

Effect of Working Capital Management on the Financial Performance: Evidence of Construction and Allied Sector Firms Listed at Nairobi Securities Exchange

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Abstract

The success of any business depends on how financial managers effectively manage working capital components which includes mainly cash, receivables, payables and inventories. It's required for a company to maintain a balance between profitability and liquidity. This study was carried out to determine the effect of working capital management on the financial performance of construction and allied companies listed at Nairobi Securities Exchange. Explanatory research design was employed in this study. The target population in this study consisted of all construction and allied companies listed at NSE for the period between 1st January 2012 and 31st December 2016. This study used secondary panel data which consisted of time series and cross sections sourced from published annual financial statements on the company's website and NSE hard books. In the analysis correlation analysis, descriptive statistics and multiple regression analysis was used. The findings clearly showed that there is a weak insignificant association among inventory conversion period, receivables collection period, payables payment period, cash conversion cycle, gross working capital, ratio of current assets to total assets, ratio of current liabilities to total liabilities, current ratio using return on assets and return on equity to measure financial performance. However using gross profit margin to measure financial performance, the findings shows that there is a strong positive relationship among independent variables such as inventory conversion period, ratio of current assets to total assets, ratio of current liabilities to total liabilities and gross profit margin.

Keywords: Working Capital Management, Working Capital Components, Firms, Financial Performance, Liquidity, Nairobi Securities Exchange

1. Introduction

Efficient working capital management determines the success or the failure a company because it determines the liquidity and profitability balance of business operations. Working capital management is simply concerned with efficient management of current benefit and current obligations which are expected to mature or to be paid within a period of one year or operating cycle whichever is shorter (Kesimli and Gunay, 2011). In business operations day to day decisions are basely primarily on guaranteed cash flows which facilitate proper management of available resources to ensure effective operations and sustainability of business. Business should be managed efficiently and profitably to increase the amount of cash flows (Kesseren, 2006).

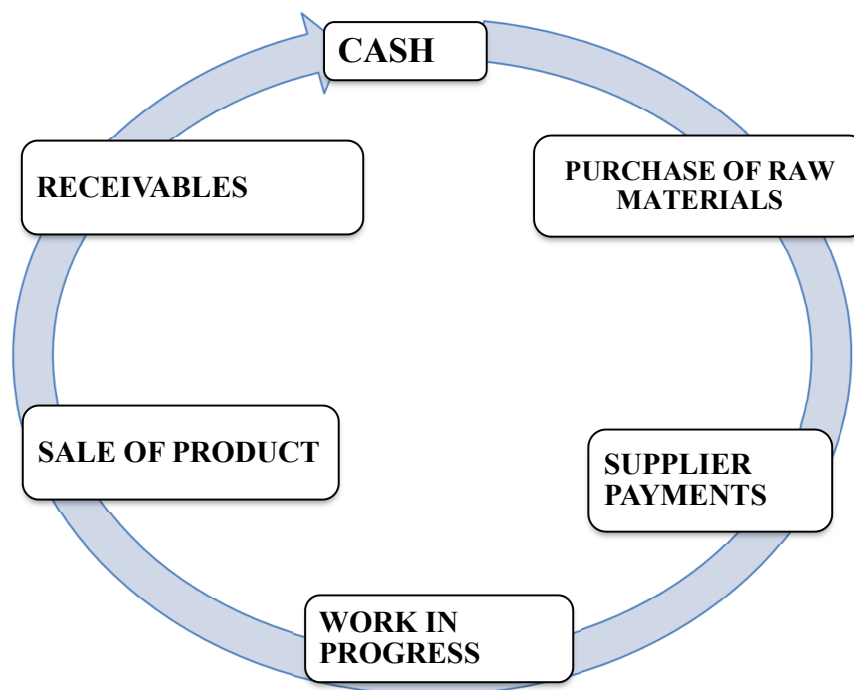
When company operations grow, it's important for a company to set controls and measures to make comparison between actual figures and projected figures. The financial manager should determine the net working capital by factoring major elements in the working capital cycle which includes inventories, receivables, cash and payables which are mainly defined by time and money. This is supported by management control theory which argues that there is need to control agents operations and management actions prior to any action been taken (Smith & Bertozzi, 1998). In most companies there is no clear understanding between liquidity and profitability. Most companies have failed to understand liquidity and profitability tradeoffs when striving to maximize shareholders value which has led to the failure in most organizations to analyze the risk- return tradeoff expected after implementing alternative working capital management policies (Gitman, 1984 & Bhattacharya, 2001). Liquidity is defined as a condition in which business or companies or firms are able to meet short term obligations when they are due with or without challenges.

1.1 Working Capital Management

Working capital comprises of current assets such as cash, inventories, receivables which are readily available to meet short term liabilities e.g. payables overdraft when they fall due. Working capital connects cash conversion cycle which is the time period taken by a business to realize cash after producing goods or providing services or the difference in timing from when inventories are purchased for production and the time when cash revenue is

collected after a sale. Too long working capital cycles for a business, capital is tied up in working capital which doesn't bring returns into business. Growing business requires instant and guaranteed cash inflows to meet operating expenses. Business can shorten its working capital by reducing its credit period to its customers, giving cash discounts, streamlining production process, increasing sales and negotiating for better credit period from creditors and suppliers. For a business to operate effectively and efficiently, it requires a positive working capital cycle which balances cash inflows and cash outflows to reduce net working capital cycle and maximize to free cash flow.

Figure 1: Working Capital Cycle



1.2 Statement of the Problem

Companies' success or failure is mainly influenced by financial manager ability to manage working capital components effectively. Companies such as Uchumi supermarkets, Nakumatt Holding and Pan Paper mills have been put under receivership and statutory management for years due to liquidity, profitability and solvency problems. Previous studies have failed to address fully aggressive and conservative working practices. Globally, Ogunidipe, Idowu and Ogunidipe (2012) on their study confirmed existence of indirect association among cash conversion cycle, companies market value and firm's financial performance. Hassan, Imran, Amjad and Hussain (2014) documented that, there exists a direct association between inventory conversion period, receivables collection days, payables payment days and gross profit margin and investment return. Locally, Nyamao et al (2012) investigated the interaction that exists among cash, inventory, efficiency and receivables management while Mathuva in (2009) addressed the concept of WCM using cash conversion cycle for the firms listed at NSE. Mwangi, Makau and Kosimbei (2014) on their study suggested aggressive management approach has a positive direct impact on return on assets and return on equity. Nyamao, Lumumba, Odondo and Otieno (2012) on their study revealed that management of working capital components practices adopted were very low for the SMEs sampled.

Previous researchers both in the developing and developed countries have carried out empirical analysis in different sectors especially in manufacturing, commercial sector, banking and investment sector but management of working capital is also important in construction and allied companies because these companies face problems to raise long term funding, they also rely current liabilities to finance their working capital. This study seeks to provide adequate empirical analysis on the influence of working capital management on the financial performance of for a panel data of 5 companies listed at Nairobi Securities Exchange during 2012-2016.

1.3 Research Objective

This study seeks to determine the influence of working capital management on the financial performance of Construction and Allied companies quoted at Nairobi Securities Exchange.

2.0 Literature Review

2.1 Conservative Working Capital Management Approach

Financial managers can adopt either aggressive or conservative working capital management strategies in managing working capital components. This idea is supported by agency theory which describes modern firms in such a way that the principal and agent are distinct parties who should be bound by common interest which is not the case in most firms (Bowie and Freeman, 1992). According to Bringham and Ehrhardt (2004), conservative working capital management approach is a policy associated with low risk which ensures that non-current financing covers total investment in assets'. Even though sometimes cash surplus is available, it is usually invested in instruments that are short term. Most managers are comfortable with this approach due to the lower risk of inability to meet obligations when they arise. This is however not the case when it comes to the owners of the business since the policy may not be to the best of their interests since the current funds invested in current securities are unlikely to yield satisfactory return compared to non-current funds (Eljelly 2004). Further, companies that operate in seasonal and volatile industries like farming and tourism can adopt this policy to fight against risk. In most cases a firm that uses this approach is believed to have plenty of cash in banks, warehouses are filled with inventory and payables up to date. Conservative approach suggests that excess current assets can lead to stock outs and lower liquidity resulting to smooth operation.

2.2 Aggressive Working Capital Management Approach

According to Smith (1980), a business may use the aggressive working capital management strategy which has a lower investment on current assets to cumulative investments in both long term and short term assets, or for the firm's financing decisions. Further, the more a firm invests in short term assets the lesser uncertainties which leads to increased profits attained. Carpenter and Johnson (1983) opposed this believe and documented that there is no direct significant association between current assets level and revenue risk that is systematic but there is possibility of insignificant existence of an indirect association in United States firms.

2.3 Empirical Review

On their investigation Ogundice, Idowu and Ogundice (2012) on how management of working capital influences firms performance and its market value found that there exists insignificant association among measures of performance such as ROA, ROE, EBIT and working capital management variables such as cash conversion cycle, current ratio, receivables conversion period, payables payment period and inventory conversion period.

Hassan, Imran, Amjad and Hussain (2014) carried out a study to understand the relationship between working capital management and the firms' performance; evidence of non-financial listed firms in Pakistan. Average collection period was found to be directly associated to gross profit margin and return on asset because effective management of receivables influences companies' performance. Average payment period showed insignificant and positive association to return on assets but with a negative relationship to return on equity.

Afza and Naziz (2009) investigated the traditional relationship that exists between working capital management strategies and performance of companies quoted at Karachi stock exchange during 1998-2005. The study found that there are positive differences among working capital needs and financial policies. The findings also confirmed that there is an indirect association between aggressive working capital policies and financial policies. This study recommended that where aggressive strategy has failed financial managers can adopt conservative strategy towards management of working capital and implementation of financial policies.

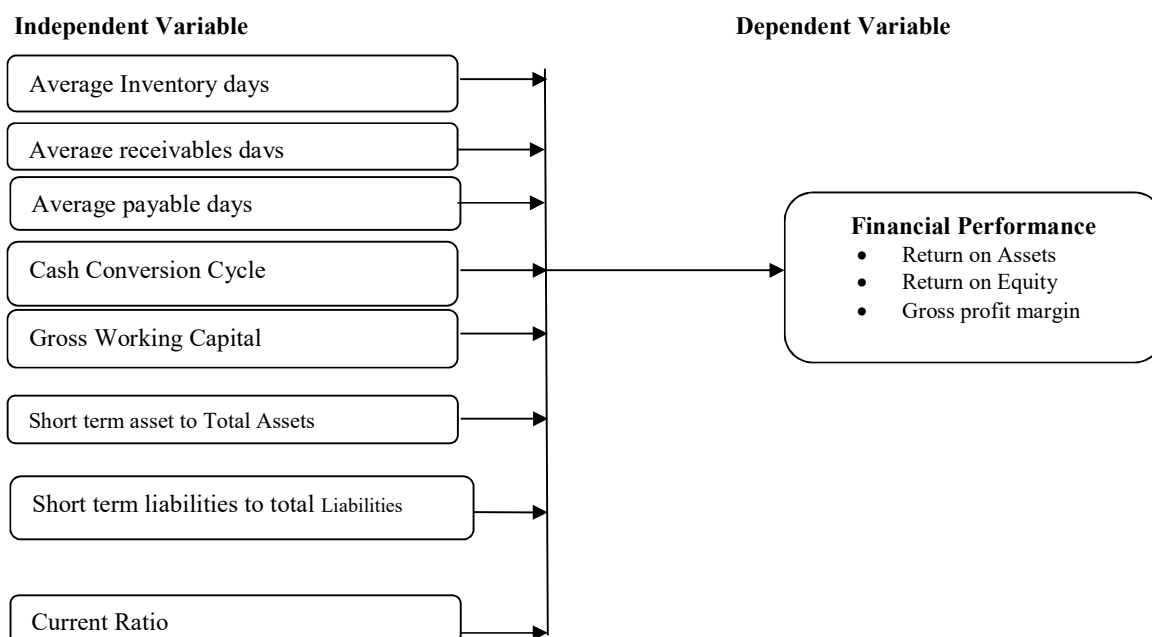
Tabash & Hassan (2017) carried out a comparative study on liquidity, profitability and solvency of UAE commercial and Islamic banks. The findings showed that there is a significant difference between Islamic banks and commercial banks of UAE in terms of Liquidity and that Islamic banks have maintained sound liquidity ratios while profitability and capital adequacy ratios are good for commercial banks of UAE. This study also found a significant difference in the profitability between Islamic and commercial banks of UAE but insignificant difference was found in liquidity and solvency for Islamic and commercial banks.

Rajeshwar & Rajkumar (2014) on their study on the impact of working capital management on profitability of manufacturing industry found that there exists always an indirect relationship between working capital management and profitability in the business operations. The reviews could explore a lot of challenging scope wherein many empirical studies on working capital can be made which further helps industries to focus their attention on enhancing the solvency, profitability, and efficiency of their concerns.

Azhar (2017) carried out a study to understand how working management, solvency and profitability of private and state owned power distribution utilities compares, using mann whitney u test where working capital management is explained in terms of liquidity, management efficiency, and solvency whereas profitability is explained by return on capital employed using statistical tools such as mean, standard deviation and mann whitney. It was found that there is no difference which is significant in the management of liquidity, management efficiency, debtors conversion ratio, creditors conversion ratio and collection efficiency), solvency (interest coverage ratio) and profitability (return on capital employed) except in a significant difference is found in the management of cash in proportion to current liabilities (absolute cash ratio) and debt equity ratio of private and state owned power distribution utilities.

Mathuva (2009) investigated how working capital management strategies influence the firms' performance sampling 30 companies quoted at NSE during 1993 to 2008. The findings revealed that there exists a significant indirect association between receivables conversion period from the customers and the firm's productivity. He also documented that there exists a direct and significant association between the period when inventories are purchased, converted, sold and the firm's performance.

2.4 Conceptual Framework



2.5 Research Hypothesis

H₀: There relationship between Working Capital Management and Financial Performance of Construction and Allied companies listed at NSE is not significant.

H₁: There relationship between Working Capital Management and Financial Performance of Construction and Allied companies listed at NSE is significant.

3.0 Research Methodology

3.1 Research Design

Explanatory research design was employed to determine the influence of working capital management on the financial performance of construction and allied companies listed at NSE. According to Saunders et al. (2009) this research design seeks to determine the causal relationship between independent and dependent variables.

3.2 Target Population

Target population in this research comprised of all 5 construction and allied companies listed at NSE as at 31st December 2015.

3.3 Data Collection Procedure

This research used panel data which consist of time series and cross sections to improve on the quality and quantity of the data. Secondary data sourced from published annual and financial statements listed at NSE website or extracted from NSE hand books for the period 2011-2015 was used as the primary source of data. The targeted statement includes statement of financial position, income statement and available account notes.

3.4 Measurement of Variable

Performance measure includes gross profit margin, return on assets and return on equity. Independent variables include inventory conversion days, average payable days, cash conversion cycle and receivables collection days.

Table 3.1 Operationalisation and Measurement of Variables

Variables	Measurement	Abbreviations	Hypothesis
Dependent variable			
Return on asset	Net Income / Total Assets	ROA	Positive /Negative
Return on equity	Net Income-Preference Dividend / Total Ordinary Equity	ROE	Positive /Negative
Gross profit margin	Gross profit/Net sales	GPM	Positive /Negative
Independent variable			
Inventory conversion period	Inventory/ Cost of Goods Sold * 365	ICP	Positive /Negative
Receivables collection days	Account Receivable/Net Sales*365	ACP	Positive /Negative
Payables payment days	Accounts Payable/ Purchases* 365	APP	Positive /Negative
Cash conversion cycle	ACP + ICP – APP	CCC	Positive /Negative
Gross Working Capital	Net Sales/ Current Assets	GWC	Positive /Negative
Current Assets to Total Assets Ratio	Current Assets/ Total Assets	CATA	Positive /Negative
Current Liabilities to Total Liabilities Ratio	Current Liabilities/Total Liabilities	CLTL	Positive /Negative
Current Ratio	Currents Assets/ Current Liabilities	CR	Positive /Negative

3.5 Data Analysis

The data was analysed using correlation analysis, descriptive statistics and multiple regression analysis. SPSS version 24 was used in this research to analyze data.

3.5.1 Multiple Regression Models

Hausman test was undertaken to determine the appropriate model for this study. The multiple linear regressions were given as follows:

$$ROA_{it} = \alpha + \beta_1 ICP_{it} + \beta_2 ACP_{it} + \beta_3 APP_{it} + \beta_4 CCC_{it} + \beta_5 GWC_{it} + \beta_6 CATA_{it} + \beta_7 CLTL_{it} + \beta_8 CR_{it} + \mu_{it}$$

$$ROE_{it} = \alpha + \beta_1 ICP_{it} + \beta_2 ACP_{it} + \beta_3 APP_{it} + \beta_4 CCC_{it} + \beta_5 GWC_{it} + \beta_6 CATA_{it} + \beta_7 CLTL_{it} + \beta_8 CR_{it} + \mu_{it}$$

$$GPM_{it} = \alpha + \beta_1 ICP_{it} + \beta_2 ACP_{it} + \beta_3 APP_{it} + \beta_4 CCC_{it} + \beta_5 GWC_{it} + \beta_6 CATA_{it} + \beta_7 CLTL_{it} + \beta_8 CR_{it} + \mu_{it}$$

Where:

- ROA_{it}** = Return on asset of a company
- ROE_{it}** = Return on equity of a company
- GPM_{it}** = Gross profit margin of a company
- α** = Constant (free term of equation)
- β_i** = Coefficients of independent variables i
- ICP_{it}** = Inventory conversion period of a company
- ACP_{it}** = Receivables collection period of a company
- APP_{it}** = Payables payment period of a company
- CCC_{it}** = Cash conversion cycle of a company
- GWC_{it}** = Gross working capital of a company
- CATA_{it}** = Current assets to Total assets of a company
- CLTL_{it}** = Current liabilities to Total liabilities of a company
- CR_{it}** = Current ratio of a company
- μ** = Error term

4.0 Results and Discussion

Table 4.1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	25	-.08841	.44361	.0629733	.11477647
ROE	25	-.23530	1.35568	.1846560	.37212289
GPM	25	.12592	.41273	.2755880	.07533079
ICP	25	72.39904	144.39018	99.4545082	22.27532568
RCP	25	15.57220	229.69063	79.7383360	60.38216275
PPP	25	74.61021	153.84756	110.7251485	24.16076526
CCC	25	-2.85890	192.38370	68.4820957	49.95864356
GWC	25	1.25717	4.19484	2.1364156	.69633728
CATA	25	.07596	.74752	.3925419	.21316265
CLTL	25	.25590	.99803	.6247957	.21558268
CR	25	.37084	2.34632	.8324705	.42739045
Valid N (listwise)	25				

Source: Research Findings

Table 4.1 shows summary of independent and dependent variables included in this study. The average of financial performance measures indicators return on assets, return on equity and gross profit margin is 6.3%, 18.5% and 27.6% respectively while the average of independent or explanatory variables such as inventory conversion period, receivables conversion period, payables payment period, cash collection cycle, gross working capital and current ratio is given as 99.45 days, 79.74 days, 110.73 days 68.48 days respectively. Current ratio has a mean average of 0.832 and standard deviation of 0.427. Receivables collection period recorded the highest standard deviation 60.38 while gross profit margin has the lowest standard deviation.

Table 4.2 Correlation analysis between Return on Assets and Explanatory variables

	ROA	ICP	RCP	PPP	CCC	GWC	CATA	CLTL	CR	
ROA	Pearson Correlation	1								
	Sig. (2-tailed)									
	N	25								
ICP	Pearson Correlation	-.356	1							
	Sig. (2-tailed)	.081								
	N	25	25							
RCP	Pearson Correlation	-.374	.092	1						
	Sig. (2-tailed)	.065	.660							
	N	25	25	25						
PPP	Pearson Correlation	-.263	.622**	.621**	1					
	Sig. (2-tailed)	.204	.001	.001						
	N	25	25	25	25					
CCC	Pearson Correlation	-.484*	.257	.950**	.544**	1				
	Sig. (2-tailed)	.014	.215	.000	.005					
	N	25	25	25	25	25				
GWC	Pearson Correlation	.293	-.071	-.667**	-.312	-.687**	1			
	Sig. (2-tailed)	.155	.737	.000	.129	.000				
	N	25	25	25	25	25	25			
CATA	Pearson Correlation	-.042	.173	.164	.223	.168	-.260	1		
	Sig. (2-tailed)	.842	.408	.433	.284	.423	.210			
	N	25	25	25	25	25	25	25		
CLTL	Pearson Correlation	-.327	.414*	.323	.425*	.370	-.265	.861**	1	
	Sig. (2-tailed)	.111	.040	.115	.034	.069	.201	.000		
	N	25	25	25	25	25	25	25	25	
CR	Pearson Correlation	-.230	-.028	.064	.104	.015	.480*	-.303	-.170	1
	Sig. (2-tailed)	.270	.895	.762	.622	.945	.015	.140	.415	
	N	25	25	25	25	25	25	25	25	25

*. Correlation is significant at the 0.05 level (2-tailed).
 **. Correlation is significant at the 0.01 level (2-tailed).

Source: Research Findings

Table 4.2 shows that there is a weak negative correlation among inventory conversion period, receivables collection period, payables payment period, cash conversion cycle, gross working capital, ratio of current assets

to total assets, ratio of current liabilities to total liabilities, current ratio and return on assets ($p = -.356, p > 0.05$), ($p = -.374, p > 0.05$), ($p = -.263, p > 0.05$), ($p = -.484, p > 0.05$), ($p = -.293, p > 0.05$), ($p = -.042, p > 0.05$), ($p = -.327, p > 0.05$) and ($p = -.230, p > 0.05$) respectively.

Table 4.3 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.746 ^a	.556	.373	.09086422	2.690
a. Predictors: (Constant), CR, CCC, ICP, CATA, PPP, GWC, CLTL					
b. Dependent Variable: ROA					

Source: Research Findings

The results show R^2 value of 55.6% variation of explanatory variables on return on asset. This study documents that these variables significantly influences the financial performance of constructions and allied companies with unexplained variance of 44.4%.

Table 4.4 Analysis of Variance (Anova)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.176	7	.025	3.042	.029 ^b
	Residual	.140	17	.008		
	Total	.316	24			
a. Dependent Variable: ROA						
b. Predictors: (Constant), CR, CCC, ICP, CATA, PPP, GWC, CLTL						

Source: Research Findings

Using a significance level of 5%, the numerator $df = 7$ and denominator $df = 17$, critical value 2.74, Table 4.4 indicates a F value as 3.042. This confirms that the analytical regression model used in this study is statistically significant at 0.029 which can be generally applied to explain the effect of independent variables on financial performance of companies as measured by return on assets.

Table 4.5 Test of Coefficients using Regression Analysis

Model		Un-standardized Coefficients		Standardized Coefficients		t	Sig.
		B	Std. Error	Beta			
1	(Constant)	.079	.145			.546	.592
	ICP	-.002	.001		-.329	-1.406	.178
	PPP	.002	.001		.396	1.593	.130
	CCC	6.31	.001		.003	.009	.993
	GWC	.096	.053		.581	1.812	.048
	CATA	.367	.210		.682	1.747	.039
	CLTL	-.468	.227		-.879	-2.062	.045
	CR	-.135	.063		-.502	-2.131	.048
a. Dependent Variable: ROA							

Source: Research Findings

Considering 5% acceptable significance level, explanatory variable with a significant value more than 5% is assumed not statistically significant. The findings shows that inventory conversion period, payables payment period, cash conversion cycle are not statistically significant while gross working capital, ratio of current assets to total assets, current liabilities to total current liabilities and current ration were found to be statistically significant. The regression model is given by; $Y = 0.079 + -0.329X_1 + 0.396X_2 + 0.003X_3 + 0.581X_4 + 0.682X_5 + -0.879X_6 + -0.502X_7$

Table 4.6 Correlation analysis between Return on Equity and Explanatory variables

		ROE	ICP	RCP	PPP	CCC	GWC	CATA	CLTL	CR
ROE	Pearson Correlation	1								
	Sig. (2-tailed)									
	N	25								
ICP	Pearson Correlation	-.130	1							
	Sig. (2-tailed)	.536								
	N	25	25							
RCP	Pearson Correlation	-.347	.092	1						
	Sig. (2-tailed)	.089	.660							
	N	25	25	25						
PPP	Pearson Correlation	-.177	.622**	.621**	1					
	Sig. (2-tailed)	.396	.001	.001						
	N	25	25	25	25					
CCC	Pearson Correlation	-.392	.257	.950**	.544**	1				
	Sig. (2-tailed)	.053	.215	.000	.005					
	N	25	25	25	25	25				
GWC	Pearson Correlation	.352	-.071	-.667**	-.312	-.687**	1			
	Sig. (2-tailed)	.084	.737	.000	.129	.000				
	N	25	25	25	25	25	25			
CATA	Pearson Correlation	-.236	.173	.164	.223	.168	-.260	1		
	Sig. (2-tailed)	.256	.408	.433	.284	.423	.210			
	N	25	25	25	25	25	25	25		
CLTL	Pearson Correlation	-.419*	.414*	.323	.425*	.370	-.265	.861**	1	
	Sig. (2-tailed)	.037	.040	.115	.034	.069	.201	.000		
	N	25	25	25	25	25	25	25	25	
CR	Pearson Correlation	.013	-.028	.064	.104	.015	.480*	-.303	-.170	1
	Sig. (2-tailed)	.951	.895	.762	.622	.945	.015	.140	.415	
	N	25	25	25	25	25	25	25	25	25

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

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

Source: Research Findings

The findings from table 4.6 shows that there is a weak negative association between among inventory conversion period, receivables collection period, payables payment period, cash conversion cycle, ratio of current assets to total assets and ratio of current liabilities to total liabilities and return on equity (p= -.130, p>0.05), (p= -.347, p>0.05), (p= -.177, p>0.05), (p= -.392, p>0.05), (p= -.236, p>0.05), (p= -.419, p>0.05) respectively. Further, this study found that there exists a week significant relationship between return on equity and gross working capital (p= .352, p>0.05) and return on assets and current ratio (p= .013, p>0.05).

Table 4.7 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.602 ^a	.363	.101	.35292157	2.974

a. Predictors: (Constant), CR, CCC, ICP, CATA, PPP, GWC, CLTL

b. Dependent Variable: ROE

Source: Research Findings

The results show R² value of 36.3% variation of explanatory variables on return on equity. This study confirms that these variables insignificantly influence the financial performance of constructions and allied companies because of the unexplained variance of 63.7%.

Table 4.8 Analysis of Variance (Anova)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.206	7	.172	1.383	.275 ^b
	Residual	2.117	17	.125		
	Total	3.323	24			

a. Dependent Variable: ROE

b. Predictors: (Constant), CR, CCC, ICP, CATA, PPP, GWC, CLTL

Source: Research Findings

Using a significance level of 5%, the numerator df=7 and denominator df =17, critical value 2.74, Table 4.8 shows F value as 1.383. This shows that the multiples regression model used in this study is not statistically

significant at .275 and thus cannot be generally used to explain the effect of independent variables used in this on financial performance of companies measured by return on equity.

Table 4.9 Test of Coefficients using Regression Analysis

Model		Un-standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.019	.562		-.035	.973
	ICP	.001	.005	.058	.208	.838
	PPP	.003	.005	.202	.679	.506
	CCC	.001	.003	.075	.200	.844
	GWC	.252	.205	.471	1.225	.237
	CATA	1.060	.817	.607	1.298	.212
	CLTL	-1.714	.882	-.993	-1.945	.069
	CR	-.190	.246	-.219	-.775	.449

a. Dependent Variable: ROE

Source: Research Findings

Considering 5% acceptable significance level, explanatory variable with a significant value more than 5% is assumed not statistically significant. The findings shows that inventory conversion period, payables payment period, cash conversion cycle, gross working capital, ratio of current assets to total assets, current liabilities to total current liabilities and current ration were found to be not statistically significant.

Table 4.10 Correlation analysis between Return on Equity and Explanatory variables

		GPM	ICP	RCP	PPP	CCC	GWC	CATA	CLTL	CR
GPM	Pearson Correlation	1								
	Sig. (2-tailed)									
	N	25								
ICP	Pearson Correlation	.432*	1							
	Sig. (2-tailed)	.031								
	N	25	25							
RCP	Pearson Correlation	-.008	.092	1						
	Sig. (2-tailed)	.971	.660							
	N	25	25	25						
PPP	Pearson Correlation	.186	.622**	.621**	1					
	Sig. (2-tailed)	.373	.001	.001						
	N	25	25	25	25					
CCC	Pearson Correlation	.093	.257	.950**	.544**	1				
	Sig. (2-tailed)	.658	.215	.000	.005					
	N	25	25	25	25	25				
GWC	Pearson Correlation	-.248	-.071	-.667**	-.312	-.687**	1			
	Sig. (2-tailed)	.231	.737	.000	.129	.000				
	N	25	25	25	25	25	25			
CATA	Pearson Correlation	.799**	.173	.164	.223	.168	-.260	1		
	Sig. (2-tailed)	.000	.408	.433	.284	.423	.210			
	N	25	25	25	25	25	25	25		
CLTL	Pearson Correlation	.686**	.414*	.323	.425*	.370	-.265	.861**	1	
	Sig. (2-tailed)	.000	.040	.115	.034	.069	.201	.000		
	N	25	25	25	25	25	25	25	25	
CR	Pearson Correlation	-.420*	-.028	.064	.104	.015	.480*	-.303	-.170	1
	Sig. (2-tailed)	.036	.895	.762	.622	.945	.015	.140	.415	
	N	25	25	25	25	25	25	25	25	25

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

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

Source: Research Findings

Table 4.10 documents a strong positive and significant relationship among inventory conversion period, ratio of current assets to total assets, ratio of current liabilities to total liabilities and gross profit margin ($p = .432$, $p > 0.05$), ($p = .799$, $p > 0.05$) and ($p = .686$, $p > 0.05$) and a weak significant relationship among gross profit margin, payables payment period, cash conversion cycle and gross profit margin ($p = .186$, $p > 0.05$), ($p = .093$, $p > 0.05$) respectively. Further, this study found that there exists a weak negative relationship among receivables collection period, current ratio and gross profit margin ($p = -.08$, $p > 0.05$) and ($p = -.420$, $p > 0.05$).

Table 4.11 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.903 ^a	.815	.739	.03848395	2.563

a. Predictors: (Constant), CR, CCC, ICP, CATA, PPP, GWC, CLTL
 b. Dependent Variable: GPM

Source: Research Findings

The findings reveal R^2 value of 81.5% variation of explanatory variables on the financial performance as explained by gross profit margin. This study strongly confirms that these independent variables significantly determine the financial performance of constructions and allied companies given insignificant unexplained variance of 18.5%.

Table 4.12 Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.111	7	.016	10.709	.000 ^b
	Residual	.025	17	.001		
	Total	.136	24			

a. Dependent Variable: GPM
 b. Predictors: (Constant), CR, CCC, ICP, CATA, PPP, GWC, CLTL

Source: Research Findings

Using a significance level of 5%, the numerator $df=7$ and denominator $df=17$, critical value 2.74, Table 4.12 shows a strong F value as 10.709. This depicts clearly that the multiple regression model used in this study is statistically significant at .000 and thus can be generalized to explain the effect of explanatory variables used in this study on the financial performance of companies measured by gross profit margin.

Table 4.13 Test of Coefficients using Regression Analysis

Model		Un-standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.143	.061		2.337	.032
	ICP	.002	.001	.532	3.520	.003
	PPP	-.001	.000	-.237	-1.477	.018
	CCC	-2.27	.000	-.015	-.074	.942
	GWC	-.008	.022	-.074	-3.57	.026
	CATA	.344	.089	.974	3.865	.001
	CLTL	-.106	.096	-.304	-1.106	.284
	CR	-.018	.027	-.102	-.668	.513

a. Dependent Variable: GPM

Source: Research Findings

Considering 5% acceptable significance level, explanatory variable with a significant value more than 5% is assumed not statistically significant. The findings shows that inventory conversion period, payables payment period, gross working capital, ratio of current assets to total assets were found to be statistically significant while cash conversion cycle, current liabilities to total current liabilities and current ratio were found to be statistically insignificant.

5.0 Summary, Conclusions and Recommendations

5.1 Summary

The findings confirms that there exists a weak negative relationship among explanatory variables such as inventory conversion period, receivables collection period, payables payment period, cash conversion cycle,

gross working capital, ratio of current assets to total assets, ratio of current liabilities to total liabilities, current ratio and financial performance as measured by return on assets. Further, there is a weak negative association among explanatory variables such as inventory conversion period, receivables collection period, payables payment period, cash conversion cycle, ratio of current assets to total assets and ratio of current liabilities to total liabilities and financial performance predicted by return on equity. This study also found that there is a weak positive relationship among return on equity, gross working capital and current ratio.

Using gross profit margin to measure financial performance, the findings shows there exists a strong positive relationship among independent variables such as inventory conversion period, ratio of current assets to total assets, ratio of current liabilities to total liabilities and gross profit margin. Further there is a weak insignificant relationship among gross profit margin, payables payment period and cash conversion cycle. The relationship among return on equity, receivables collection period and current ratio was found to be positively weak.

5.2 Conclusions

Using return on assets and return on equity to measure financial performance of construction and allied companies listed at NSE, this study provides convergent view with studies carried out by Ogundipe, Idowu and Ogundipe (2012); Rajeshwar & Rajkumar (2014) and Mathuva (2009) which documented that there is indirect association among cash conversion cycle, receivables conversion period from the customers, companies market value and firm's financial performance or profitability.

Further measuring financial performance using gross profit margin this study is in agreement with studies undertaken by Hassan, Imran, Amjad and Hussain (2014) and Mathuva (2009) that there is a strong positive relationship among inventory conversion period, receivables collection days, payables payment days and gross profit margin.

5.3 Suggestions for Further Study

This study recommends that a comparative analysis can be carried out to compare working capital management strategies adopted by listed and non- listed construction and allied companies and how they influence their financial performance.

Another study can be undertaken to investigate the effect of working capital management policies on the financial performance of construction and allied companies operating within East African community.

Lastly, empirical analysis can be undertaken among liquidity, profitability and solvency of construction and allied companies listed at Nairobi Securities Exchange.

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