

Factors affecting financial performance of water service providers. A case of public water companies in Kenya.

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Abstract: Financial performance of public water companies is increasingly gaining attention in the water sector. Theoretically, there is consensus that viability of an organization is related to its financial performance. The aim of the study was to evaluate the factors affecting financial performance of water service providers in Kenya. Specific objectives were: to assess the effect of debt collection period on financial performance of water service providers in Kenya; to assess the effect of metering ratio on financial performance of water service providers in Kenya; to evaluate the effect of number of customer connections on financial performance of water service providers in Kenya; to evaluate the effect of maintenance cost coverage on financial performance of Water Service Providers in Kenya. A descriptive survey design was employed for the study where 64 urban water service providers in Kenya were analyzed. The study found out that the factors that significantly affected the financial performance of water companies were metering ratio and the operation and maintenance cost. Water service providers should increase their coverage by increasing number of customer connections to especially new territories, this will in return increase revenues. Stakeholders in the water sector should consider employing alternative power sources so as to manage power bills. Investments in gravity system than pumping and solar system than electricity should be explored. The study recommends that research can be done on the effect of billing efficiency, water tariffs on performance of water service providers in Kenya.

Key Words: Water Service, Financial performance, Metering Ratio, Debt Collection, Maintenance Cost and Water Service Providers

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I. Introduction

1.1 Background of the Study

Water service providers are utilities that have been licensed by Water Service Boards and regulated by Water Resources Management Authority (WASREB) to provide water and sanitation services to the citizens. With the promulgation of the constitution, these utilities are now owned and managed by the County governments. Initially, before the formation of water private companies, service provision under the local authorities was faced with frequent shortages and wastage (World Bank, 2004). These challenges compromised the financial situation of water utilities. According to Global partnership report (2003) water and sanitation services that are essential for human habitation are still a crisis. This crisis is due to many challenges affecting several countries globally, which include: physical, economical, governance and social problems. Ageing infrastructure which is subject to frequent leaks and bursts, poor billing and revenue collection systems and low staff productivity have made the above crisis more prevalent in Africa. Studies by World Bank indicate that the governance of water service provision in developing countries is wanting. This is manifested by the inability of WSPs to cope with increased demand, failure to manage supply, institutional weaknesses, financial and technical problems.

In Kenya, most of the water service providers, both private and publicly owned, have been experiencing financial liquidity difficulties resulting in poor provision of services to the people (WHO, 2010). There is a high demand for water services in the urban areas, which could have led to improved financial performance of such providers in the sector, but most of them are not able to meet their current and long-term obligations. It is against this background that the study seeks to investigate on factors affecting financial performance of water service providers licensed by the Rift Valley Water Service Board. It is against this background that the study seeks to investigate on factors affecting financial performance of water service providers.

1.2 Statement of the Problem

Despite the commercialization of all the public water service providers in Kenya by the water Act 2002, the firms are still struggling in their financial performance. Even with high demand for water services as well as sewerage systems, the water service providers in Kenya are still experiencing challenges as majority of them are not able to cover their operation costs. The findings regarding performance of public water service providers suggest that there may be other factors affecting performance. Further, most of the studies and literature in existence on performance of water sector in Kenya was limited to just one water service provider (Asingo, 2005; Nyangeri, 2003; Wambua, 2004; Olum, 2007; Tubmun, 2007; Nyangena, 2008 and Wagah et al., 2010). Therefore, the reason for this study sought to answer the question: what factors affect financial performance of water service providers in Kenya. The study seeks to address this disparity by examining all the urban water service providers in Kenya, so as to understand what factors affect their financial performance.

1.4 Research Hypotheses

H₀₁: There is no relationship between debtor's collection period and financial performance of water service providers in Kenya.

H₀₂: There is no relationship between metering ratio and financial performance of water service providers in Kenya.

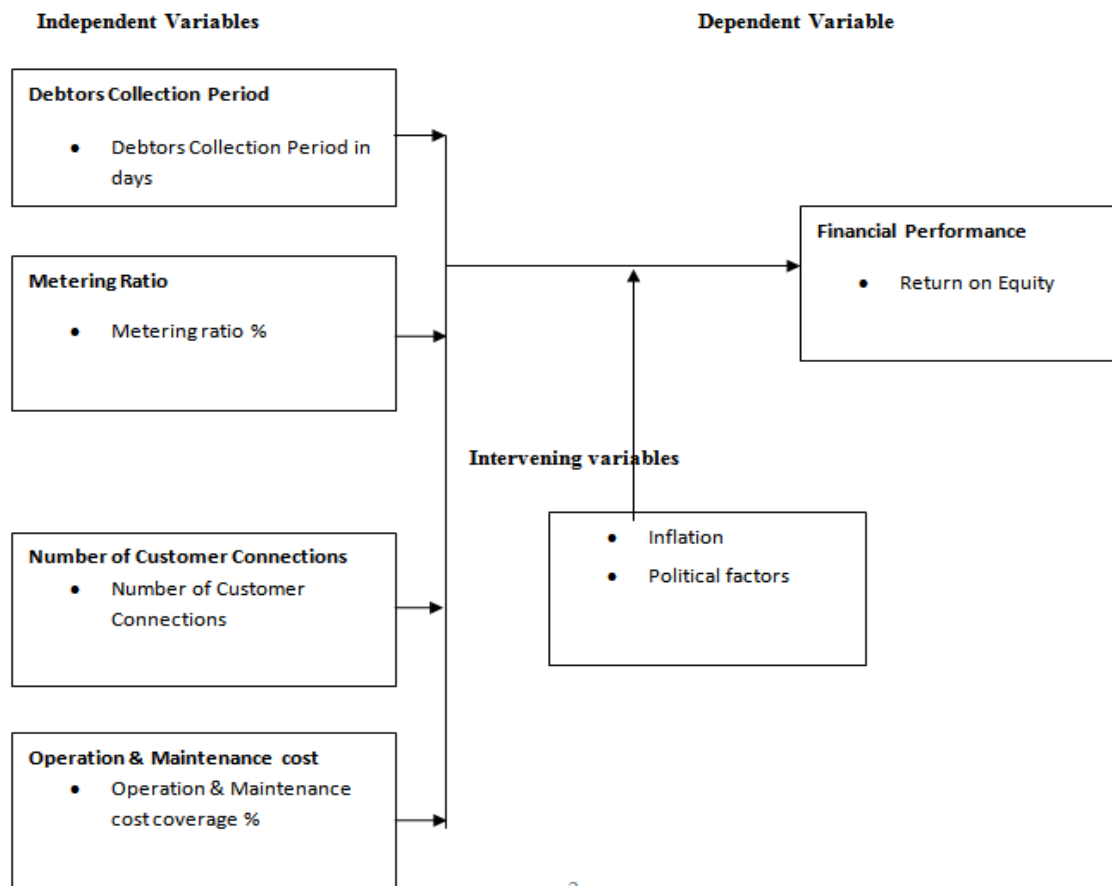
H₀₃: There is no relationship between number of connections and financial performance of water service providers in Kenya.

H₀₄: There is no relationship between operation and maintenance cost coverage and financial performance of water service providers in Kenya.

II. Literature Review

Grzegoz M. (2008) in his study a portfolio management approach in accounts receivable management, used portfolio management theory to determine the level of accounts receivable in a firm and found out that there was an increase in level of accounts receivable as firm increase both net working capital and cost of holding and managing account receivables. The current study is only on the effect of debt collection period on financial performance of water service providers in Kenya. Mazibuko (2014) studied the impact of the municipal billing system on revenue collection in selected South African cities. The objective was to determine the state of the municipal billing System, debt and revenue management challenges. The study used both the qualitative case study and the quantitative approach to effectively collect and analyze the data needed. The study recommended the need for a sound municipal billing and collection system. This study only focused on the municipal billing system and not on all billing systems. Furthermore, the study was in South African cities and thus the current study is specifically in Kenya and for all urban water service providers. Teruel& Solano (2007) did a research on the relationship between working capital management and profitability relationships for SMEs they found a negative relationship between return on asset and cash conversion cycle. They argued that small and medium-size firms also can increase their profitability by shortening cash conversion cycle. The study only focused on firms in Nigeria and there is need for a study to focus on the Kenyan situation.

2.5 Conceptual Frame Work



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Figure 1: Conceptual framework.

III. Research Methodology

This study adopted a descriptive survey research design. Descriptive survey method will be good for this study because it is a self-report study, which requires the collection of quantifiable information from the sample. The design is effective as it gives detailed information regarding the study (Mugenda and Mugenda, 2003).

Population is the total collection of elements which the researcher wishes to make inferences (Cooper and Schindler, 2006). The population for this study was all the 64 urban Service providers in Kenya registered as at 31 December 2012 by WASREB. The study targeted all the 64 urban Water service providers as the number is small and data of the population is available.

IV. Results And Discussion

4.2 Descriptive Analysis

4.2.1 Effect of Debtors Collection Period on the Financial Performance of Water Service Providers in Kenya

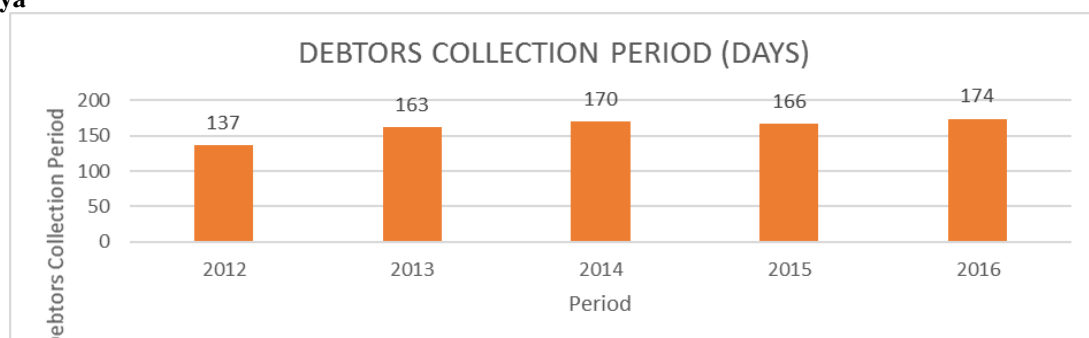


Figure 2: The Debtors Collection Period in Days

Findings in figure 2 above indicates that on average debtors collection period relatively increased in the entire period of study. Therefore, from the results, it can be noted that there has been an increase of days taken to collect debts of the water companies over the five years since 2012. From the study a unit increase in debtor’s collection period leads to 0.4% decrease in return on equity (ROE). These findings are consistent to the findings of Deloof (2003) where he suggested that managers can increase corporate profitability by reducing the number of day’s accounts receivables and inventories. These results show that there is a certain level of debtor’s collection period that maximizes the value of the firms.

4.2.2 Effect of Metering Ratio on the Financial Performance of Water Service Providers in Kenya

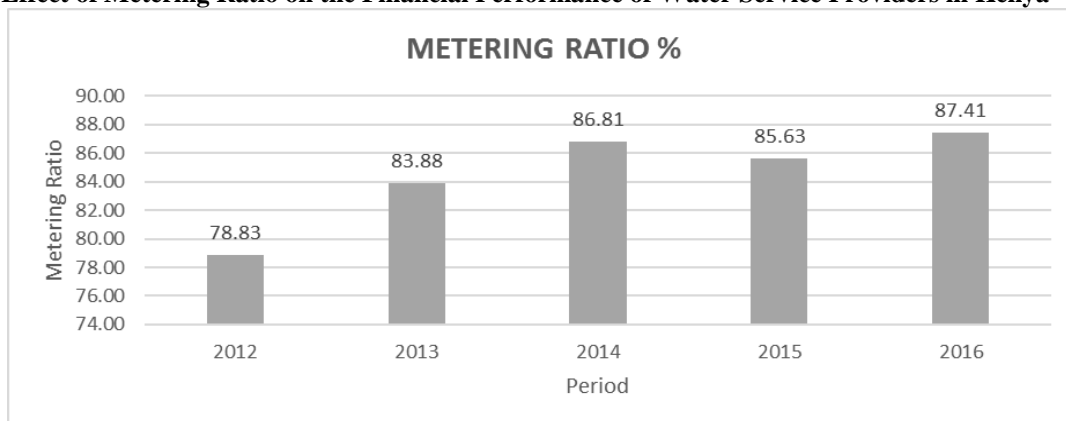


Figure 3: The Metering Ratio

Findings in figure 3 above indicates that on average there is an increase of about 10% in metering ratio of the water companies over the five years since 2012. From the study a unit increase in metering ratio leads to 0.4% decrease in return on equity (ROE). However, this decrease is not significant at 5% level of significance ($p > 0.05$). This means that even if the number of meters is high, the number of meters that are working and are used to collect data from the customers’ consumption is crucial. It does not help increase firms performance by just having high number of meters as it only increases costs unless the meters are working.

4.2.3 Effect of Connections on the Financial Performance of Water Service Providers in Kenya

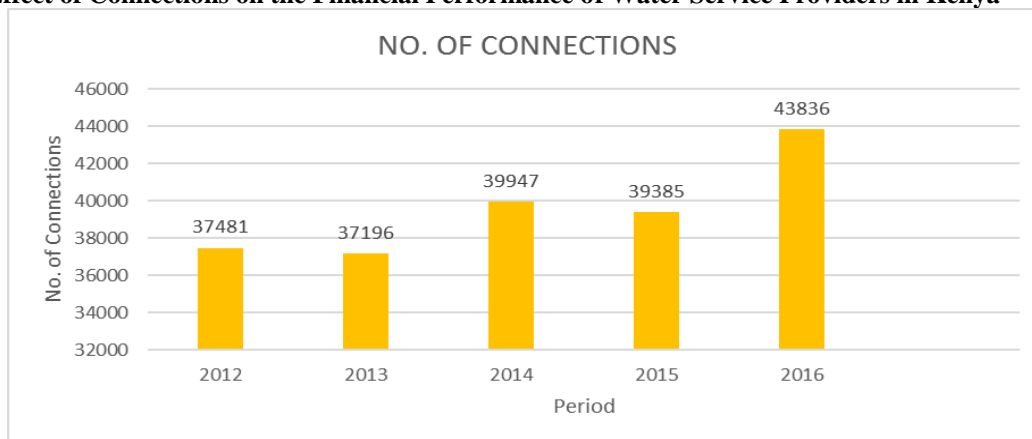


Figure 4: The Number of Connections

Findings in figure 4 above indicates that on average there has been an increase of 6,355 connections by the water companies over the five years since 2012. A unit increase in number of connections leads to 369.3% increase in return on equity. The effect of number of connections on ROE is significant ($p < 0.05$). The results are inconsistent with the findings of Falope and Ajilore (2009) who found no significant variations in the effects of working management between large and small firms in Nigeria using a sample of 50 quoted companies. But consistent with the findings of Reham & Nasri (2007) and Shin and Soenen (1998) who found out there was a positive relationship between the size of the firm and the working capital management efficiency.

4.2.4 Effect of Operating and Maintenance Cost Coverage on the Financial Performance of Water Service Providers in Kenya

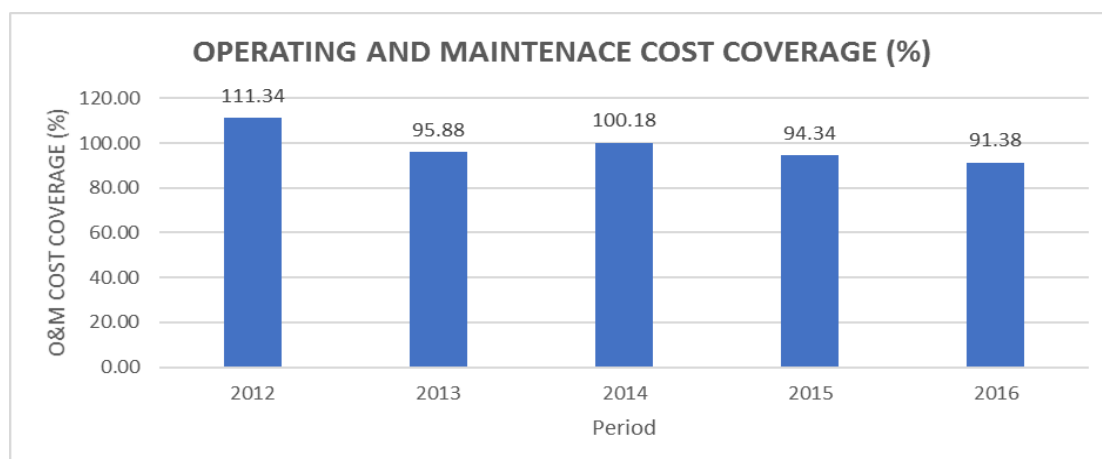


Figure 5: The Operating and Maintenance Cost Coverage

Findings in figure 5 above indicates that on average operating and maintenance cost coverage,

decreased by about 20% in the water companies over the five years since 2012. A unit increase in the operation and maintenance cost coverage leads to 2.7% increase in return on equity. The O&M cost coverage has a significant effect on ROE ($p < 0.05$). Data obtained from the water service providers showed that they were overstaffed and there is need for downsizing to reduce on costs. Again for others, electricity costs was a major contributor for increased operation and maintenance cost, and thus there is need for stakeholders in the sector to consider using alternative power sources and invest in supply of water by gravity instead of pumping which is cost effective and cheaper to maintain.

4.3 Financial Performance of Water Service Providers in Kenya



Figure 6: The Return on Equity (ROE)

Findings in figure 6 above indicates that on average, the return on equity has not been consistent as it has been fluctuating up and down before finally reaching a peak of 2.36 in the year 2016.

4.4 Regression Analysis

In order to establish the extent to which debtors collection period, metering ratio, number of connections and operation and maintenance cost coverage explain the variance on financial performance, a regression analysis was done and the following results were obtained:

Table 4.1: Model Summary
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Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.779 ^a	.607	.502	.43781

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Table 4.2: ANOVA

ANOVA ^b						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.443	4	1.111	5.795	.005 ^a
	Residual	2.875	15	.192		
	Total	7.319	19			

a. Predictors: (Constant), O&M COST COVERAGE (%), METERING RATIO %, NO. OF CONNECTIONS, DEBTORS COLLECTION PERIOD (DAYS)

b. Dependent Variable: ROE (%)

Table 4.3: Coefficients

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.385	1.855		-.746	.467
	DEBTORS COLLECTION PERIOD	-.004	.002	-.391	-1.454	.167
	METERING RATIO %	.004	.023	.036	.168	.043
	NO. OF CONNECTIONS	3.693	.000	.335	1.792	.003
	O&M COST COVERAGE (%)	.027	.008	.793	3.455	.004

a. Dependent Variable: ROE (%)

Findings in table 4.1, 4.2 and 4.3, indicates that there was a very strong relationship between the selected factors and the ROE ($r=0.779$). The model is significant for predicting the effect on ROE ($p<0.05$). From the R-squared value of 0.607, 60.7% of the change in ROE is explained by the factors in the model while the rest (39.3%) is explained by other factors not included in the model.

A unit increase in debtors collection period leads to a 0.4% decrease in ROE. A unit increase in metering ratio leads to a 0.4% increase in ROE. A unit increase in number of connections leads to a 369.3% increase in ROE and a unit increase in operating and maintenance cost coverage leads to a 2.7% increase in ROE.

V. Conclusions And Recommendations

5.2. Conclusion

The purpose of this study was to investigate the factors affecting the financial performance of water service providers in Kenya. From the results the firm's debtor's collection period does not affect the financial performance of water service providers in Kenya. The way the debtors are managed has no significant impact on firm's financial performance. Metering ratio affects financial performance of water service providers. Similarly, number of customer connections, and operation and maintenance cost coverage affect financial performance of water service providers in Kenya.

The numbers of connections significantly affect financial performance of water service providers. Water service providers should therefore increase their customer base by new connections so as to not only enjoy the benefits of economies of scale but also increase the number of people accessing water.

The operation and maintenance cost has significant impact on financial performance of water service providers in Kenya. Therefore measures to be put in place to manage costs to allowed limits.

5.3 Recommendations

The study recommends companies to invest more on metering ratio so as to ensure that all meters are working and in good condition as it is from the meters' readings that bills are determined. Water service providers should increase their coverage by increasing number of customer connections to especially new territories, this will in return increase revenues. Similarly, stakeholders in the water sector should consider

employing alternative power sources so as to manage power bills. Finally, investments in gravity system than pumping and solar system than electricity should be explored. This will eventually reduce the operating and maintenance costs of the water service providers.

5.4 Suggestions for Further Research

Further research can be done on the effect of billing efficiency, water tariffs and credit risk on performance of water service providers in Kenya.

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