



RESEARCH ARTICLE

DOES WORKING CAPITAL MANAGEMENT AFFECT PROFITABILITY OF RETAIL SMALL AND MEDIUM ENTERPRISES? EVIDENCE FROM HARDWARE STORES IN MAVOKO MUNICIPALITY, KENYA

Jeremiah Musyoka Muli and \*Dr. Jared Mogaka Ariemba

School of Business and Economics, South Eastern Kenya University, P.O Box 170-90200 Kitui

ARTICLE INFO

Article History:

Received 10<sup>th</sup> February, 2017  
Received in revised form  
25<sup>th</sup> November, 2017  
Accepted 09<sup>th</sup> December, 2017  
Published online 26<sup>th</sup> January, 2018

Key words:

Hardware Store,  
Working Capital Management,  
Profitability

ABSTRACT

The study examined the effect of working capital management on profitability of small and medium sized hardware stores in Mavoko Municipality, Machakos County. Working capital management components used were:-inventory management; payables management; receivables management and cash management which were measured using inventory conversion period; average payment period; average collection period and Cash Conversion Cycle respectively. Profitability was measured using return on assets. Data collected for measuring both dependent and independent variable included total assets, net profit, net sales, accounts receivables, cost of sales, accounts payables and inventory outstanding for each store. Analysis was done using descriptive and inferential statistics. The analysis found that working capital management had significant impact on profitability since all independent variables had significant relationship with profitability except receivable management. A conclusion was made that working capital management affects profitability of small and medium sized hardware stores in Mavoko Municipality.

Copyright © 2018, Jeremiah Musyoka Muli and Dr. Jared Mogaka Ariemba. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: Jeremiah Musyoka Muli and Dr. Jared Mogaka Ariemba. 2018. "Does working capital management affect profitability of retail small and medium enterprises? Evidence from hardware stores in Mavoko Municipality, Kenya", *International Journal of Current Research*, 10, (01), 64803-64809.

INTRODUCTION

Most hardware stores fall in the category of Small and Medium-sized Enterprises (SMEs). The SME Solutions Centre (SSC, 2007) defines SME as a business which is formally registered, with an annual turnover of between eight million to hundred million Kenya shillings (Ksh), an asset base of at least four million Kenya shillings and employing between five and one hundred and fifty employees. According to Oketch (2000), SMEs in Kenya contributed significantly to economic development through provision of job opportunities, reduction of poverty levels, nurturing the culture of entrepreneurship and providing a vital link in the economy through their supply chain and intermediary role in trade, thus the health of the economy as a whole has a strong relationship with the health and nature of SMEs, (Mead 1998). According to Kenya National Bureau of Statistics (2007) past statistics indicate that three out of five businesses fail within the first few months of operation despite their significance. Despite their high investments in current assets in proportion to their total assets there is evidence that many small and medium enterprises are not very good in managing their working capital and this has been a major cause of their high failure rates as compared to large businesses (Atrill 2006).

Fina Bank Report (2007) further highlights that SMEs exhibit both high birth-rates and high death rates with 40% of the start-ups failing by second and at least 60% failing by fourth year. Padachi (2006) observed that efficient management of working capital is important for the success and survival of the SMEs. Profitability plays an important role in survival of any firm. Profitability is one of the most important objectives of financial management because one goal of financial management is to maximize the owners' wealth, and profitability is a vital determinant of performance (Sivathaasan et al., 2013). Schmidt, (2014) observed that for a firm to survive and to succeed in a competitive market it must focus on maximizing profit, or they will eventually be driven out of business. Ildiko and Tamas, (2009) defined Profitability as the measures of the extent to which a business generates profit from the factors of production and it is measured for given period of time known as a financial year. He further said that it is calculated by revenues obtained from business activities minus the expenses used to achieve these revenues. According to Mukhopadhyay (2004) working capital is the most crucial factor for maintaining liquidity, survival, solvency and profitability of business. If a firm has to survive in a competitive business environment, it must come up with strategies which will enable it to be profitable. Ongore and Kusa (2013) suggested different measure of profitability using variety of ratios which includes

Corresponding author: Dr. Jared Mogaka Ariemba,  
School of Business and Economics, South Eastern Kenya University,  
P.O Box 170-90200 Kitui.

Return on Asset (ROA), Return on Equity (ROE) and Net Profit Margin (NPM). Manoori, (2012), defined working capital as what the company has as resources to fund operations for a period which is usually a year. It is affected by current assets and current liabilities. Current assets include firm's inventories, accounts receivable, and minimum level of liquidity while current liabilities include creditors and payables. Different scholars in the field of corporate finance have defined working capital management using different words, terms and phrases. Harris (2005) defined working capital management as a simple and straightforward concept of ensuring the ability of the firm to fund the difference between the short term assets and short term liabilities. Of all definitions, Brigham and Houston, (2007) gave it the most comprehensive definition. They defined it as the management of short-term financing requirements of a firm, and involve finding the optimal levels for inventory, payables, receivable and cash then financing that working capital for the least cost. The most relevant definition of WCM in this study is by Pandey (2004), who defined it as the management of all components of working capital-cash, marketable securities, debtors (receivables), stock (inventories) and creditors (payables). WCM therefore entails inventory management, payable management, receivable management and cash management.

Inventory management is the system used by a firm to control its investment in inventory so as to avoid being under stocked or overstocked. Adeyemi and Salami, (2010) went ahead to point out that inventory management involves the recording and monitoring of stock level, forecasting future demand and deciding on when and how to order. Brealey and Meyers (2006) explain that firms store the inventories to minimize the risk of running out of the stock and losing sales as well as customers. However, holding inventories causes the costs like storage costs and insurance cost. Goods may also get damaged while in store while other may get stolen. Also, keeping large amount of inventory could mean losing revenue that could be achieved if invested to earn interest. Inventory management has become an important key point in a firm's working capital management (Bhattacharya 2006). It has direct impact on profitability of any firm. Payable management is a set of policies, procedures and practices employed by a company with respect to managing its trade credit purchases while accounts receivables management entails managing the firm's inventory and receivables in order to achieve a balance between risks and returns and thereby contribute positively to the creation of a firm value. According to Ahmet (2012) efficient accounts receivable management enables a firm to improve on its profitability by reducing the transaction costs of raising funds in case of liquidity crisis.

Previous studies have shown that WCM has direct impact on profitability of any firm. For example, Kulkanya (2012) revealed a negative relationship between the gross operating profits and inventory conversion period and the receivables collection period of firms registered in Thai stock exchange while Mathuva (2010) found that average payment period highly and positively influenced profitability of firms listed in the Nairobi Securities Exchange. Based on these findings, the current study assumed that there was relationship between working capital management and profitability of small and medium sized hardware stores in mavoko municipality, Kenya. However, Szabo (2012) noted that due to the speed in which technology is changing and the dynamics in business caused by

changes in the internal and external environment, the ways in which businesses are conducted today significantly differ from how they were conducted yester years. There was therefore need to research on effect of WCM on profitability of retail small and medium sized enterprises using evidence from hardware stores in Mavoko Municipality, Kenya.

### Statement of problem

Working Capital is considered as the lifeblood and nerve centre of any business (Khan and Jain, 2005). One reason for WCM is that current assets are short-lived investments that are continually being converted into other asset types, (Eljelly 2004). According to Ganesan (2007), proper optimization of working capital balance means minimizing the working capital requirement and realizing maximum possible revenues. Agha, (2014) documented that the ability of financial managers to effectively and efficiently manage their receivables, inventories, and payables has a significant impact on the success of the business and on profitability as well. This proper WCM will not only ensure long term profitability, but also acceptable relationship between the components of working capital for a given firm. Kwame (2007) noted that WCM is important to any SMEs' manager because it is them who strive for finances and the opportunity cost of finances for them is usually on the higher side as opposed to large enterprises. Many studies- as shown in the empirical reviews-have therefore been done on effects of working capital management on profitability of firms in different sectors of economy, both locally and internationally.

However, despite all the studies in this field, Fina Bank Report (2007) highlights that SMEs exhibit both high birth-rates and high death rates with 40% of the start-ups failing by year two and at least 60% failing by year four. Application of obsolete technologies may be associated with failure of several enterprises. (Szabo 2012) observed that there is rapid change in technology and the speed at which it is changing and dynamics in business make the ways in which businesses are conducted today to significantly differ from yester years. Use of modern technology in managing inventory, receivables, payable and cash could have greatly changed in a short time duration making the yester findings and practices obsolete. This necessitated a research that could give the managers of Small and Medium Sized Hardware Stores some insight on how effectively they can manage their working capital so as to achieve maximum profitability. This study sought to establish the effect of working capital management on profitability of Small and Medium Sized Hardware Stores in Mavoko Municipality, Machakos County.

### Objectives of the study

#### The specific objectives of this study were

- To establish the influence of inventory management on Profitability of SMEs in Mavoko Municipality, Kenya.
- To evaluate the effect of payables management on the profitability of SMEs in Mavoko Municipality, Kenya.
- To determine the impact of receivables management on Profitability of SMEs in Mavoko Municipality, Kenya.
- To examine the effect of cash management on the profitability of small and SMEs in Mavoko Municipality, Kenya.

## Theoretical and empirical review

Transaction cost economics theory argues that Transaction cost is a cost incurred in making any economic exchange, or in other words the cost of participating in a market (Cheung, Steven N. S. 1987). This leads to rise in holding and carrying costs. These costs have impact on profitability of any firm. Liquidity theory was suggested by Emery (1984) by proposing that firms with financing challenges give advances less credit and has a stringent credit policy. A firm should ensure that the credit period and discount period for prompt payment is well defined. SMEs should come up with strict credit policy which does not make it hard to make sales or collect receivables. The Baumol–Tobin theory is an economic theory of the transactions demand for money as developed independently by William Baumol (1952) and James Tobin (1956). The theory is based on the assumptions that: income for a given period is certain; expenditure of this income is evenly distributed over known period and that the rate of interest is fixed and known. It relies on the trade-off between the liquidity provided by holding money and the interest forgone by holding one's assets in the form of non-interest bearing money. Adair and Nofsinger (2009) this trade-off is related to the opportunity costs of holding cash which increase along with the cash level and the trading costs which are incurred with every transaction. This opportunity costs thus decrease when the cash reserves increases. Cash conversion cycle theory was developed by Gitman (1974) as part of operating cycle. Shin and Soenen (1998) argued that it is important for firms to shorten the CCC, as managers can create value for their shareholders by reducing the cycle to a reasonable minimum. A higher CCC can hurt a company's profitability by increasing the time that cash is tied to non-interest bearing accounts such as account receivables. On the other hand, longer CCC might be an indication that company's sales are rising and that the company can compete by having lax credit policies or high inventories which could also lead to high profitability.

Kulkanya (2012) studied the Effects of Working Capital Management on the Profitability of companies listed in Thai Stock Exchange from 2007 through 2009. The regression analysis was based on a panel sample of 255 listed companies where the results revealed a negative relationship between the gross operating profits and inventory conversion period. He concluded that managers can increase the profitability of their firms by shortening the inventory conversion period. These findings agreed with the study earlier done by Singh (2008) who studied the relationship between inventory management and working capital management focusing on the importance of inventory management and concluded that firms with a poor inventory management can lead to serious problems. Mathuva (2010) conducted a study on the influence of working capital management on corporate profitability in Kenya using 30 firms listed in the Nairobi Securities Exchange for the period 1993 to 2008 where average payment period, average collection period and inventory conversion period were used as measures of working capital. He found average payment period highly and positively influenced profitability in these firms. He argued that the longer the firms took to pay their creditors then the more profitable the firms were. These findings agreed with an earlier study by Nobanee and AlHajjar (2009) who analysed a sample of 2,123 Japanese non-financial companies listed in the Tokyo Stock Exchange for the period 1990-2004 and concluded that extending the payables deferral period could lead to increased profitability.

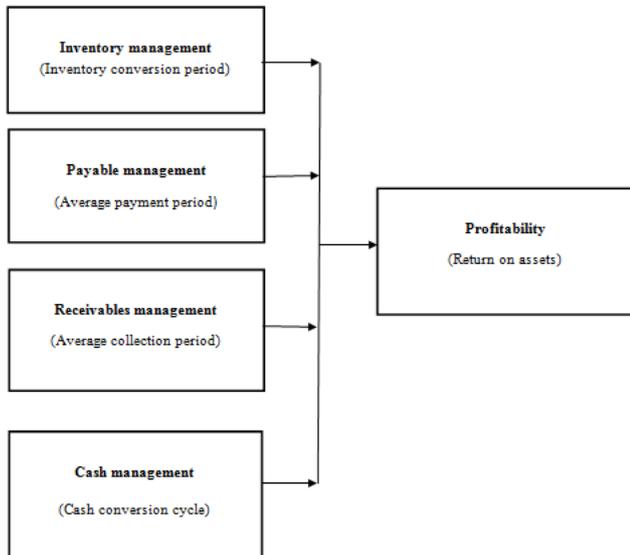
This idea was supported by a study done by Gul, Khan, Rehman, Khan, Khan and Khan (2013) who investigated the influence of working capital management (WCM) on performance of small medium enterprises (SMEs) in Pakistan from 2006 to 2012 using data taken from SMEDA, Karachi Stock Exchange, tax offices, company itself and Bloom burgee business week. The dependent variable of the study was Return on Assets (ROA) which was used as a proxy for profitability while Independent variables were Number of Days Account Receivable (ACP), Number of Day's Inventory (ICP), Cash Conversion Cycle (CCC) and Number of Days Account Payable (APP). Regression analysis was used to determine the relationship between WCM and performance of SMEs in Pakistan where the Results showed that APP and Profitability were positively related while ACP, ICP and CCC are inversely related with profitability. They concluded that increasing APP led to increased profitability of the firms. Deloof (2003) investigated the relationship between working capital management and firm profitability of Belgian firms using 1009 large Belgian non-financial firms for the period running from 1992 to 1996. Using correlation and regression tests, he found a significant negative relationship between gross operating income and the number of day's accounts receivables. Based on his results, he concluded that managers could create value for their shareholders if the number of days of accounts receivable is maintained to a reasonable minimum.

Lazaridis and Tryfonidis (2006) carried out an empirical study on working capital performance of 131 companies listed in the Athens Stock Exchange for the period of 2001-2004 and established a significant negative relationship between cash conversion cycle and gross operating profit. These findings imply that managers are able to create profits for their companies so long as they correctly handle the cash conversion cycle by achieving optimal level of each component of working. Shortening CCC increases the company's cash flows net present value because cash is received quicker. A review of literature gives contradicting results. Some suggested significant positive relationship between profitability and a given variable while others suggested negative relationship between profitability and the same variable. In other cases, some studies suggest significant relationships while others suggest insignificant relationships. These differences in findings are as a result of choice in variables, the research design, and the sector under study among other factors. Majorly, many of the studies didn't discriminate on the sectors under study. For example, Mathuva (2010) conducted a study using all 30 firms listed in the Nairobi Securities Exchange without looking at the sector where each firm lies. This may have an effect on the findings since they are involved in different business activities. The current research expected profitability to have a significant positive relationship with APP and a significant negative relationship with ICP, CCC and ACP.

From the literature review, conceptual framework was developed where WCM was the independent variable and its components included: inventory management; payable management; receivable management and cash management. Those components of WCM were measured using the inventory conversion period (ICP); the average payment period (APP); the average collection period (ACP); and the Cash Conversion Cycle (CCC) respectively. Profitability was the dependent variable and it was measured by ROA.

Inventory conversion period (ICP) was calculated as (inventory outstanding/cost of sales) x365, Average Collection Period (ACP) calculated as (receivables outstanding/net sales) x365, Average Payment Period (APP) as (payables outstanding/cost of sales) x365 while Cash Conversion Cycle (CCC) was calculated as  $CCC = ICP + ACP - APP$ . Profitability in this study was measured using ROA which is given as (net profit/total assets)

### Dependent Variable



Source: Researcher (2017)

Figure 1. Conceptual framework

### Independent Variables

## METHODOLOGY

This study used a descriptive design. According to Maina (2013), descriptive research is used as a pre-cursor to quantitative research designs as it provides the general overview giving some valuable pointers as to what variables are worth testing quantitatively. Descriptive research involves collection of data aimed at answering questions about the subjects been studied. The target population for this study was the 69 Small and Medium Size Hardware Stores registered within the municipality under the Trade Department of County Government of Machakos. The target population should have some observable characteristics, to which the study intends to generalize the results (Mugenda and Mugenda 2003). A census of all the 69 small and medium size hardware stores was done to establish the effect of working capital management on profitability of Small and Medium Sized Hardware Stores in Mavoko Municipality, Machakos County. Secondary data was helpful in enhancing reliability of findings due to minimal inconsistencies as opposed to primary data. This study used secondary data obtained from the statements of comprehensive income and statements of financial position for a period from 2012 to 2016 from the respective hardware stores. The specific data collected was the net profit and total assets which was used to determine the ROA which is the dependent variable. Data for the analysis of the independent variable collected was: cost of sales and inventory to determine the average number of days the firm holds its inventory; cost of sales and accounts payable to determine the average number of days the firm takes to pay it suppliers, and net sales and accounts receivable which

was used to estimate the average number of days that a firm dealing with hardware goods take to collect its receivables from debtors. The collected data was sorted, cleaned, coded and then entered into Statistical Package for Social Science (SPSS) version 23 for production of descriptive statistics and inferential statistics which were used to analyse the data.

Summary statistics of the mean, median, standard deviation, minimum and maximum of all the variables for both dependent and independent variables was constructed and correlation matrix of the independent variables created. Multiple regression and correlation analysis was done to evaluate how the independent variables are related to profitability. Correlation Coefficient (R) was used to measure the strength and direction of the relationship between each of the independent variables and the dependent variable. Adjusted Coefficient of determination ( $r^2$ ) was used to measure the proportion of variance in the dependent variable that can be explained by the independent variables. ANOVA, T- and F-tests were used to test the significance of the model in measuring relationship between working capital management and profitability of small and medium sized hardware stores at 95% confidence level and 5% significant level. The significant number was found to be less than the critical value (p) set and the conclusion was that the model is significant in explaining the relationship.

The analytical model for this study is developed from Anwar (2011) who used a similar model to analyse data for three different sectors.

### The estimated model is:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where:

Y is return on asset measured as the ratio of net profit to total assets

$X_1$  reflects the average number of days of stock held by the firm

$X_2$  reflects the average time it takes firms to pay their suppliers

$X_3$  represents the average number of days that the firm takes to collect payments from its customers

$X_4$  is the cash conversion cycle

$\beta_0$  is Constant term

$\beta_1 - \beta_4$  are regression coefficients which define the amount by which dependent variable is changed for every unit change in the independent variable.

$\varepsilon$  is the error term to capture unexplained variations in the model and which is assumed to be normally distributed with mean zero and constant variance.

## RESULTS AND DISCUSSION

Out of 69 pairs of data collection instruments, 60 were returned fully filled. This represented 87 % response rate. Table 1 below gives the descriptive statistics for 300 observations from 60 firms which returned their data collection sheet for the period 2012 to 2016. The mean for ROA was 11.77% with a maximum level of profitability been 49.3%, minimum of -23.6% and standard deviation of 18.59%. ICP had a mean of 25.58 with maximum and minimum values of 63.01 and 2.43 respectively. The standard deviation was 13.58%. For APP, the mean value was 50.25, a maximum of 171.63, a minimum of 11.71 and standard deviation of 27.06%.

**Table 1. Descriptive statistics**

	N	Ran.	Min.	Max.	Sum	Mean	Std. Dev.
	Stat	Stat	Stat	Stat	Stat	Stat	Stat
ROA	300	.729	-.236	.493	7.059	.11765	.185900
ICP	300	60.58	2.43	63.01	1534.57	25.5762	13.58072
APP	300	159.92	11.71	171.63	3014.86	50.2477	27.05965
ACP	300	56.14	4.79	60.93	1862.38	31.0397	12.60064
CCC	300	163.68	-86.98	76.70	382.50	6.3750	26.71891
Valid N (listwise)	300						

**Table 2. Correlation matrix**

		ROA	CCC	APP	ICP	ACP
RAO	Pearson Correlation	1	-.391**	.287**	-.586**	-.110
	Sig. (2-tailed)		.002	.004	.000	.401
	N	300	300	300	300	300
CCC	Pearson Correlation	-.391**	1	-.676**	.301*	.344**
	Sig. (2-tailed)	.002		.000	.020	.007
	N	300	300	300	300	300
APP	Pearson Correlation	.287**	-.676**	1	.376**	.310*
	Sig. (2-tailed)	.004	.000		.003	.016
	N	300	300	300	300	300
ICP	Pearson Correlation	-.586**	.301*	.376**	1	.368**
	Sig. (2-tailed)	.000	.020	.003		.004
	N	300	300	300	300	300
ACP	Pearson Correlation	-.110	.344**	.310*	.368**	1
	Sig. (2-tailed)	.401	.007	.016	.004	
	N	300	300	300	300	300

\*\*Correlation is significant at the 0.01 level (2-tailed).

\*Correlation is significant at the 0.05 level (2-tailed).

**Table 3. Model summary Summaryb**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	R Square Change	F Change	df1	df2	Sig. F Change
1	.665 <sup>a</sup>	.442	.435	.137512		.442	58.562	4	295	.000

a. Predictors: (Constant), ICP, ACP, APP, CCC

b. Dependent Variable: ROA

**Table 4. ANOVA ANOVAa**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.429	4	1.107	58.562	.000 <sup>b</sup>
	Residual	5.578	295	0.019		
	Total	10.007	299			

a. Dependent Variable: ROA

b. Predictors: (Constant), ICP, ACP, APP, CCC

**Table 5. Regression Coefficients Coefficientsa**

Model		Unstandardized Coefficients	Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		
		B	Std. Error	Beta		Lower Bound	Upper Bound	
1	(Constant)	.239	.056		4.258	.000	.127	.352
	APP	.002	.001	.292	2.616	.011	.000	.004
	ACP	-.001	.002	.064	-.577	.567	-.003	.002
	ICP	-.010	.002	-.719	-6.308	.000	-.013	-.007
	CCC	-.003	.001	-.391	-3.238	.002	-.005	-.001

Dependent Variable: ROA

For ACP the mean was 31.04, a maximum of 60.93, a minimum of 4.79 and standard deviation of 12.60% while CCC had a mean of 6.38 maximum of 76.70 minimum of -86.98 and a standard deviation of 26.72%. Pearson's Correlation analysis was used the relationship between working capital components and profitability. Table 2 below shows the correlation coefficients between the independent variables themselves and between independent and depend variable. CCC had a negative correlation coefficient of 0.391 ( $p=0.002<0.05$ ). A positive correlation coefficient of (0.287) exists between APP and profitability ( $p=0.004<0.05$ ).

ICP and ROA had negative correlation coefficient of 0.586 ( $p=0.00<0.05$ ) while ACP and ROA had a negative coefficient of 0.110 which is insignificant ( $p=0.401>0.05$ ). A Regression analyses was done to test the combined effect of the independent variables to profitability and results presented in table 3 below. Adjusted R square was 0.435 implying that 43.5% of the variation in profitability can be explained by the variation in the independent variables. It is an indication that working capital management components influence profitability significantly.

The remaining 56.5% can only be explained by other factors affecting profitability that are not in the model. The coefficient of determination (R) was found to be 0.665 meaning that there was a strong positive relationship between WCM and profitability. The analysis of variance (ANOVA) was done to generate the *f*-statistic which is used to test significance of R. The results were as shown in table 4 below. Table 4 shows the significance of the F statistics of 58.562 which is used to test significant of R. The p-value is 0.000 which is less than 0.05 meaning the *f*-value is significant at 5% significance level. This confirms the model's fitness explaining the variations and validates that WCM affects the profitability of small and medium sized hardware stores. Regression coefficients were tested using both p-value and t-statistic to confirm whether they are different from zero. The results are shown in table 5

The constant term was 0.239 which is significant at 5% ( $p=0.000$ ) implying that in absence of all the other predictors, the value of ROA will be 0.239. ICP ( $\beta_1=-0.010$ ) had a negative effect on profitability which is also significant at 5% level ( $p = 0.000$ ) indicating that a unit increase in ICP will lead to corresponding decrease in ROA by 0.010 units keeping all other predictors constant. These results conform to the result obtained by Kulkanya (2012) who revealed a negative relationship between the gross operating profits and inventory conversion period. He concluded that managers can make their firms profitable by shortening the ICP. A positive significant effect was reported on APP ( $\beta_2 =0.002$ ,  $p= 0.000$ ) indicates that increasing APP by one unit will increase ROA by 0.002 units when other predictors are held constant. This is an indication that, SMEs can increase their profitability by increasing their APP. These findings agreed with an earlier study by Nobanee and AlHajjar (2009) that extending the payables deferral period could lead to increased profitability. The findings were supported by Mathuva (2010) who established that average payment period highly and positively influenced profitability of firms listed in the Nairobi Securities Exchange. Thus the longer the firms take to pay their creditors then the more profitable the firms is.

ACP has an insignificant value ( $\beta_3 = -0.001$ ,  $p=0.567$ ). However, the effect of it on ROA is insignificant. This is contradiction with findings by Deloof (2003) who found a significant negative relationship between gross operating income and the number of day's accounts receivables non-financial firms. Theoretical review also suggested proper credit management. Credit policy is taken to be an important component of firms' financial decision process, occupying a major Credit policy used by a firm should ensure that the credit period and discount period for prompt payment is well defined. This is because provision of trade credit entails negative effects such as default risk or late payment which can lead to reduced profitability. The findings were contrary to expectations from the theories and empirical reviews. A negative Regression Coefficients of CCC ( $\beta_4= -0.003$ ) was reported. This effect was significant at 5% level ( $p = 0.002$ ). A unit increase in CCC will lead to corresponding decrease of ROA by 0.003 units. The significant negative Regression Coefficients is consistent with the view by (Deloof, 2003) that the time lag between the expenditure for the purchases of raw materials and the collection of sales of finished goods can be too long and that decreasing this time lag increases profitability. Reducing the time money is held in form of stock and receivables could increase profitability of hardware stores. These findings agreed with findings by Lazaridis and Tryfonidis (2006) who

established a significant negative relationship between cash conversion cycle and gross operating profit of firms listed in the Athens Stock Exchange. Decrease in CCC could lead to increased profitability. CCC was measure used to measure cash management. However, it contradicted the findings by Gill et al. (2010) who came up with a significant positive relationship between the cash conversion cycle and the company's profitability. These findings imply that managers are able to create profits for their companies so long as they correctly handle the cash conversion cycle by achieving optimal level of each component of working. Shortening CCC increases the company's cash flows net present value because cash is received quicker.

The specific model therefore becomes  $Y = 0.239 - 0.010X_1 + 0.002X_2 - 0.001X_3 + 0.003X_4 + \epsilon$

### Conclusion and recommendation

Significant negative Regression Coefficient statistic shows that there is decrease in profitability when the value of ICP increases. These results conform to the result obtained by Kulkanya (2012) who revealed a negative relationship between the gross operating profits and inventory conversion period and concluded that managers can increase the profitability of their firms by shortening the inventory conversion period. Mangers/CEOs of SMEs could increase their profitability by reducing the inventory conversion period. Payables Management was measured using APP. The significant positive Regression Coefficient means that for a firm to be profitable, it must increase its APP. These findings agree with study done by Nobanee, H. and Maryam, A. (2009) which concluded that extending the payables deferral period could lead to increased profitability and another study by Mathuva (2010) who established that average payment period highly and positively influenced profitability of firms listed in the Nairobi Securities Exchange. Thus the longer the firms take to pay their creditors then the more profitable the firms is. Mangers/CEOs of SMEs could increase their profitability by increasing their average payment period

Receivable management was measured using ACP. The insignificant regression coefficient statistic indicates that though it's good to have good receivable management, it may not have much impact on the profitability of the hardware stores. This is contradiction with findings by Deloof (2003) who found a significant negative relationship between gross operating income and the number of day's accounts receivables non-financial firms. SMEs should not concentrate much on receivables management but instead should put emphasis on other WCM components since ACP has insignificant effect. Cash management was measured using CCC. The negative regression coefficient is consistent with the view that the time lag between the expenditure for the purchases of raw materials and the collection of sales of finished goods can be too long and that decreasing this time lag increases profitability (Deloof, 2003). A negative and significant regression coefficient statistic indicates that increasing CCC could lead to decrease in profitability. These findings agreed with findings by Lazaridis and Tryfonidis (2006) who established a significant negative relationship between cash conversion cycle and gross operating profit of firms listed in the Athens Stock Exchange. However, it contradicted the findings by Gill et al. (2010) who came up with a significant positive relationship between the cash conversion cycle and the company's profitability.

This study concludes that Managers/CEOs of small and medium sized hardware stores could increase their profitability by decreasing their cash conversion cycle. Since p values for ICP, APP and CCC which is less than 5% is accompanied by large  $t$  value, then  $\beta_0 \neq \beta_1 \neq \beta_2 \neq \beta_4 \neq 0$ . Also, an adjusted R Square shows that ICP, APP and CCC explains profitability by 43.5%, thus a general conclusion is that there is positive relationship between working capital management and profitability of SMEs in Mavoko Municipality. This study generally recommends that Managers/CEOs of SMEs put in place these WCM measures so as to increase their profitability. To the academia, the study recommend that similar research be done on small and medium sized hardware stores involving more components of WCM so as to know which other practices affect profitability.

## REFERENCES

- Atrill, P. 2006. *Financial Management for Decision Makers*. New York: Prentice Hall.
- Baumol, W.J. 1952. The Transaction Demand for Cash: An inventory theoretic approach. *The Quarterly journal of Economics*, 6(4), 25-30.
- Bhattacharya, U., Daouk, H., and Welker, M. 2007. The world pricing of earnings capacity. *The Accounting Review*, 783, 641–678
- Brealey-Myers, 2002. Principles of corporate Finance, in ed. 6, McGraw-Hill Book Company, New-York, 445.
- Brigham, E., and Houston, J. 2007. *Fundamentals of Financial Management* (10th Ed). Mason, OH: South-Western
- Deloof, M. 2003. "Does Working Capital Management Affect Profitability of Belgian Firms?" *Journal of Business Finance and Accounting*, Vol.30, No. 3 and 4, pp.573-587
- Eljelly, A. 2004. "Liquidity-Profitability Trade-off. An Empirical Investigation in an Emerging Market", *International Journal of Commerce and Management*, Vol. 14, No. 2, pp. 48-61.
- Fina Bank. 2007. Why small businesses fail. Nairobi: FSD Kenya.
- Gill, A., Biger, N., and Mathur, N. 2010. The relationship between working capital management and profitability: Evidence from the United States. *Business and Economics Journal*, 4 (2), 1-9.
- Gitman, L.A. 2005. *Principles of Managerial Finance* (11th Ed.), New York, NY: Addison
- Harris, F. M. 1983. How Many Parts to Make at Once, *Factory*, The Magazine of Management 10:2, 135–136, 152. Reprinted in *Operations Research* 38:6 (1990), 947–950.
- Kulkanya, N. 2012. Effects of Working Capital Management on the Profitability of Thai Listed Firms, *International Journal of Trade, Economics and Finance*, 3, No. 3, June 2012
- Kwame, K. 2007. Working Capital Management Practices of Small Firms in the Ashanti Region of Ghana. Retrieved September 25, 2017 from <http://www.ssrn.com>.
- Lazaridis, I. and Tryfonidis, D. 2006. "Relationship between Working Capital Management and Profitability of Listed Companies in the Athens Stock Exchange", *Journal of Financial Management and Analysis*, Vol. 19, No. 1, pp. 26-35.
- Maina, M. A. 2013. *The Relationship Between Working Capital Management and Financial Performance of Manufacturing Firms Listed at The Nairobi Securities Exchange*. Unpublished MBA Research project, University of Nairobi, School of Business.
- Mathuva, D. M. 2010. The Influence of Working Capital Management Components on Corporate Profitability: A survey on Kenyan Listed Firms. *Research Journal of Business Management*, 4(1).
- Mead, D. C. 1998. Welfare policy: Micro and Small Businesses tackle poverty and growth. *Journal of Policy and Management*, 587-600.
- Mugenda, M.O., and Mugenda, G.A. 2003. *Research Methods: Quantitative and Qualitative Approaches*. Laba Graphics Services.
- Mukhopadhyay, D. 2004. "Working Capital Management in Heavy Engineering Firms – A case study, retrieved September 17, 2017, from <http://myicwai.com/knowledgebank/fm48>.
- Nobanee, H. and Maryam, A. 2009. A Note on Working Capital Management and Corporate Profitability of Japanese Firms, [www.ssrn.com](http://www.ssrn.com)
- Oketch, H. O. 2000. *Micro and Small Enterprises in Kenya: Agenda for improving the Policy Environment*. ICEG. Nairobi: ICEG.
- Ongore, V. O., and Kusa, G. B. 2013. Determinants of Financial Performance of Commercial Banks in Kenya. *International Journal of Economics and Financial Issues*, 3(1), 237-252.
- Padachi, K. 2006. Trends in Working Capital Management and its Impact on Firms' Performance: An Analysis of Mauritian Small Manufacturing Firms. *International Review of Business Research Papers*, 2, 45 –58.
- Padachi, K. 2006. Trends in Working Capital Management and its Impact on Firm's Performance: An Analysis of Mauritian Small Manufacturing Firms. *International Review of Business Research*, 2 (2), 45-58.
- Pandey, I. M. 2008. "Financial Management", 10th Edition. New Delhi: Vikas Publishing House Pvt. Limited
- SME Solutions Centre, (2007). SSC Services-Kenya, viewed on 25th September 2017 from [www.ssc.co.ke/services](http://www.ssc.co.ke/services)
- Szabo, P. T. 2005. "A road map for effective credit policy collective wisdom magazine, 20, retrieved November 10, 2017, <http://www.sciencedirect.com>.
- Tobin, James 1956. "The Interest Elasticity of the Transactions Demand for Cash". *Review of Economics and Statistics*. 38 (3): 241–247. doi:10.2307/1925776.
- Wesley Inc.
- Williamson, Oliver E. 1981. "The Economics of Organization: The Transaction Cost Approach," *The American Journal of Sociology*, pp. 172-206 New York: Oxford University Press