in WCM is the firm's short term operating and financing activities, these short term activities might involve buying of raw materials, paying cash for raw materials, manufacturing and selling the product and the collection of cash associated with the sale of the product (Padachi, 2006). According to Deloof, (2003) the way that WC is managed has a significant impact on profitability of firms.

Surveys around the world consistently indicate that WCM has impact on company profitability. Surveys have been conducted in non-financial companies from 11 European countries for a period of 12 years: 1998 – 2009 though they were looking at the efficiency of WCM on profitability but the results concluded that WCM affects significantly the operating profit of a company.

Some research studies have been undertaken on the WCM practices of both large and small firms in India, UK, US, Australia, New Zealand and Belgium using either a survey based approach (Burns and Walker, 1991; Peel and Wilson, 2000) to identify the push factors for firms to adopt good WC practices or econometric analysis to investigate the association between WCM and profitability (Deloof, 2003; Singh and Panday, 2008). Furthermore it is noted that many of the studies in the area of WC have tended to focus on the management of individual assets such as cash (Grabrowsky, 1976), accounts receivable (Lewellen and Johnson, 1972; Hubbard, 1991), late payment and credit management (Peel *et al.*, 2000; Drever and Armstrong, 2005), accounts payable (Walker, 1980) and inventory (Grabrowsky, 1984). But the few studies currently undertaken on the overall WCM/policies used primary data to gauge the take-up of best practices in the area of WC (Howorth and Westhead 2003; Peel and Wilson 1996; and others). The important finding of those studies was a significant relationship

between various success measures and the employment of formal WC policies and procedures.

Nationally, the 2013 annual WC survey of top companies yielded eye-opening results with direct implications on the bottom line. The research, which examines the ability of companies to collect from customers, manage inventory, and pay suppliers, found that as revenue grew by 5 percent in 2012, profitability decreased.

Overall, top performers in the study operate with about half the WC of typical companies. They collect from customers more than two weeks faster, pay suppliers over 10 days slower, and hold less than half the inventory. Nearly half of the WCM gap represents excess inventory being held by typical companies.

According to the NSE (2010), a number of public and private companies have been under statutory management in the last decade, including the Kenya Planters Co-operative Union KPCU (2010), NgenyeKariuki Stockbrokers (2010), Standard Assurance (2009), Invesco Assurance (2008), Hutchings Beimer (2010), Discount Securities (2008), Uchumi Supermarkets (2006), and Pan Paper Mills (2009). Uchumi supermarket Ltd annual report (2005), reported that the company had a tight cash flow position that made it difficult for the company to maintain supplier relations and consistent supplies.

Findings in Africa region for example Ghana though the research was on SMEs indicated that there are problems as far as WCM is concerned. The results show that 50 percent of respondents use note books while only 0.7 percent uses computers for inventory control. Fifty-seven (57) percent of the respondents had bank account for their businesses. Personal savings accounted for about 38 percent of start-up capital and SMEs consider inflation/price increases to be more problematic than even higher debtors turnover period and low stock turnover.

The management of WC is very important to all businesses of all sizes and Parastatals as well. The amounts invested in WC are often high in proportion to the total assets employed and so it is vital that these amounts are used in an efficient and effective way (Lamberson, 2005). However, there is evidence that businesses are not very good at managing their WC. Mismanagement of WC can lead a firm to liquidity crisis by reducing its profitability and creditability, so managing WC effectively is necessary for going concern of the business and also for its profitability (Siddique & Khan, 2009).

The way of managing WC efficiently varies from firm to firm since it depends on industry, the nature of the business, business policy, and strategy (Rao, 1989). Managers spend a considerable time on day-today working of capital decisions. In the case of current liabilities, the firm is responsible for paying obligations under current liabilities on a timely basis. As a result, WCM is a very sensitive area in an Organization.

Kenya Ports Authority (KPA) is a state corporation with the responsibility to "maintain, operate, improve and regulate all

scheduled seaports" on the Indian Ocean coastline of Kenya, including principally Kilindini Harbour at Mombasa. KPA was established in 1978 through an Act of Parliament and is located in Mombasa. Poor management of WC at the port of Mombasa can make some countries like Uganda, Ruanda and Burundi to seek alternative route (like Port of Dar-as-Salaam) to clear their cargo thus making the port lose its competitiveness.

Management of WC is a fundamental part of the overall corporate strategy to create value and is an important source of competitive advantage in businesses (Deloof, 2003). In practice, it has become one of the most important issues in organizations with many financial executives struggling to identify the basic WC drivers and the appropriate level of WC to hold so as to minimize risk, effectively prepare for uncertainty, and improve the overall performance of their businesses (Lamberson, 2005).

Efficiency is essential in the short term financial management due to the fact that most part of total assets comprises of fixed assets (Raheman & Nasr, 2007). According to literature, bankruptcy of firms is caused by inappropriate practice of WCM procedures, despite of positive returns or profitability due to such practice (Samiloglu & Dermigunes, 2008). So it would be risky to just focus on profitability while ignoring WCM also to focus just on liquidity while ignoring profitability. So what firms have got to do is to achieve a balance between profitability and liquidity.

It is often said, you can lose money for some time, but you can only run out of cash once. The impact of ineffective WCM can be complex and just as debilitating for a business. Companies with effective cash flow management practices not only generate more cash from their businesses, they have more flexibility to take advantage of opportunities as they arise and are less dependent on external financing, hence KPA is not an exceptional.

While it is relatively easy to obtain short-term reductions in WC by slowing down payments, speeding up collections, or starving inventory, long-term results require a sustained effort and continuous process improvement approach. To be successful with a WCM program, you need cross-functional alignment of many managers, who will not often see the cash flow management objective as secondary or in conflict with other measures but targets that they must achieve. It cannot be implemented as a separate exercise from top line and bottom line performance optimization.

In the real world, there are substantial tradeoffs between cash flow management, customer service, cost and risk. In order to optimize the overall WCM performance of the organization, then KPA need to recognize and understand these tradeoffs and implement continuous improvement strategies that take them into account. This requires a holistic approach across the functional boundaries of the organization, and ideally takes into account both supplier and customer value drivers. This means that the Organization takes a holistic approach to managing the end-to-end processes that influence WCM. In this case inventory reduction (forecast-to-fulfill), accounts payable (source-to-

settle) and accounts receivable (customer-to-cash) processes is based on the proven practices of world-class performance.

Through the adoption of best practices, world-class companies are able to rise above common challenges to yield substantial returns in service delivery, risk reduction, cost reduction and cash flow improvement while creating the liquidity to fund acquisitions, product development, debt reduction, share buy-back programs and other strategic initiatives. KPA is blessed to be working with many of the world's leading businesses hence need to identify and implement business best practices to achieve operational excellence.

1.1 Statement of the Problem

For companies, the recession has led to changes in market conditions, for example, more costly and limited credits from banks which expose companies to greater business risks and greater vulnerability. In order to face these challenges and come up with new ways to get cash, companies have had to focus on improving and optimizing the internal activities in the company such as streamline its WCM to release capital (Burt & Abbate, 2009).

It is important to note that it is not enough with high profitability to be a successful company but an effective managed WC is also important for success. A neglected managed WC can, in worst case lead to the downfall of a company even if it has a high profitability (Pass & Hike, 2007).

The crucial part in managing WC is required maintaining its liquidity in day-to-day operation to ensure its smooth running and meet its obligation (Eljelly, 2004). The successful management of WC enables a firm to react quickly and appropriately to unanticipated changes in market variables, such as interest rates and raw material prices, and gain competitive advantages over its rivals (Filbeck & Krueger, 2005).

The fundamental subject of WC is to provide optimal balance between each element forming WC, most of the efforts of finance directors in an organization are the efforts they make to carry the balance between current assets not at optimal level. (Lamberson, 2005).

WC necessity influences liquidity level and profitability of an organization as a result it affects investment and financing decisions too. A poor and inefficient WCM leads to tie up funds in the assets and reduces the liquidity and profitability of an organization (Reddy & Kameswari 2004) Given the above type of situation and the vulnerability of these business to fluctuation in the level of WC, they often end up starving business of cash due to a mismatch of current asset and current liability affecting firm's growth and profitability (Sanger, 2001).

Money that is tied up in inventory or money that customers still owe to the company cannot be used to pay off any of the company's obligations. So, if a company is not operating in the most efficient manner (slow collection), it will show up its increase in the WC. This can be seen by comparing the

WC from one period to another; slow collection may signal an underlying problem in the company's operations.

Hence it is very important for a business to understand the way to manage WC efficiently and the effects this has on the performance and growth of the business. Therefore, the purpose of this study is to find out the effects of WCM on the performance of Kenyan firms.

1.2 Objectives of the study

The general objective of this paper was to find out the effects of working capital management on the performance of firms in Kenya. The following specific objectives guided the study;

- i. To examine the effects of cash inflows and outflows on the performance of firms in Kenya.
- ii. To determine the effects of accounts payable turnover on the performance of firms in Kenya.
- iii. To determine the effects of accounts receivable turnover on the performance of firms in Kenya.
- iv. To analyze the effects of inventory turnover on the performance of firms in Kenya.

2. Literature Review

The study reviewed selected literature that summarizes a diverse spectrum of views on Effects of WCM on firm performance; this includes theoretical review, conceptual framework and measurement of effects of WCM on firm performance.

2.1 Theoretical Review

The study reviewed key theories that provide an insight in to the effects of WCM on firm performance.

2.1.1 Trade off Theory

This theory proposes that there is a trade-off between liquidity and profitability; gaining more of one means giving up some of the other. At one end of the spectrum there are highly liquid firms which are not very profitable while at the other end are firms which are highly profitable but are not very liquid. The basic challenge is therefore to determine where in the middle ground the firm should reside (Bhattacharya, 2001).

Proponents of the trade-off approach are focusing their efforts mainly on developing dynamic structural trade-off models. An attractive feature of these models is that they try to provide a unified framework that can simultaneously account for many facts. Examples include (Leary and Roberts, 2004) and (Ju *et al.*, 2004).

A well-managed WC promotes a company's well-being on the market in terms of liquidity and it also acts in favor for the growth of shareholders value (Jeng-Ren, *et al.*, 2006). Investment in WC involves a balance/tradeoff between risk and profitability because investment decision which leads to increase in profitability will be inclined to increase risk and vice versa. Efficiency in managing WC also increases cash flow to the firms which in turn increase the growth opportunities for the firms and return to the shareholders

(Ganesan, 2007). The significance of WCM is not new in the finance literature. Largay and Stichney (1980) reported in their study that W.T. Grant, a nationwide chain of department stores was bankrupt because of deficit in cash flows from operations in eight of the last ten years of its corporate life. WCM is a continuous function which is linked to the survival of firms. Firms where WCM is not given due consideration cannot survive for a longer period (Dong and Su, 2010).

Management of fixed assets falls within the realm of capital budgeting while the management of WC is a continuing function which involves control and flow of financial resources circulating in the firm in one form or the other. The optimum situation for most companies is when they manage financing of both expected and unexpected upcoming events without experience any financial distress (Maness & Zietlow, 2005).

According to Michna (2007), the efficient management of Liquidity is particularly important for small firms at a time of economic downturn such as the "credit crunch". Consequently, owner-managers find it more difficult to raise finance for WC due to the higher cost of borrowing, the effect of declining property value on the ability of owner-managers to provide the necessary collateral, and the perception that the banks have become even more risk-averse than they were already. Further, Afza and Nazir (2007) observe that firms try to keep an optimal level of WC that maximizes their value and the efficient management of WC is likely to yield significant results and its neglect can be highly dangerous to any firm (Christopher and Kamalavalli, 2009).

These researchers indicated that "poor" or "careless" financial management is a major reason of failure for small businesses. According to Filbeck and Krueger (2005), the role of efficient WCM was indubitable and the viability of business relied on effectively managing inventory, accounts receivable and accounts payable. Furthermore, firms were able to reduce financing costs and increased the funds available for expansion by minimizing the amount of funds tied up in current assets. Filbeck and Krueger took industry membership into consideration when estimating stock price reaction against WCM performance. Furthermore, they highlighted that there existed significant differences between industries in WC measures across time. In addition WC measures, themselves, change significantly within industries across time.

The above studies indicate that the WCM has become a very important part of a firm's financial management because its management not only affects the survival of firm but the profitability of the firm also depend on how effectively and efficiently WC is utilized in the firm's operations. Therefore, it is vitally important to see that how a trade-off can be maintained in two conflicting goals of Profitability and Liquidity.

2.1.2 Modigliani-MillerLeverage IrrelevantTheory

The theory of business finance in a modern sense starts with the Modigliani and Miller (1958) capital structure irrelevance proposition. Before Modigliani and Miller, there

was no generally accepted theory of capital structure. They start by assuming that the firm has a particular set of expected cash flows. When the firm chooses a certain proportion of debt and equity to finance its assets, all that it does is to divide up the cash flows among investors. Investors and firms are assumed to have equal access to financial markets, which allows for homemade leverage. The investor can create any leverage that was wanted but not offered, or the investor can get rid of any leverage that the firm took on but was not wanted. As a result the leverage of the firm has no effect on the market value of the firm.

2.1.3 Agency Theory

Recent finance literature proposes an agency theory perspective to explain trade credit, as an alternative to the tax, liquidity, transaction costs and product quality explanations (Bastos and Pindado, 2007). These authors base their arguments on the adverse selection and moral hazard phenomena, all of them focused on accounts receivables, and find a negative relation between the days of sales outstanding and the days to pay accounts payable. Overall, Bastos and Pindado (2007) conclude that the agency theory is a better candidate than the alternative traditional models to explain trade credit policy. The results in this study are complemented by Niskanen and Niskanen (2006), who document that larger and older firms with more internal financing are less likely to use trade credit whereas firms with a high ratio of current assets to total assets and firms subject to loan restructurings use more trade credit. In this context, in which few studies, if any, attempt to disentangle the factors that determine companies' accounts payable, the main objective is to identify the effects of trade credit policy as measured by the days companies have to pay their accounts payable. To achieve this objective, the researcher will need to base the explanations on the financing and pricing motives of trade credit. In so doing, this will contribute to the finance literature by complementing prior research that focuses on the bank financing substitution effect of trade credit. The empirical evidence also emphasizes the importance of trade credit as a source of funds (Miwa and Ramseyer, 2005) and its use as a signal of firms' creditworthiness (Frank and Maksimovic, 2005), and this contribute to the stream of the literature that highlights the stability of trade credit contracts (Blasio, 2005).

Trade Credit; It is expected that a reduction in the days sales outstanding may imply a consequent reduction in the days to pay accounts payable, excluding the financial distress case where a reduction in the sales payment outstanding is parallel with an increase of accounts payable (Preve, 2003). Inversely, an enlargement of the days sales outstanding (accounts receivable) will imply an enlargement of the days to pay accounts payable; i.e., a better implementation of short term trade credit strategy on the receipt of accounts receivable will provide a reduction on the volume of accounts payable compatible with a cost reduction strategy.

2.2 Conceptual Framework

Conceptual framework is a diagrammatic presentation of the relationship between dependent and independent variables (Mugenda and Mugenda, 2003). In this study, the dependent

variable will be firm performance while independent variables are the components of WCM i.e. components that directly impact on the firm performance. These components are categorized as cash inflows and outflows, accounts payables, accounts receivables and inventories as shown in Figure 2.1 below:

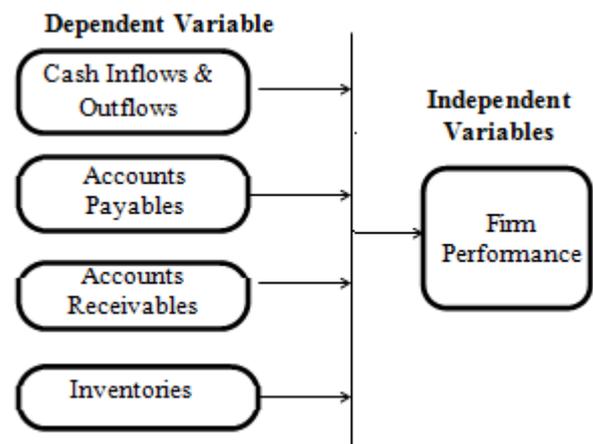


Figure 1: Conceptual Framework

2.2.1 Effects of Cash Inflows & Outflows

Companies need to carry sufficient levels of cash in order to ensure they can meet day-to-day expenses. Cash is also required to be held as a cushion against unplanned expenditure, to guard against liquidity problems. It is also useful to keep cash available in order to be able to take advantage of market opportunities. The cost of running out of cash may include not being able to pay debts as they fall due which can have serious operational repercussions, including the winding up of the company if it consistently fails to pay bills as they fall due. However, if companies hold too much cash then this is effectively an idle asset, which could be better invested and generating profit for the company. Too much WC results in wasting cash and ultimately the decrease in profitability (Chakraborty, 2008). Cash held in the most liquid form is a non-earning asset (Pandey, 2005). This is because cash in hand cannot generate interest. However, the firm requires holding an optimal cash balance since excessive cash means foregone interest income and inadequate cash means difficulty in implementing operating activities of an enterprise. Inadequate cash will also mean that the firm cannot meet its short term maturing financial obligations as and when they fall due. Any idle cash held by a firm should be converted into an earning form so that it can generate interest income. This is achieved through buying or investing in short term marketable securities or investing the idle cash in short term lending.

Many companies use sweeping as a method of gaining profit on their cash balances. The cash sweeping entails that the cash balances of the company are transferred to overnight money market deposit accounts which pays an overnight interest rate (usually a swap rate). Other short term securities that companies can invest in their liquid funds are commercial papers, bonds, mutual funds, corporate notes and mortgage backed securities (Brealey; Myers; & Allen, 2006).

2.2.2 Effects of Accounts Payables

Accounts payable is a concept which is used to describe the debt or amount which a company owes to its creditors. They are unpaid dues to the creditor and suppliers. Since this is money borrowed by the company to run its operations smoothly, accounts payable will always be placed on the liabilities side of the balance sheet of a company. Managers of the firm have to make provisions for clearing the balance payments, in the form of accounts payable as soon as possible, to protect the reputation of the company and win the confidence of creditors. Failure to do so can affect the company's prospects of securing loans in the future to a great extent. Clearing the accounts payable requires systematic planning and also good execution as per the set plan (Pedro Juan & Pedro Martinez, 2007).

Accounts payables are one of the major sources of unsecured short-term financing (Gitman, 2009). How a company manages its accounts payable processing affects two important business matters: cash flow and supplier relationships. Companies that apply best practices manage accounts payable so that the process both contributes positively to cash flow and supports mutually beneficial relationships with suppliers. Regarding cash flow, accounts payable practices make a significant difference both in minimizing late-payment costs such as late-payment penalties, interest charges, and lost prompt-payment discounts and in creating efficient operations (Ramachandran, & Muralidharan, 2009).

Creditors turnover ratio = credit purchase / average trade creditors

Average payment period = (trade creditors * no. of working days) / net credit purchase.

2.2.3 Effects of Accounts Receivables

Accounts receivable (A/R) are amounts owed by customers for goods and services a company allowed the customer to purchase on credit. Accounts receivable is an important factor in a company's working capital. If it's too high, the company may be relax in collecting what's owed to it and may soon be struggling to find the cash to pay the bills; if it's too low, the company may be unwisely harming customer relationships or not offering competitive payment terms. According to Maas and Dava (2008), the management of debtors is implemented through the formulation of sound credit policies.

Companies can sometimes use their receivables as collateral for borrowing money. The level of accounts receivable also affects several important financial-performance measures, including WC, days payable, the current ration, and others. It is important to note that uncollectible receivables do not qualify as assets (these uncollectible amounts are reclassified to the allowance for doubtful accounts, which is essentially a reduction in receivables); thus, companies usually allow only creditworthy customers to pay days, weeks, or even months after they have received the company's services or goods. Sometimes companies sell their receivables for cents on the dollar to other companies that focus solely on collecting the owed amounts (Vishnani & Shah, 2007).

Cash discount policy to attract customers to enjoy the benefits and pay in advance to shorten the average collection period of the enterprise. Therefore, enterprises in the development of credit policy, should be in the credit period, credit standards and trade-offs among cash-discount policy, and strive to achieve the minimum risk of accounts receivable, firms maximize profits (Bhattacharya, 2001). Enterprises should operate within the responsibility of collection accounts, accounts receivable recovery and internal business units linked to performance appraisal and reward and punishment. When customers cannot repay the loan when due, the enterprise may require the customer to open the acceptances to offset accounts receivable. Accounts receivable is secured by accounts receivable as collateral enterprises, to obtain loans from financial institutions in advance, customers pay the arrears before it transferred to another, for example the number of loans of financial institutions as part of the return. In the event of bad debt losses, the enterprises need not to take any responsibility.

Debtors turnover ratio = Net credit sales / Average trade debtors

2.2.3 Effects of Inventories

Inventory is another important current asset. Depending on the industry the company is active in; the inventories may consist of different things for example raw materials, work in progress or finished goods. Managing and optimizing levels of inventory is very tedious task which require balancing between sales and tied up capital. In case the inventory levels are too low the company might miss out on sales when demand arises or might not be able to deliver goods on time. On the other hand too much inventory ties up capital that can be used elsewhere more effectively. The trend has been to lower inventory levels over the past decades (Brealey; Myers; & Allan; 2006). Instead of the conventional inventory management system where the firm maintains a stock of materials in the warehouse, a firm can also adopt a Just in time (J.I.T) purchasing system. It refers to inventory management system where raw materials are only purchased when they are needed for production. Under this system, the company or the firm do not maintain stock of raw materials. The objective of the system includes:- To eliminate inventory storage cost; to eliminate raw material wastage due to obsolesce, theft and pilferage; and finally to eliminate other inventory handling costs e.g. insurance of inventory stock, costs of maintaining a store keeper etc.

2.3 Measurement of Working Capital Management

There are two approaches which can be used to measure WCM i.e. aggressive approach, and conservative approach. Filbeck and Krueger (2005) highlighted the importance of efficient WCM by analyzing the working capital management policies of 32 non-financial industries in the US. According to their findings, significant differences exist among industries in WC practices overtime. Moreover, these WC practices, themselves, change significantly within industries overtime. Rahman and Mohamed (2007) studied the effect of different variables of WCM including average collection period, inventory turnover in days, average payment period, CCC, and current ratio on the net operating profitability of Pakistani firms. They found that as the CCC

increases, it leads to decreasing profitability of the firm and managers can create a positive value for the shareholders by reducing the CCC to a possible minimum level. Falope and Ajilore (2009) utilized panel data econometrics in a pooled regression, where time-series and cross-sectional observations were combined and estimated. They found a significant negative relationship between net operating profitability and the average collection period, inventory turnover in days, average payment period and CCC for a sample of fifty Nigerian firms listed on the Nigerian Stock Exchange. Mathuva (2009) established that there exists a highly significant positive relationship between the time it takes the firm to pay its creditors (average payment period) and profitability.

In literature, there is a long debate on the risk/return tradeoff among different WC policies (Brigham and Ehrhardt, 2004; Gitman, 2005 and Moyer *et al.*, 2005).

Eljelly (2004) elucidated that efficient liquidity management involves planning and controlling current assets and current liabilities in such a manner that eliminates the risk of inability to meet due short-term obligations and avoids excessive investment in these assets. The relation between profitability and liquidity was examined, as measured by current ratio and cash gap (CCC) on a sample of joint stock companies in Saudi Arabia using correlation and regression analysis. The study found that the CCC was of more importance as a measure of liquidity than the current ratio that affects profitability. The size variable was found to have significant effect on profitability at the industry level. Garcia-Teruel and Martinez-Solano (2007) also established that shortening the CCC improves the firm's profitability.

A significant relationship for about half of the industries studied indicated that results might vary from industry to industry. Another aspect of WCM has been analyzed by Lamberson (2005) who studied how small firms respond to changes in economic activities by changing their WC requirements and level of current assets and liabilities. Current ratio, current assets to total assets ratio and inventory to total assets ratio were used as a measure of WC requirement, while the index of annual average coincident economic indicator was used as a measure of economic activity. Contrary to the expectations, the study found that there is a very small relationship between changes in economic conditions and changes in WC.

Singh and Pandey (2008) had an attempt to study the WC components and the impact of WCM on profitability of Hindalco Industries Limited for period from 1990 to 2007. Results of the study showed that current ratio, liquid ratio, receivables turnover ratio and WC to total assets ratio had statistically significant impact on the profitability of Hindalco Industries Limited.

Similarly, Deloof (2003) analyzed a sample of large Belgian firms for the period 1992-1996 and the results confirmed that Belgian firms can improve their profitability by reducing the number of days accounts receivable are outstanding and reducing inventories. Teruel and Solano (2005) suggested that managers can create value by reducing their firms' number of days' accounts receivable and

inventories. Similarly, shortening the CCC also improves the firms' profitability.

In the Pakistani context, Rehman (2006) investigated the impact of WCM on the profitability of 94 Pakistani firms listed on Islamabad Stock Exchange (ISE) for the period 1999-2004. He studied the impact of the different variables of WCM, including average collection period, inventory turnover in days, average payment period and CCC on the net operating profitability of firms. He concluded that there is a strong negative relationship between WC ratios mentioned above and profitability of firms. Furthermore, managers can create a positive value for the shareholders by reducing the CCC up to an optimal level. Similar studies on WC and profitability include Howorth and Westhead (2003), Eljelly (2004), Ghosh and Maji (2004) and Lazaridis and Tryfonidis (2006). Afza and Nazir (2007) investigated the relationship between the aggressive and conservative WC policies for 17 industrial groups and a large sample of 263 public limited companies listed on Karachi Stock Exchange (KSE) using cross-sectional data for the period 1998-2003.

Using Analysis of Variance (ANOVA) and Least Significant Difference (LSD) test, the study found significant differences among their WC investment and financing policies across different industries. Moreover, rank order correlation confirmed that these significant differences were remarkably stable over the six-year study period. Finally, ordinary least regression analysis found a negative relationship between the profitability measures of firms and the degree of aggressiveness of WC investment and financing policies.

In order to achieve the main objective of the study, the researcher will consider both approaches i.e. the aggressive and conservative approach in assessing the financial statements. The objective has been found that it is better to consider both approaches since most of the firms use both approaches in financing their current assets.

3. Methodology

This section gives a description of the methods were used in an attempt to achieve the purpose of the study. The main objective of the study was to find out the effects of WCM on firm performance. A descriptive research design was undertaken to meet the objective of the study. A sample size of 30 was randomly selected from six sections of finance division in Kenya Ports Authority and this included the Head of departments, Principals and Head of sections. Stratified random sampling technique was employed in selecting the 30 employees from the six sections. Then, the different accounting variables needed for the study was extracted. The data was obtained from document analysis of financial reports of years ending June: 2009, 2010, 2011, 2012 and 2013 of the Organization. A survey methodology was adopted with the design of self-administered questionnaires to capture the relevant information from the respondents.

To find out the effects of WCM on firm performance a sixteen like statement question were asked from the respondents. The questions were asked to find out if the

management of WC components had any effect on firm performance. The respondents were asked to rate their certainty about each statement on a 5-point scale that ranged from 100% strongly agree to 100% strongly disagree. A score of 1 means that the answer is perfectly wrong and 5 is perfectly correct. Respondents' average score across all the questions were computed and further converted in to percentage score. The resulting percentage score was interpreted as a proxy for the respondents understanding as far as effects of management of WC components is concerned.

The survey was used in a pilot study to refine the instrument. The validity and clarity of the survey was enhanced by having objective questions included in the questionnaire. In addition, the validity of the research instruments was established by seeking opinions of experts in the field of study especially the HODs and the Principals. The quality and consistency of the survey were further assessed using Cronbach alpha. The researcher did not involve anybody in distributing the questionnaires to the targeted respondents. The questionnaires were administered through drop and pick later method. Data analysis was performed on a PC computer using Statistical Package for Social Science (SPSS Version 20.0) for Windows. Analysis was done using percentages and ratios the information generated was presented in the form of graphs, charts, frequency and percentage tables.

4. Findings

This chapter presents the results (findings) and their interpretation as they were given by the respondents through their responses in the questionnaires. The questionnaires sought to find out the general information about the respondents as well as answers to the objectives of the study.

4.1 Background Information

Out of 30 questionnaires sent out, 24 were returned, resulting in a useable response rate of 80%. Male participants represented 67% of the sample. Majority of the respondents (55%) fell in the age group 41-50 years while 21% were in the age bracket of 40 years and below and the rest 16% were aged between 50 years and above. In terms of education levels, 33% of the respondents had bachelor degree and 63% having post graduate degree. With regard to occupation status, 12% were Head of departments, 38% were Principals and 50% were Head of sections.

4.2 Firm Performance

According to Panwala (2009), the objective of WCM is to maximize the owners' wealth which is measured in terms of profitability. Effectively, therefore, a firm in losses does not answer to the business intent of the owners. In this study, financial performance of the Organization was measured on the basis of the asset accumulation and net profits realized. Under asset accumulation, the study established that the Organization had an asset base of Sh.76.3 billion. The mean asset value was found to be Sh.111.29, with a standard deviation of Sh.36.49 million. This showed inherent resource-base dissimilarities in the Organization for different

financial years, signaling to a justifiable basis for application of various approaches in their WCM.

4.3 The effects of cash inflows & outflows on firm performance

The study analyzed the influence of cash inflows and outflows based on the results of the respondents on the test questions. 4.3.1 Influence of cash inflows & outflows on firm performance. There is a significant association between cash inflows & outflows and firm performance. Findings showed that 83.33% of the respondents indicated that Cash inflows and outflows affects firm Performance in the Organization, while 16.67% indicated that cash inflows and outflows does not affect firm Performance in the Organization, based on the findings it can be inferred that Cash inflows and outflows affects Firm Performance in the Organization. The results that cash inflows and outflows affect firm performance are in line with Singh and Pandey (2008), Siddiquee *et al.* (2009) and Ganesan (2007) that management of cash inflows and outflows is important and indeed affect firm performance.

4.3.2 Response on effects of cash inflows and outflows affect firm performance

Analysis of the findings revealed that an organization need to have a well-defined policy on minimum liquidity and regular cash flow projections, cash requirements need to be planned for shortfalls, regular bank reconciliations & audits and ready investment avenues for excess cash. Therefore Cash inflows and outflows helps firms to strengthen long-term relationships with their customers if well managed. These findings supports the existing literature of Maness & Zietlow, (2005) and also Eljelly, (2004) who said to keep liquidity and profitability of an organization then WC should be maintained up to sufficient level, which will be involving the decision of the amount and composition of current assets and the financing of these assets.

4.3.3 Effects of cash inflows & outflows levels on firm performance

There is significant association between the cash inflows and outflows on firm performance among the respondents who took part in the survey, high, moderate and low scores were found among the Head of departments, Principals and Head of sections. Qualitatively, majority of the respondents indicated that many businesses concentrate solely on their revenues and expenses to manage their cash flow; it's usually poor management of the cash inflows and outflows that so often leads to a cash crisis in business. Revenue and expenses are rarely constant in a business and cash requirements need to be planned for shortfalls or seasonal factors to avoid unsmooth running of the business these findings agree with the existing literature Jeng-Ren, (2006). These findings also support the empirical findings of Schein, (2010) the lower the cash conversion cycle, the more healthy a company generally is. If the results of the cycle are compared over time and a rising trend is evident, it is often a warning sign that the business may be facing a cash flow crunch and also Nwaeze, (2006) argued that cash inflows & outflows also plays an important role as financial investment when the external financing cost is high. Cash flow from

operation reflects the company's credit policy and the company's operating decision.

4.4 The effects of accounts payable on firm performance

The study examined the effects of accounts payables on firm performance based on the results of the respondents on the test questions.

4.4.1 The influence of accounts payables on firm performance

There is a significant association between accounts payables and firm performance. Findings showed that 63.67% of the respondents indicated that accounts payables affects firm Performance in the Organization, while 33.33% indicated that accounts payables does not affect firm Performance in the Organization, based on the findings it can be deduced that accounts payables affects Firm Performance in the Organization. The result that accounts payable affect firm performance in the Organization support the result of Mathuva (2009) where he established that there exist a positive relationship between the time a firm takes to pay its creditors i.e. average payment period and profitability.

4.4.2 The effects of accounts payables on firm performance

Analysis of the findings revealed that accounts payable are a major source of unsecured short-term financing for companies, accounts payable improves the alliance between Organization and suppliers, production lines and strengthens credit record, management of accounts payable processing affects cash flow and supplier relationships and therefore strong relation with suppliers is important as they provide valuable trade credit, ideas and play an important role in customer service. These findings agree with Ramachandran, & Muralidharan, (2009) who argued that firms that apply best practices manage accounts payable so that the process both contributes positively to cash flow and supports mutually beneficial relationships with suppliers hence minimizing late payment costs such as late payment penalties, interest charges and lost prompt-payment discounts. According to Gitman (2009) and Miwa and Ramseyer, (2005) accounts payables are one of the major sources of unsecured short-term financing and this literature concur with the findings where the respondents indicated that accounts payables are one of the major sources of unsecured short-term financing.

4.4.3 Effects of accounts payables levels on firm performance

There is significant association between accounts payables and firm performance among the respondents who took part in the survey, high, moderate and low scores were found among the Head of departments, Principals and Head of sections. Similarly, majority of the respondents indicated that Organization that does not manage its accounts payables properly do not remain in business for long as this affects cash flow and supplier relationships. They acknowledge that firms that apply best practices manage accounts payable so that in the process it both contributes positively to cash flow and supports mutually beneficial relationships with suppliers experiencing growth and profitability these findings concur with (Ramachandran, & Muralidharan, 2009).

4.5 The effects of accounts receivable on firm performance

The study examined the effects of accounts receivables on firm performance based on the results of the respondents on the test questions.

4.5.1 The influence of accounts receivables on firm performance

There is a significant association between accounts receivables and firm performance. Findings showed that 79% of the respondents indicated that accounts receivables affects firm Performance in the Organization, while 21% indicated that accounts receivables does not affect firm Performance in the Organization, based on the findings it can be concluded that accounts receivables affects Firm Performance in the Organization. These findings are in line with the existing literature of Deloof, (2003) who said there was a negative relation between accounts receivable with profitability. Pike and Cheng (2001) in his findings argued that it was important to control the credit management policy and practices choices in order to maximize value.

4.5.2 The effects of accounts receivables on firm performance

Analysis of the findings revealed that high accounts receivable affects the company ability to pay the bills, accounts receivable levels correspond to changes in sales levels, companies sometimes use their receivables as collateral for borrowing money and accounts receivable constitutes the largest share of capital employed these findings supports the existing literature of Deloof (2003) which argues that the significant negative relation between the average number of days accounts receivable and gross operating income as a measure of profitability and also Boisjoly (2009) findings provide the evidence that companies have focused on improving the management of accounts receivable as their accounts receivable turnover increase over the 15 year time period for 1990-2004 therefore several techniques can be applied such as strengthen their collection procedures, offer cash discount and trade credit, and use receivables factoring.

4.5.3 Effects of accounts receivables levels on firm performance

There is significant association between accounts receivables and firm performance among the respondents who took part in the survey, high, moderate and low scores were found among the Head of departments, Principals and Head of sections. Thus it can be deduced that the level to which accounts receivable affects firm performance in the organization is high. Qualitatively, most respondents indicated that in most firms accounts receivable constitutes the largest share of capital employed hence improved capital efficiency within accounts receivable is therefore a strong value driver. They pointed out that the level of accounts receivable affects financial-performance as successful companies operate within the responsibility of collection accounts and accounts receivable recovery these findings agree with Pandey (2005) findings that a too strict policy could undermine sales and reduce working capital. Thus to ensure funds are unnecessarily tied up in debtors, a firm

should follow a rational credit policy in which each customer's credit worthiness is carefully rated.

4.6 The effects of inventory turnover on firm performance

The study examined the effects of inventory turnover on firm performance based on the results of the respondents on the test questions.

4.6.1 The influence of inventory turnover on firm performance

There is a significant association between inventory turnover and firm performance. Findings showed that 67% of the respondents indicated that inventory turnover affects firm Performance in the Organization, while 33% indicated that inventory turnover does not affect firm Performance in the Organization, based on the findings it can be concluded that inventory turnover affects firm performance these findings agree with Deloof (2003) who found a significant negative relation between gross operating income and number of days of inventories. This explains that an increase of the inventories can have a decrease in sales which leads to lower profit for the companies. According to Boisjoly (2009) found an increase of inventory turnover over a period of fifteen years that indicates that companies have improved their inventory management.

4.6.2 The effects of inventory turnover on firm performance

Analysis of the findings revealed that Stock outs, inventory surpluses, emergency ordering and supply stoppage these inventory situations can affect the organization performance. Organizations which have a recommended value of buffer stock can easily correspond to changes in sales levels, Focus on inventory needs to be constant and dynamics to react to both supply and demand changes and inventory management should be a team effort with targets and metrics put in place, therefore inventory turnover effects seem to affect the firm performance this is in line with the existing literature Padachi (2006) examination of trends in working capital management and its impact on firm's performance, results proved that a high investment in inventories is associated with lower profitability. Further, he showed that inventory holding period had a negative relation with profitability. Deloof (2003) also analyzed a sample of Belgian firms and found that firms can raise their performance by shortening the periods for inventory conversion.

4.6.3 Effects of inventory turnover levels on firm performance

There is significant association between inventory turnover and firm performance among the respondents who took part in the survey, high, moderate and low scores were found among the Head of departments, Principals and Head of sections. Hence it can be deduced that the level of influence of inventory turnover on firm performance is high. Considering the findings given just-in-time approach is a strategy for effective inventory management and help keeping inventory levels on a lower level. The findings supports the results of Brealey, Myers & Allen, (2006) who found that the strategy to make the orders of material, produce and deliver just in time when it is required and not before.

5. Conclusions

From the above analysis it can be concluded that poor management of the cash inflow and outflow can lead to a cash crisis in business and eventually bankruptcy. Firms with better cash management systems and better performance can get outside capital more easily; can invest in other more profitable investments, receive significantly more credit from their suppliers and have larger bargaining power with suppliers and customers.

Some organizations manage their accounts payable processing poorly hence do not remain in business for long as this affects cash flow and supplier relationships. Good accounts payable management systems and practices make a significant difference both in minimizing late-payment costs such as late-payment penalties, interest charges, and lost prompt-payment discounts in creating efficient operations.

Firms accounts receivable constitutes the largest share of capital employed hence improved capital efficiency within accounts receivable is therefore a strong value driver. The level of accounts receivable affects financial-performance and that companies should operate within the responsibility of collection accounts, accounts receivable recovery and internal business units linked to performance appraisal.

Proper inventory management systems can enable a firm to manage Stock outs, inventory surpluses, emergency ordering and supply stoppage since these inventory situations can affect the organization performance. Organizations which have a recommended value of buffer stock can easily correspond to changes in sales levels, Focus on inventory needs to be constant and dynamic to react to both supply and demand changes and inventory management should be a team effort with targets and metrics put in place.

6. Recommendations

The study recommends the following measures which will help firms to improve on WCM;

- i. There is need to evaluate company's cash flow statement regularly so as to determine the factors affecting profit, revenue and expenses, while taking appropriate measures to extend more credit to customers so as to increase sales in periods of low demand and not to keep larger inventories so as to avoid the unnecessary related costs as far as inventory is concerned.
- ii. Implementing the best practices helps an organization to manage its accounts payable activities with multiple goals in mind: to pay invoices on a predetermined schedule of the firm's policy, to ensure the accuracy and authenticity of invoices that the company pays, to process accounts payable paperwork with a minimum of handling expense; matching payments to contract terms, directing payments to the right accounts and documenting transactions.
- iii. Firms when developing credit policy need to focus on the achievement of the minimum risk of accounts receivable so as to facilitate profit maximization. At the same time strengthening contract management, execution of the contract of the debtor track and analyze the situation and prevent the occurrence of bad debt risk., to establish

responsibility for accounts receivable collection system for business-to-maturity accounts receivable.

- iv. Organization should develop tools that help the organization manage inventory levels in a way that contributes to the overall success of the business. The system in place should be reflecting the most up to date information and can react with confidence.

7. Suggestions for Further Studies

The following are some of the areas that further research may be focused:

- i. Similar study done on the same topic with different firm over an extended sample period of financial years.
- ii. Similar study with an extended scope to cover other components of WCM for example company size, sales growth and current ratio.
- iii. A study undertaken to cover on the effects of external factors on WCM

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