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WORKING CAPITAL MANAGEMENT AND FIRM PERFORMANCE: A CRITICAL REVIEW OF LITERATURE

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Abstract

Management of working capital is not only complex but also costly. Determination of optimal levels of working capital is not straight forward as it is dependent on a number of factors. These factors may be internal, for instance type of financing mode adopted, business strategy or even credit or cash policy or external factors such as interest rates, foreign currency exchange rates or government laws and legislation. This study being a critical review of literature sought to evaluate theoretical and empirical literature on the relationship between firm performance and working capital management. The study established that working capital management had a significant effect on firm performance although this effect was mixed across the working capital components. Further, there was great support for the existence of other variables that affected the relationship between working capital management and firm performance although most studies focused on the direct relationship. Specifically, the study noted that business strategy and financing methods had a significant effect on this relationship. This study recommended that research on this topic should be extended to these variables across more economies and use of expanded time series data for representativeness.

Key Words: Working capital management, Firm performance, Business strategy, Capital structure, Liquidity.

1. Background to the Study

Working capital is the difference between current assets and current liabilities (Holz, 2002). Working capital management is critical in the financial management of any firm. Its efficiency determines a firm's capital constitution, how it meets its goals and

obligations which affects its performance. Working capital decisions affect the firm's liquidity and determine how well daily obligations are met. Liquidity associated problems include reputation loss, default risk and forgoing profitable investment opportunities. Working capital decisions also affect a firm's profitability through sales and operating expenses impact.

Some firms operate very low or negative working capital out of choice in line with their strategies while others are forced into such a state due to poor planning or lack of knowledge (Akella & Suryanarayana, 2005). Liquidity and profitability decisions may conflict, for instance if high inventories are maintained in anticipation of a rise in cost of raw materials, it favours profits but results to liquidity reduction. On the other hand, lenient credit policy ensures sales growth and enhanced market share but affects liquidity in the short term. Strategies employed in management of working capital components namely cash, inventory, debtors and payables and ultimately the cash conversion cycle determine a firm's success.

David, Hwang, Pei and Reneau (2002) noted that different strategies around working capital affect a firm's value in different ways. Some studies indicate that higher working capital levels allow firms to increase their sales therefore obtain greater discounts for early payments and hence increase the firm's value (Deloof, 2003). In this perspective, working capital decisions affect a firm's performance significantly and that high value firms are associated with high working capital values (Wang, 2002). However, high working capital may lead to additional financing costs thus increase the firm's probability for financial distress and bankruptcy (Kieshnick, LaPlante & Moussawi, 2011).

1.1 Working Capital Management

Working capital management is a managerial accounting strategy focusing on maintaining efficient levels of components of working capital (Madhavi, 2014). Fatemeh (2013) observed that smooth uninterrupted entity's operations depend on the effectiveness of the policies towards management of working capital. Working capital policies can either be aggressive (negative working capital) or conservative (positive working capital) for instance just in time ordering (JIT) strategy with low capital needs. Inefficient working capital management not only reduces a firm's profitability but may also result in financial crisis. Efficient working capital leads to increased cash flows, less need for external financing, reduced default probability and reduced financial costs due to a short cash conversion cycle (Amin & Chowdhury, 2010). The longer the cash conversion period, the higher the investment in working capital and thus the greater the financing needs of a firm. In this case a firm may seek external borrowing, leading to interest expense, default risk probability and lower profits. However, the optimal level of working capital differs from entity to entity, the environment it is operating in and the industry (Deloof, 2003). Often working capital

amount is very high in proportion to total assets employed and this underscores the importance of its efficient and effective management (Butt, Hunjra & Rehman, 2010).

Working capital management policies have an overall impact on the firm's value. Frecka and Lee (1983) observed that high working capital levels allow firms to increase sales and obtain better discounts as they are able to pay for their inventories faster hence increasing their value. Kim, Mauer and Sherman (1998) suggested that working capital decisions affect the firm's performance significantly and that high value firms hold significantly higher levels of investment in working capital than lower value firms. However, firms with higher working capital levels may face additional financing expenses increasing default risk hence value reduction. Further, highly profitable firms are less motivated to manage working capital resulting in a negative relationship between working capital and firm value (Shin & Sonen, 1998). Banos, Garcia and Martinez (2010) found out that there is an inverted U-shaped relationship between investment in working capital and firm value indicating an optimal level of working capital investment at which costs and benefits are balanced and the firm's value is maximized.

Many investors consider working capital investments as discounted cost compared to cash (Kieschnick et al., 2011). This relationship can be seen in two ways in that it influences firm sales hence profits and also it impacts on capital employed with a direct link to cost of capital therefore affecting the shareholders' value. That is increasing sales without increasing the capital employed increases profitability. However creditors' management has conflicting effects. Late payment allows access of inventories as an inexpensive source of funding, but trade and cash discounts are forgone and default risk increases (Niskanen, 2006). These opposing effects imply that the relationship between working capital employed and firm value is not a direct one.

Working capital management determines the financial wellbeing of any entity due to its effects on liquidity. Its efficiency determines the level of inventories, production, operations and sales. If suppliers' payments are postponed while maintaining sales collection consistency, current cash inflows improve in the short term. On the other hand, if a firm's credit policy is relaxed, cash inflow is delayed resulting to low liquidity. This interdependency was highlighted in the financial crisis of 2008 when external funding became constrained and very expensive making firms tighten their credit policies, reduce stocks and delay payments while trying to compensate for the external financing constraints (Enqvist 2012).

Efficient management of working capital components ensures business processes are undertaken uninterrupted. The shorter the cash conversion cycle, the better the liquidity as inventories are efficiently converted to cash. Lower average collection days means that debtors pay on time and lower probability of default. Shorter inventory turnover means a high frequency of conversion of inventories to sales and

lastly, the longer the average payment period, the more cash is conserved for present investment as creditors' payments are postponed. If a firm achieves optimal levels of each of these components, cost of capital decreases in that borrowing is avoided as internal resources replace it for investment. This enhances firm's value and performance.

1.2 Firm Performance

Firm performance is the outcome of business activities over a period of time expressed in terms of overall profits or losses (Fatemeh, 2013). It may take various dimensions; long term, short term, financial, non-financial or even relationship building. Financial performance evaluation allows decision makers to judge business strategies and activities in monetary terms. Ratio analysis is one of the powerful tools of financial analysis which involves determining and interpreting quantitative statistics to establish relationships between variables and this can be through profitability ratios, liquidity ratios and efficiency ratios. Another measure of firm performance is firm size which is positively related to firm's value. Firm size is determined by sales growth, market share, sales turnover, number of products or market diversification. Firm's size can be measured by the natural logarithm of the total assets (Opler, Pinkowitz, Stulz & Williamson, 1999).

Tomalieh (2014) considered ratio analysis as measures of past trends to represent financial performance. Consistent with this, Madhavi, (2014) applied return on assets (ROA) and return on capital employed (ROCE). Wang (2002) noted that capital investment efficiency measures such as the ratio of fixed assets to profits, fixed assets turnover ratio (sales to net fixed assets) and current assets turnover ratio are other financial performance determinants. High performing firms with high liquidity are able to attract better terms from financial institutions, investors and suppliers. As a result, they enjoy lower cost of capital and are able to exploit opportunities to further expand their market share and profitability. This results to high shareholders' value and thus financial performance provides a viable measure of the effect of working capital management on the firm's performance.

2. Literature Review

The effect of working capital management on firm performance is underpinned by the cash conversion cycle theory. This theory entails the interaction of working capital components and flow of cash in and out of a firm. It can be used to determine the operational cash flow of an entity at various levels of sales. Gitman and Sachdeva (1974) developed the cash conversion cycle as the value in days determined by accounts collection days plus inventory days minus accounts payable days. Practically, it represents the period of conversion of raw materials to cash and its collection which can also be used as a measure of the number of days of operation for which financing is required.

In their seminal paper, Richards and Laughlin (1980) devised the method of working capital as a part of a broader framework of analysis known as the working capital cycle. This led to the birth of the cash conversion cycle theory. The operating cycle theory looks explicitly at one side of working capital, the current assets account considering only the income statement measures of firm's operating activities. On the other hand, the cash conversion cycle theory combines both the balance sheet and income statement components to create a measure of liquidity management (Jose, Jennings & Lancaster, 1996). Hutchison (2007) contends that for efficient management of cash conversion cycle, it is important to compare an organization's result with the industry cash conversion cycle benchmark as this assessment allows for identification of opportunities for improvement.

Working capital management is important because of its effects on the firm's profitability and risk and consequently its value (Smith, 1987). Day to day management of short term assets and liabilities is an important role in firm success. A firm with long term prospects even though with a healthy bottom line doesn't remain solvent forever if good liquidity measures are not adopted (Jose et al., 1996). Firm's liquidity measures refer to cash inflow and outflow due to product acquisition, production, sales, payment and collection over time, which portrays the importance of the firm's ongoing liquidity as a function of cash conversion cycle. Belt and Smith (1991) indicated that the shorter the cash conversion cycle, the lesser the resources needed by a firm. Conversely, a longer cash conversion cycle requires higher working capital investment but with the benefits of increased sales and profitability. Shin and Sonen (1998) indicated that a shorter cash conversion cycle creates higher shareholders value as the firm's cash flows have higher net present values as they are received quicker. High cash conversion cycle may in the long run hurt a firm's profitability by increasing cash tied to non-return bearing accounts such as accounts receivable and inventory.

Richards and Laughlin (1980) noted two underlying assumptions for cash conversion cycle theory. First, every component of the cash flow is presented by number of days referred to as the time period assumption. Secondly, the assumption that businesses vary and may well have time lag factors which are peculiar to their industries and businesses. This model allows for uniformity and comparability. Cash conversion cycle theory is relevant in evaluating working capital management as its components form key elements in working capital management. A critical evaluation of these parameters assist in measuring firm performance in a holistic manner as measures of liquidity, profitability and shareholders' value are all dependent on efficient and effective management of working capital.

Working capital management can either directly or indirectly affect firm performance (Madhavi, 2014). There is a direct positive relationship between working capital management and firm performance although this relationship is not straight forward as there are a number of other underlying factors influencing it. Falope and Ajilore

(2009) in their study identified a significant negative relationship between account collection period, inventory days, account payable days and cash conversion cycle. This means managers can increase shareholders value by reducing accounts collection period and cash conversion cycle as this boosts liquidity and less profitable firms have longer accounts payable period due to reduced liquidity so they pay their bills late.

Jose et al. (1996) focusing on the relevance of the cash conversion cycle theory undertook a study on the relationship between profitability and working capital management on 2718 American firms using correlation and regression analysis. They found out that shorter cash conversion cycle resulted in better profitability and firms with shorter cash conversion cycle were more aggressive in working capital management practices and these policies resulted in enhanced profitability. Deloof (2003) studied the relationship between working capital management and the profitability of 1009 listed and non-listed Belgian firms. He concluded that there was a negative relationship between gross operating income and the number of days of accounts receivable, inventories level and the accounts payable.

Using correlation and regression analysis, Amir and Sana (2006) studied the relationship between working capital management and profitability of oil and gas firms in Pakistan. They concluded that there was a negative relationship between profitability and number of days of inventory, days of accounts receivable, cash conversion cycle and sales growth. Garcia-Teruel and Martinez-Solano (2007) applied correlation and regression analyses on a large sample of 8,872 Spanish SMEs while Khoury, Smith and Mackay (1999) and Howorth and Westhead (2003) undertook similar studies for SMEs in Canada and UK respectively with similar findings. They concluded that there was a negative relationship between profitability and inventories level, number of days of accounts receivable and cash conversion cycle. Falope and Ajilore (2009) applying regression analyses in 50 listed Nigerian firms concluded that a negative relationship existed between profitability and average collection period, inventory turnover, average payment period and cash conversion cycle.

An exploratory research by Ramamurthy (2009) applying statistical analysis to investigate if poor working capital management practices contributed to failure of many Omani firms concluded that better working capital management methods may solve financial distress. A similar study was undertaken by Kaur (2010) in India focusing on working capital management practices by capital intensive tyre manufacturing firms. He concluded that efficient working capital management not only increases stock prices but also the profitability. He also found out that different entities have varying choices of financing methods depending on industry and needs. As a result the working capital composition varies as well as firm's performance. These two related studies established the need for an in-depth analysis of determinants of working capital.

Mathuva (2010) using regression analysis to study the relationship between working capital management components and profitability in 30 Kenyan listed firms realized mixed findings. Contrary to majority of the studies in this area whose findings were a negative relationship between the number of days and profitability, his study had two key findings. The first one was a positive relationship between profitability and inventory conversion period and the second one was a negative relationship between profitability and accounts collection period. He attributed his findings to the fact that some of the firms studied had little inventories which resulted to interruptions in the production process and frequent loss of business due to product scarcity. This study highlighted the mixed fortunes associated with working capital management and the need to consider other variables involved in working capital decisions.

Malik and Raheem (2013) studied the relationship between the cash conversion cycle and profitability of listed Pakistani manufacturing companies during period 2007 – 2011. They concluded an inverse relationship between cash conversion cycle and both return on assets and return on equity. In addition, they found out companies with short cash conversion cycle and inventory selling periods had high liquidity. In a similar study on selected quoted tea companies in Kenya using survey method, Chepkutto, Kiprono and Yegon (2014) found out that efficient working capital management significantly contributes to value creation for shareholders in that long cash conversion cycle and net trade cycle have negative impact on net operating profit of a firm. This study did not explicitly differentiate optimal, long and short cash conversion periods though these parameters were identified as critical.

In Russia, Tatiana and Petrova (2015) using time series analysis studied a cross section of industries in telcos, transport, electric power industry, trade, construction, chemical, steel, petrochemical, oil and gas and concluded an inverse relationship between cash conversion cycle and return on net operating assets. This covered 720 companies during the period 2001 to 2012. They further concluded that Russian companies should seek zero cash conversion cycle to increase their rates of return.

On the overall, these empirical studies on working capital management have resulted in mixed findings. Gill, Mark and Valet (2010) have concluded that a negative relationship exists between cash conversion cycle, inventory period days and accounts collection period and profitability. On the other hand, Chatterjee (2010) and Dong and Su (2010) concluded that a positive relationship exists between firm size, accounts payment days against profitability. Afza and Nazir (2009) found out that the profits of a firm are not directly related to the degree of aggressiveness of working capital investment and financing policies but there was a significant difference in working capital requirements and financing policies for different firms across different industries and that firms managers can create value if they adopt a conservative approach in working capital management.

In Ghana, Akoto, Awunyo-Vitor and Angmor (2013) concluded that there was a positive correlation between cash conversion cycle and profitability and a positive correlation between current asset ratio and profitability. In Nigeria, Falope and Ajilore (2009) concluded that there was no significant variation in effects of working capital management between large and small firms and prudent working capital management was critical for the profitability of firms irrespective of their sizes. In Kenya, Nyabuti and Alala (2014), Chepkutto, Kiprono and Yegon (2014) and Mathuva (2009) established that there was a positive relationship between accounts payment days and profitability and a negative relationship between accounts collection days and profitability. Mwangi, Makau and Kosimbei, (2014) concluded that a firm's performance was increased by the aggressiveness of working capital management policy contrary to findings by Afza and Nazir (2009). Lumumba, Nyamao, Ojera, Odondo and Simeyo (2011) concluded that many small scale firms had not embraced working capital management practices resulting in their failure. These mixed findings provide research avenues for working capital management scholars.

3. Moderating and Mediating Effects

Most of the studies reviewed were biased towards a direct relationship between working capital management and firm performance. These studies revealed mixed findings pointing to the existence of other variables in this relationship. To begin with working capital management can be applied as a strategic tool resulting in different implications for the firm. This view stems from the price discrimination theory. Price discrimination studies date back to studies by Pigou in 1920. He differentiated three types of price discriminations namely first, second and third degree price discriminations. First degree price discrimination is referred to as perfect price discrimination. In the second degree price discrimination, goods or services are differentiated into categories by menu options allowing varying prices and the third degree price discrimination is referred to as imperfect price discrimination. Machlup (1955) in his study concluded that if a diversified market can be successfully segregated in terms of income groups, geographical location and product differentiation, price discrimination can be attained.

From a working capital management perspective, the market power of firms can be enhanced considerably by practicing price discrimination through trade credit as buyers have heterogeneous characteristics. According to the National Bureau of Economic Research (1996) majority of firms enjoying high price cost margin have a high likelihood of resorting to price discrimination. Trade credit mostly follows industry practice, for instance, according to Deloitte Kenyan Economy Review report of 2015, 95% of retail oil marketing companies in Kenya rely on trade credit to grow and maintain their market share. Therefore, the application of this strategy can be limited and applied selectively. Customers with relatively low default risk due to their better credit rating are able to obtain institutional finances at favorable rates and will not be willing to accept trade credit because its associated cost is higher than the

relatively cheaper institutional financing. Ultimately, this makes the trade credit offer attractive to high risk customers whose access to institutional finance is limited and when available, very costly due to the risk and credit rating (Bhattacharya, 2009).

Strategies adopted by any firm have an effect on the level of working capital and thus their performance. For instance applying trade credit to achieve price discrimination means that a firm is able to charge premium prices, which enhances its profitability as well as the shareholders' value. On the other hand, this increases the level of working capital investment, debtors, default risk and may result in costly bad debts. In addition, the high buildup of trade credit may affect short term liquidity levels as current cash flows are minimized and therefore if not compensated by cheaper financing, either internal or external, it may lead to erosion of shareholders value (Deloof, 2003). The proponents of this theory therefore advocate for a balance between the price discrimination and the actual strategies employed by firms to actualize their objectives on a cost benefit analysis proposition.

The relevance of price discrimination to working capital management and firm performance cannot be underrated. If a firm adopts a differentiation strategy successfully exploiting price discrimination and market segmentation high profit margins are achieved leading to high performance. On the other hand some of these strategies are capital intensive requiring high levels of capital with significant effect on working capital composition due to increased leverage and high borrowing (Mc Afee, 2008). This results in differing working capital requirements and firm performance as suggested by the price discrimination theory.

It is worth noting that the firm's working capital management is also heavily influenced by the source of funds applied by the firm. Hayajeh and Soumadi (2013) identify the mode of capitalization as one strong moderating factor in the relationship between working capital management and firm performance. They observed that leverage increases working capital requirement leading to a negative effect on firm performance due to interest and default risks exposure. Holz (2002) using time series analysis studied the liability asset ratio on profitability of China industrial firms. He found out that there was a significant positive relationship between financial leverage and performance concluding that as leverage increases, working capital increases with performance up to a certain extent.

Rao, Al-yahee and Syed (2007) applying factor analysis on a study of Oman firms concluded that debt equity ratio related inversely to financial performance. They established that if a market is characterized by high borrowing costs and a weak debt market activity the tax savings from debt cannot sufficiently cover the cost of debt making cost of debt higher than the rate of return. Similarly, Majumdar and Chhibber (1999) concluded that the level of debt is inversely related to performance. Using discriminant analysis they found out that if creditors apply loans as disciplinary tools to the firm, the restrictions stifle the firm from distributing its earnings to shareholders

which adversely affects firm value. These studies support the view that the mode of financing applied by the firm has an effect on the management of working capital. Therefore in determining the effect of working capital management on firm performance, it is imperative to consider the firm's capital structure.

Madhavi (2014) indicated that the relationship between working capital management and firm performance can either be direct or indirect since it can be influenced by a number of factors with strong mediating or moderating effects. A number of studies for instance, Falope and Ajilore (2009), Mathuva (2010), Dong and Su (2010), Gill et al. (2010) and Akoto, Awunyo-Vitor and Angmor (2013) have concluded that working capital components play a vital role in their financial performance. This means that there is a clear distinction between those companies which manage their working capital efficiently and those which do not. Further, Kehinde (2011), Akhavan, Hamid and Negar (2014) and Azeem and Marsap (2015) agree that the strategy chosen has a direct effect on working capital investment level but whether the effect is positive or negative depends on the strategy. These studies suggest the importance of working capital management on firm performance and further that business strategy and capital structure decisions may be closely tied to this relationship which provides a key area for future research.

4. Summary and Conclusion

On the overall, this review concluded that efficient working capital is vital for any organization since it leads to better firm performance. Majority of the studies recommended conservative working capital management policies. There was consensus on a direct positive relationship between working capital management and firm performance but literature points to the need to understand the avenues which this relationship takes. Specifically, empirical evidence points to intervening and moderating variables that impact this relationship. Due to different working capital levels associated with different strategies that businesses focus on, this study concluded that business strategy plays a strong mediating role on the relationship between working capital management and firm performance. The financing mode adopted or the entity's capital structure on the other hand has a moderating effect since different financing options place different obligations on the working capital practices of a firm. These obligations therefore moderate the effect of working capital management on firm performance. Figure 4.1 presents the conceptual model as envisaged by this study.

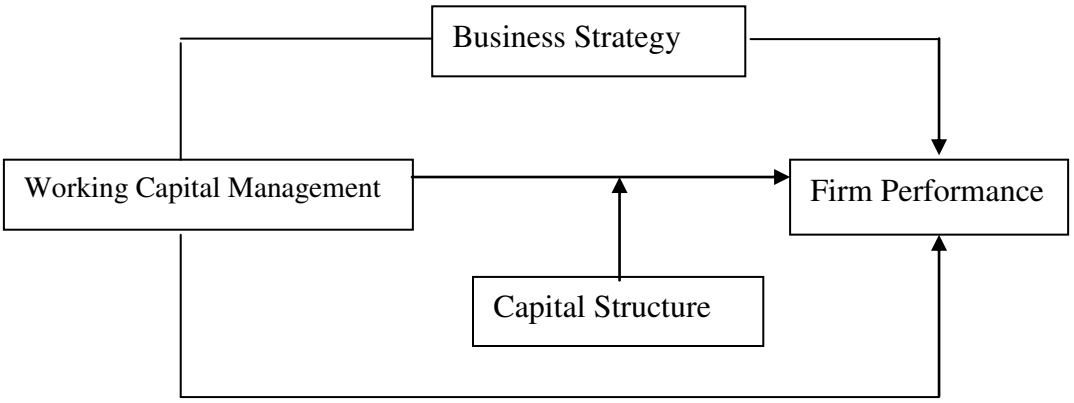

Figure 4.1: Conceptual Model

5. Recommendations

Working capital components must be aggressively monitored as their adverse effects are irreversible and lead to business failure. This study recommended that entities adopt efficient working capital management practices because it directly links to performance. Further, firm performance and working capital management cannot be considered in isolation since other variables affect this relationship. This study recommended evaluation of the effect of the firm's business strategy and financing mode.

Most studies reviewed applied direct variable relationship which may bias the analysis outcome. This study suggested application of diverse methods such as multivariate regression, factor analysis or discriminant analysis so that other variables and their effects can be identified and evaluated. In addition, there was limited data available especially in developing and underdeveloped economies which may hinder multivariate analysis. In Kenya, the studies were mainly on listed companies whilst there are many non-listed companies in different industries whose evaluation of their working capital management strategies may be enlightening. In addition, a number of business failures had been witnessed across these industries e.g. Uchumi and Naku matt supermarkets, Chase Bank and Pan Paper Mills but limited information was available regarding their working capital practices. This study therefore recommended that studies be extended to such industries.

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