Liquidity Risk Management and Enterprise Performance of Water Companies within Tana Water Services Board, Kenya

Abstract: Enterprise performance of any business can be evaluated through the concept of financial risk analysis. Financial risks, financial risk management and enterprise performance are very pertinent indicators of business growth and survival and their ability to handle trade-offs between the three. The three indicators are a primary source of concern for financial managers as they steady the business in the volatile environment. Financial risk Management studies have extensively been done on effects of risk management on performance of financial institutions, yet no conclusive study has been done on effects of Financial Risk Management on performance of water service providers in Kenya. Hence, the main purpose of this study was to determine the effect of financial risk management on enterprise performance of Water Companies in Kenya. The study focused on establishing the effect of liquidity risk management on enterprise performance of Water Company. The research methodology used was descriptive survey design and self-administered questionnaires as the data collection instrument. Secondary data was also collected from financial statements of all 24 Water Companies and multiple regression analysis was used in the data analysis. The target population was derived from the respective WSBs Mandates and their main purpose is to develop and operate water infrastructures within their jurisdictions. After developing the infrastructures the WSBs are supposed to lease them to the Water Service Providers (WSPs) who are tasked with provision of water services like water sanitation, connections and billing. The WSPs have to fulfill the terms spelt out in the Service Provision Agreements (SPAs) as agreed upon with their respective WSBs (WASREB, 2018).

The need to form water service companies arose due to poor service delivery by the local government who were in charge of water delivery and sanitation. This is supported by World Bank (2015) report on water service delivery in Kenya which established that before formation of water companies, service provision under the local authorities was fraught with frequent shortages and wastage, high unaccounted-for-water, illegal connections, mismanagement of funds from water bills, non-reading of meters, and nonpayment of water, among others. All these compromised liquidity risk management and hence the enterprise performance of water utilities.

The liquidity risks and financial sustainability challenges faced by WSPs have continued to impact on their performance. According to Yizheng (2015) enterprise performance in Australia and other first world countries is less challenging, but more is required to counter the financial management risks. The developed countries, with ineffective financial risk management policies are facing significant enterprise performance challenges. France and the United Kingdom require increasing enterprise performance on water by 20% (UNESCO 2010). In order to maintain water services at the current levels in Japan and Korea, enterprise performance need to be increased by more than 40% as confirmed by (Wild, Buffler & Hafner, 2010).

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In Africa the financial sustainability and performance crisis in water companies is prevalent due to: ageing infrastructure which is subject to frequent leaks and bursts, weak billing and revenue collection system and low staff productivity. In Kenya before the advent of WSPs the water schemes were dilapidated, stripped to the bare in terms of infrastructure and required frequent repair and maintenance to ensure water services provisions. This inhibited the government efforts to expand them as the financial implications required were quite phenomenal (Mwangi, 2015). This is buttressed by the results of the study by World Bank (2016) on the status of water services in Kenya which established that the poor performance of WSPs was as a result of financial risks inherent in their operational systems. This state is exhibited by the inability of the WSPs to cope with liquidity risk management, sub-optimal supply of water, institutional weaknesses and systemic failure in billing process.

**The study seeks to answer the question**

i. What is the effect of liquidity risk on the enterprise performance of Water Companies in Kenya?

The study is supported by the trade-off theory suggests that firms target an optimal level of liquidity to balance the benefit and cost of holding cash. The cost of holding cash includes low rate of return of these assets because of liquidity premium and possibly tax disadvantage. The benefits of holding cash are in twofold: first the firm save transaction costs to raise funds and does not need to liquidate assets to make payments and secondly the firm can use liquid assets to finance its activities and investment if other sources of funding are not available or are extremely expensive.

According to Niresh (2012) maintaining a proper liquidity indicates that funds are confined to liquid assets thereby making them unavailable for operational use or for investment purposes for higher returns. Therefore, firms should always strike to maintain a balance between conflicting objectives of liquidity and profitability. The firm’s liquidity should not be too high or too low. Lazaridis & Tryfonidis (2006) investigated the relationship of enterprise performance and liquidity management for water firms in Athens. They reported that there is statistically significant relationship between Enterprise Performances measured by the Cash Conversion Cycle. Furthermore, Managers can create profit by correctly handling the individual components of working capital to an optimal level.

The tradeoff liquidity theory explains the liquidity risk management and the operational risk management within the organizations. The WSPs who are infrastructural oriented and are always challenged whether to hold on the cash that they collect or improve on the service delivery of water. The operational activities within the organization may limit the amount of cash that is held by the WSPs though their desire would be to declare surplus. Thus this theory forms the basis of establishing the relationship between operational risk management, liquidity risk management and the enterprise performance. The tradeoff liquidity theory though applicable in small organizations like SMEs and non-profit making bodies has its own share of limitations (Lopez-Gracia and Mira, 2008). One of the identified limitations is that the theory tends to ignore the difficulties that companies undergo when trying to adjust their capital structure. These same limitations are identifiable in Water service providing companies. In case of water companies the limitation is that the theory is unable to explain the dynamism of how the company resorts back to the optimal level of liquidity. That is if there is any destabilization on the equilibrium liquidity level, the dynamism and processes of returning to the optimal equilibrium are not explainable by the theory.

As established by Serrasqueiro and Nunes (2012) the size, age, information asymmetry impact on the decisions of capital composition eventually affecting the performance of the organization. Thus the trade-off liquidity theory has a limitation as it fails to take into consideration the effect of size, age and information in composition of capital or in trying to maintain the best level of credit. The theory will help in evaluating the liquidity and profitability tradeoff and understanding how crucial is the Management of liquidity relates with profitability of water companies. Liquidity and profitability tradeoff have become a crucial issue among Water Companies and any other organization. It is all about managing your current assets and current liabilities in such a way so that profitability will be optimum. It is essential for the every firm to maintain equilibrium between profitability and liquidity.

Liquidity risk has gradually been considered among the major risks that can potentially interfere with the going concern of Water Companies. Liquidity is the ability of a Water Company to fund increases in assets and meet obligations as they come due WASREB, (2018). In a study on the working capital management influence on the profitability of the firm by Nasr and Rehman (2014) established a negative influence of liquidity on profitability of the firm. This occurs the moment the cash conversion cycle increases as established by the study. Nasr and Rehman (2014) study adopted a descriptive research design on a sample of 94 firms and it was a longitudinal study conducted for a period of six years. Therefore it is necessary for a company to ensure that it possess sufficient liquidity to meet its short-term obligations. However liquidity management achievement is influenced by the desired balance between profitability and liquidity (Nasr...
& Raheman (2014). The present study adopts a descriptive research design and it’s more of a cross-sectional one as it’s conducted at a particular point in time. According to Venkatraman and Ramanujam (2015), in today’s business environment risk management of liquidity in terms solvency, operating efficiency and profitability is very challenging. Depending on the business nature Enterprise Performances and that management of liquidity is a very sensitive area in the field of managing finances.

A study conducted by Eljelly (2014) on the relationship between liquidity and profitability tradeoff focusing on a sample of joint stock companies in Saudi Arabia established a negative and significant relationship between liquidity and profitability of the listed firms. The study made use of descriptive research design and adopted regression and correlation methods as the statistical means of analyzing the data. They were able to establish that the negative relationship between liquidity and profitability was more pronounced on firms that had a long cash conversion cycle. The study was a longitudinal study as one conducted Nasr & Raheman (2014) in Pakistan. The present study does borrow from this study in terms of using cash ratios and current accounts when establishing the liquidity of the organizations besides other measures. The study however does not adopt the longitudinal aspects and will be carried out on water service providers.

Liquidity risks make the water investment complex, resulting in determent of commercial financing. UNEP Finance Initiative (2006) lists several water-related risks in a report on financing water risk and opportunities. UNEP claims that water companies/investments are exposed to a high level of liquidity risk because first, the industry is capital intensive compared to other infrastructure industries such as electricity and telecommunication. Second, the investments required to provide the services are often long term investment. Third, the investments cannot be readily converted into cash. Moreover, once the investments are made, they cannot be reversed should the returns to the investment prove less than expected (The World Bank, 2006). According to Eljelly (2014), if the liquidity risk is unable to be diversified away, then investors in the industry should earn a risk premium. Therefore, one of the main concerns in making water investment decisions is about whether an appropriate risk premium is earned, given the lack of liquidity.

Sandhar & Simranjeet (2013) also undertook a research on the relationship between liquidity risk management, and financial performance of Water Utilities in India. Data for the liquidity management (working capital management) and financial ratios collected from the financial reports of the sampled Water Utilities in the period 2007-2012. Liquidity management was observed to be a significant factor to the financial performance of the Water utility. Mahavidyalaya (2010) confirmed that working capital management has impact on liquidity, profitability and enterprise performance of water utility in India with the use of secondary data pooled from 2001-2009 financial statements of 25 sampled Water Companies. Sharma (2011) has viewed that liquidity management and financial performance go hand in hand and that a firm earns good profit with moderate liquidity and at higher risk for which ten years data of water Companies in Mumbai for a period of 2001-2010 has been studied. Sandhar & Simranjeet (2013) also has attempted to say that cardinality of liquidity management in any organization cannot be over emphasized. This is because either inadequate liquidity or excess liquidity may be injurious to the smooth operations of the organization.

McPhail, Locussol & Perry (2012) studied the effect of financial risk on the performance of Water Utilities in England. The research concluded that there was a positive correlation between the practices of managing risks and enterprise performance of Water Companies in England.

The conceptual framework of the study is as shown below.

**Figure 1: Conceptual Framework**

The liquidity risk management focuses on the ability of the organization to meet its obligations in its internal and external environment. The availability of cash and other collaterals to meet the enterprise needs influence the enterprise performance of water companies. According to UNEP, water companies are said to be exposed to high level of liquidity risks due to the capital intensive nature of their infrastructure for service delivery and long term nature of their business. Thus this study would like to establish whether these characteristics of Water Service Providing Companies influence their performance.

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**Research Method**

The study was designed to establish the influence of financial risk management on enterprise performance of water companies within Water Services Board, Kenya. The study adopted a descriptive research design due to its ability to explain the phenomenon surrounding the effect of liquidity risks on WSPs enterprise performance. The respondents of the study included the commercial managers, technical managers and the operational managers. The study tends to establish the state of affairs and how financial risks influences enterprise performance within the water services thus adopting a descriptive research design. Data was collected using a close ended questions that were self-administered through the research assistant guidance.

**Results of the Study**

The study identified 104 respondents who represented the whole target population. This formed the population of interest that was administered with the research instrument by the trained research assistants. The response rate that was realized from those administered questionnaire were 48 which represented 46.15% of the total number of respondents. This response rate is enough for data analysis as advised by Kumar (2019) who imputed that a response rate within the 50 per cent range to be good enough for drawing conclusions from the results. The male respondents comprised of 75% of the total respondents who participated in the study while the female were just 25% of the total number of respondents. Those with work experience of more than 4 years in their current position were the majority at 33.3%. They are followed closely by those who have worked in their current position for 3-4 years at 29.2 %, then those with period of 1-2 years were represented at 20.8%. Those with less than 1year current position experience were at 16.7%.

To measure the reliability of the study instrument the study made use of Cronbach Alpha test carried out through SPSS Version 23. The analysis indicated a Cronbach Alpha Coefficient of 0.89 which is greater than 0.50 as advocated by Copper (2014). The relationship between the constructs was measured by using Pearson’s correlation analysis. The relationship between liquidity risk management and enterprise performance was at \( r = 0.56 \), \( p< 0.001 \).

The study sought to establish the contribution of the independent variable liquidity risk management on enterprise performance of water services providers within Tana Water Services Board. The regression model is summarized below;

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<tr>
<th>Table 1.1 Regression Model Results</th>
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<tr>
<td>Model</td>
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<tr>
<td>1</td>
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<tr>
<td>a. Predictors: (Constant), Liquidity Risk Management</td>
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<tr>
<td>b. Dependent Variable: Enterprise Performance</td>
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</table>

The Table 1.2 below indicates the effects of independent variables and their combined variation on the dependent variable. The results of the regression analysis as indicted in Table 1.2 shows there is a positive and significant effect on the relationship between liquidity risk management and enterprise performance of WSPs (\( \beta= 0.407, p< 0.05 \)). This means that an increase of 0.407 on liquidity management practices would lead to a unit increase on enterprise performance.4

<table>
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<tr>
<th>Table 1.2 Regression Sizes of Effects</th>
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<tr>
<td>Model</td>
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<tr>
<td>(Constant)</td>
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<td>Liquidity Risk Management</td>
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<td>a. Dependent Variable: PE</td>
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**Policy Implications**

The study established a positive and significant relationship between liquidity risk management practices and enterprise performance of WSPs within Tana Water Services Board. From these results we note the pertinent role that liquidity management role plays in ensuring improved performance of the companies. To this end, it’s imperative that the WSPs prudently manage their funds in order to meet their obligations. This can fulfilled through placing majority of their funds in highly secure short term investments which could be liquidated before they attain the maturity period. To ensure liquidity within the WSPs, debtors should enter into contractual agreements on how to service the amount in arrears and they should also provide collateral that can be salvaged in case they don’t part if the agreement is not effected. The WSPs should also explore the need to have a balanced portfolio of investments such that they don’t end up with too much long term investments.
The WSPs should maintain the right level of liquidity to enable them undertake the present or the day to day affairs of the organization without much strain. The study recommends that WSPs should be able to maintain the right current ratio. This contributes towards sustainability of the organization.

The study established a coefficient of determination (R²) of 0.254. This is interpreted to mean that the four variables could only explain 25.4% of the variability in the enterprise performance of Water Service Providers within Tana Water Services Board. This is an indicator that there could be other factors affecting the performance of the WSPs that future researchers and academicians should take up. Some of the factors that this study recommends include but not limited to corporate governance, community participation, strategy development practices, composition of the board, environmental degradation and its attendant factors among others. This would help in establishing their influence in the enterprise performance of WSPs within Tana Water Services Board.

REFERENCES