THE IMPACT OF WORKING CAPITAL MANAGEMENT AND PROFITABILITY OF CONSTRUCTION FIRMS LISTED ON THE NAIROBI SECURITIES EXCHANGE

BY

ABDULLAHI ABSHIR SULEIMAN

UNITED STATES INTERNATIONAL UNIVERSITY - AFRICA

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ABDULLAHI ABSHIR SULEIMAN

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STUDENT’S DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution, or university other than the United States International University in Nairobi for academic credit.

Signed: ________________________ Date: ______________________
Abdullahi Abshir Suleiman (635420)

This project has been presented for examination with my approval as the appointed supervisor.

Signed: ________________________ Date: ______________________
Dr. George Achoki

Signed: ________________________ Date: ______________________
Dean, Chandaria School of Business
ABSTRACT

The study aimed to investigate the relationship between working capital management and profitability of construction firms listed on Nairobi Securities Exchange. The study sought to address the following key questions: What is the effects of Average Collection Period on profitability on the firm in the construction industry? What is the impacts of Inventory Conversion Period (ICP) on profitability of firms in the construction industry? And lastly, what is the effect of Cash Conversion Cycle (CCC) on profitability on firms in the construction industry?

The research applied descriptive research design and this was the most appropriate as it allowed for the reporting of the data summary by use of measures of central tendency including the mean, standard variation, percentage, and correlation between variables. The population comprised of 180 employees of the construction firms listed at the Nairobi securities exchange. A sample size of 124, representing 68.89% of total population was used. After the analysis using Excel and SPSS, the results were presented in the forms of tables.

The findings revealed a positive significant relationship between the average collection period and firm profitability at a beta value -0.258 with a T-Value being 1.955. As a result, the firm’s practices such as effective management of credit mechanisms, sufficient average collection period, effective credit standards, undertaking of customers’ credit analysis, best collection periods indirectly influenced the firm’s profitability. Furthermore, a correlation of 0.665** indicated that decrease in average collection period leads towards increase in profitability and vice versa. The findings indicated a correlation of .604*. As a matter of fact, large raw material piles, efficient record maintenance, frequent stock taking, proper inventory control systems, and rapid inventory turnover, as well as holding of minimal inventory with aim of reducing costs influence profitability of construction firms. The correlation of .701** that shows that low cash conversion cycle of construction firms is resulting into higher profitability and vice versa. Therefore, lack of funds, insufficient inventory, and acquisition of good on credit, regular budgeting for future firm’s expenditure, as well as meeting of both short-term and long-term obligations had a bearing on the overall firm’s profitability.

The study concludes that there exists a strong positive relationship between average collection period and profitability of construction firms listed on Nairobi Securities
Exchange. The study also concluded that construction firms need to reduce the duration of converting cash. The cash conversion cycle has to be reduced to the minimum as well. Therefore, the study suggests that decreasing cash conversion cycle is a measure of effective working capital management and it is appraised by companies. However, the firm should use effective policies that would neither result into bad debts nor loss of customers to the firm.

The study also recommended that construction firms should keep the receivable collection period at minimum in order to enhance financial performance, profitability. In addition, the construction firms should ensure that stock levels stocks are sufficient to meet customer demands at all times. At the same time, the firms should avoid holding onto dead stock as it ties up finances hence negatively impacting on the firm’s financial performance. It is recommend that construction firms should adopt effective measures of ensuring the cash conversion cycle is reduced. There is need to examine why construction firms should pursue small inventory conversion period, low average collection receivable period and small Cash conversion cycle.
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I would like to take this opportunity to thank my proposal lecturer Dr. Achoki for the continued support and guidance towards the accomplishment of this research proposal. I also like to thank the USIU faculty and staff for the conducive environment they have offered to facilitate my studies. God bless you all.
DEDICATION
I dedicate this thesis to Mum and Dad, who always pick me up on time and encourage me
to go on every adventure especially this one, to my instructors friends and family members without whom it was almost impossible for me to complete my thesis work.
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ACRONYMS AND ABBREVIATIONS

ACP- Accounts Collection Period
ADI- average days’ inventory
ADR-Average Days Receivable
ARP-Accounts Receivable Period
CA-Current Assets
CCC- Cash Conversion Cycle
ICP-Inventory Conversion Period
IHP- Inventory Holding Period
ROA- Return on Assets
WC- Working Capital
WCM- Working Capital management
CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

The idea of working capital management addresses companies’ managing of their short-term capital and therefore the goal of the management of capital is to ensure a satisfying liquidity, profitableness, and shareholders’ worth. Capital management means the ability to regulate effectively and expeditiously current assets and current liabilities in a manner that provides the firm with most funds on its assets and minimizes payments for its liabilities. A well-managed capital promotes a company’s welfare on the market in terms of liquidity and it acts in favor for expansion and growth of shareholders worth (Mohammadreza, 2012).

Working capital management refers to investment in current assets and current liabilities, that are liquidated inside one year or less, and is thus crucial for firm’s daily operations (Kesimli & Gunay, 2011). Working capital (WC) refers to the cash required to finance the daily revenue generating activities of the firm. In line with Vahid, Mohsen and Mohammadreza (2012) capital management (WCM) plays a major role in deciding success or failure of firm in business performance thanks to its impact on firm’s gain and on liquidity. Business success depends heavily on the flexibility of monetary managers to effectively manage the elements of WC. A firm could adopt an aggressive or a conservative capital management policy to realize this goal (Tauringana & Afrifa, 2013).

Gill, Biger and Mathur (2010) analyzed the link between WC management and profitableness of eighty eight American corporations listed on New York securities market for a duration of three years from 2005 to 2007 was designated. The information was analyzed victimisation Pearson bivariate Correlation Analysis and Weighted least squares (WLS) Regression techniques. They found statistically vital relationship between the cash conversion cycle and profitableness, measured through gross operational profit. It followed that managers will generate profits for his or her firms by handling properly the cash conversion cycle and by keeping accounts assets at an optimum level.

Charitou, Elfani and Lois (2010) declared that economical utilization of the organization’s resources results into enlarged profitableness and minimizes volatility that results in the decrease in default risk and therefore rallies the firm’s worth. Lairodi and Lazardis (2000) conducted the analysis to determine if there was any relationship between
the liquidity, profitableness, and leverage ratios for the sample of over eighty food industries listed within the Balkan country securities market as a result found a positive relationship between ccc and return on assets

Many past studies have been conducted to look at the link between WCM and firm performance and/or profitableness from completely different business contexts. Tauringana and Afrifa (2013) studied the relative importance of WCM among 133 SMEs within the kingdom for years 2005 to 2009. Utilizing panel information multivariate analysis of a sample of 133 corporations, their results show that the management of average days payables (ADP) and average days receivable (ADR) is very important for SMEs profitableness. However, generally, ccc and WCM relationship was non-significant (Gakure, Cheluget, Onyango & Keraro, 2012). The link between average days inventory (ADI) and return on assets (ROA) was negative however not significant. ADR was negatively associated with profitableness considerably and that ADP is negatively related to profitability. Regarding relative importance, ADR management was rated among the most priority, followed by ADP, ADI and ccc (Adjei & Yeboah, 2011). Their study was restricted to listed SMEs, and thus the findings lacks generalizability to all firms. They counsel that the SMEs ought to concentrate their restricted resources on managing average assets (AR) and average liabilities (AP) so as to be a lot of profitable.

WCM and profitableness relationship may rely upon the firm’s WCM strategy (Tauringana & Afrifa, 2013). Consistent with Tauringana and Afrifa (2013) a firm that adopts an aggressive WCM approach, sometimes contains a negative relationship between elements of WCM and profitability, and may expect that ADP and profitability are absolutely connected. For the conservative approach, it's expected that ccc, ADI, ADR and gain are absolutely connected, and expect that ADP and profitableness have a negative connection. The type of WCM strategy adopted by management may justify the contradictions of findings of previous studies on how WCM elements are linked to gain. Similarly, Raza, Bashir, Latif and Shah (2015) further examined the impact of working capital management on profitability in Pakistan oil sector using five companies for a five-year period, 2006 to 2010. The authors provided a descriptive analysis of the current ratio, liquidity ratio and profitability ratios of the various companies studied but did not use a regression analysis to test the impact of WCM on profitability directly. Sharma and Kumar (2011) researched into the impact of WCM on corporate performance in some selected public sector oil and gas companies in India during the period of 10 years (i.e.
from 2000-01 to 2009-10). The authors used return on capital employed as a measure of profitability. Using descriptive and correlations analysis, they found that out of selected eight ratios, current ratio, current assets to total asset ratio and inventory turnover ratio for the six selected companies have the significant influence on the overall profitability of the concerned companies.

Previous studies examining how CCC and its components are related to profitability reveal inconsistent findings. Some previous studies found negative relationship between WCM and CC (Akoto, Awunyo-Vitor & Angmor, 2013), which supports the aggressive approach to WCM. On the other hand, Sharma and Kumar (2011), Gill et al. (2010), Adjei and Yeboah (2011), which supports the conservative strategy of WCM, reported a positive and significant relationship. Since the type of WCM strategy of petroleum retail firms used in this study is not known, it can only be expected that there is a significant relationship between WCM and profitability for the firms, but the direction of the relationship cannot be predetermined as used in previous studies (Tauringana & Afrifa, 2013).

Sharma and Kumar (2011) examined the impact of WC on profit of Indian companies. They collected information from a sample of 263 non-financial bse 500 companies listed at the Mumbai Stock (BSE) from 2000 to 2008 and evaluated the information by using OLS multiple correlation. The results discovered that assets management and profit is completely related in Indian corporations. The study additional reveals that inventory of number of days and numbers of day’s accounts collectable were negatively related with a firm’s profit, whereas number of days accounts assets and money conversion amount exhibit a positive relationship with company profit.

Relatively few studies have examined WCM and profit relationship within the context of construction and companies in Africa above all Republic of Kenya. Oladipupo and Okafor (2013) examined relationship between WCM and firm profit and dividend payout quantitative relation in Nigeria. using money knowledge obtained from twelve producing corporations quoted on the Nigeria stock market over 5 years period (2002 to 2006), the results of Pearson product moment correlation technique and ordinary least square (OLS) regression technique indicated that shorter internet variation and debt magnitude relation promote high company profit.
Oladipupo and Okafor (2013) additional found that whereas the amount of leverage has negative vital impact on company profit, the impact of assets management on company profit seems to be statistically insignificant at 5% confidence level. Also, dividend payout magnitude relation was influenced completely by profit and net business cycle but negatively by growth rate in earnings. Moreover, the impacts of each corporate profit and working capital management on the dividend payout ratio seem to be statistically insignificant at 5% confidence level.

Adjei and Yeboah (2011) studied how WCM practices are related to profitability of banks in Ghana. Using panel data from 28 banks, over a ten year period (from 1999-2008), the findings appeared to be inconsistent with some previous research on WCM and profitability relationship. They found that CCC and ADR were positively related to bank profitability, while ADP was negatively related to profitability. In addition, credit risk, exchange risk, capital structure and size significantly increase bank profitability. They however found that firms that are quoted on the Ghana Stock Exchange seem to perform worse than their unlisted counterparts do.

Akoto et al. (2013) studied the link between WCM and gain of listed producing companies in Republic of Ghana, using thirteen producing companies quoted on Republic of Ghana exchange spanning the period from 2005 to 2009. By use of secondary information collected from all the thirteen companies, the results showed a considerably negative relationship between gain and accounts receivable days. However, there was a completely important relationship between the firms’ gain and WCM factors like ccc, firm size, and current asset turnover, and current asset magnitude relation. The authors used return on equity as an approximation of gain rather than return on assets.

In Kenya, the manufacturing sector is the fourth biggest sector after agriculture, transport, and communication and wholesale and retail trade. The sector, is dominated by subsidiaries of multi-national firms and, contributed about 18% of the Gross Domestic Product (GDP) in 2009 (Raheman, Afza, Qayyum, & Bodla, 2010). As a vital sector within the overall economic process, producing sector needs full analysis at business likewise as firm level. A study to investigated the relationships between WC Management and company Performance of twenty producing companies listed on the Nairobi Securities Exchange – NSE (Omesa, Maniagi, Musiega & Makori, 2013) and another on the impact of working capital management practices on the financial performance
(Nyabwanga, Ojera, Lumumba, Odondo & Otieno, 2012) offered no proof on the association between assets management and gain of manufacturing companies in Kenya. It's silent that liquidity does to an outsized extent determine its gain. However, liquidity and gain don't seem to be the similar however, are the core objectives of a firm. Increase in company profit by reducing the liquidity bring some serious issues as goals can not be ignored at any cost; if goal of maximising the profit is disregarded, survival isn't conceivable for a long time and if liquidity objective is unnoticed, financial condition or bankruptcy can be met (Qazi et al., 2011).

1.2 Research Problem

Almazari (2013) investigated the connection between the assets management (WCM) and therefore the firms’ profitability for the Saudi cement producing corporations. The study results showed that Saudi cement industry’s current ratio was the foremost vital liquidity measure that affected their gains. It absolutely was conjointly found, that as the size of a firm increases, gain increased. Besides, when the debt funding increased, profit declined.

Mathuva (2010) in his study on the influence of assets management on company gain found that there exists a extremely important negative relationship between the time it takes for companies to gather money from their customers and profit. He explained that the a lot of profitable companies take the shortest time to gather money from the customers. The study additional discovered that there exists a highly significant positive relationship between the inventory conversion amount and profitability. It absolutely was explained that firms, that maintain sufficiently high inventory levels cut back prices of potential interruptions within the production process and loss of business as a result of scarcity and lack of products.

However, there are a number of studies with regard to Kenya on assets management and firm profitability, particularly within the construction sectors. For example, Mathuva (2010) targeted on the influence of assets management on company profitability of corporations listed at the Nairobi Securities Exchange. Gakure, Cheluget, Onyango and Keraro (2012) on the other hand, analyzed the connection between WC management and performance of fifteen producing companies listed at the Nairobi Securities Exchange for a period of 5 years from 2006 to 2010 using secondary information. From the literature, many studies have focused on working capital and performance in manufacturing firms.
hence, construction sector has not been adequately studied, this research sought to undertake an in depth analysis of the relationship between working capital management and profitability of construction firms listed on the Nairobi Securities Exchange (NSE).

1.3 Purpose of the Study
The purpose of this study was to determine the impact of working capital management on the profitability of construction firms listed on the Nairobi Securities Exchange (NSE).

1.4 Research Questions
This study was guided by the following research questions:
1.4.1 What is the effects of Average Collection Period on profitability on the firm in the construction industry?
1.4.2 What is the impacts of Inventory Conversion Period (ICP) on profitability of firms in the construction industry?
1.4.3 What is the effect of Cash Conversion Cycle (CCC) on profitability on firms in the construction industry?

1.5 Significance of the Study
The objective of the research presented in this study was to look at the effects impact of working capital management on the profitability of construction firms listed on the Nairobi Securities Exchange (NSE).

1.5.1 Construction Firms
This research study would further allow firms to understand how to allocate their funds to maximize their profits. It would serve as a guideline for construction firms within Nairobi to understand the importance of managing working capital and ways to prevent from the business from bankruptcy

1.5.2 Policy Makers
The construction industry is important for Kenya as a nation. The findings will assist in identifying gaps and areas that require assistance. The government and other key stakeholders in policymaking can use this study to be able to come up with ways of working together in this industry to improve profitability through working capital management.
1.5.3 Scholars and Researchers

This study would further help scholars and researchers by providing the data necessary for undertaking further studies in the area of working capital management.

1.6 Scope of the Study

The scope of this study covered construction firms listed on the Nairobi Securities Exchange. The study also issued questionnaires to head of departments in the finance departments. This will be done in 14 weeks between May and July 2017.

1.7 Definition of Terms

1.7.1 Average Collection Period

The average collection period is the approximate amount of time that it takes for a business to receive payments owed in terms of accounts receivable (Agyei & Yeboah, 2011).

1.7.2 Inventory Conversion Period (ICP)

The inventory conversion period is essentially the time during which a company must invest cash while it converts materials into a sale (Raza, Bashir, Latif & Shah, 2015).

1.7.3 Average Payment Period

The average payment period (APP) is defined as the number of days a company takes to pay off credit purchases (Mathuva, 2010).

1.7.4 Cash Conversion Cycle (CCC)

The length of time between a firm's purchase of inventory and the receipt of cash from accounts receivable (Almazari, 2013).

1.7.5 Profitability

This is the degree to which a firm yields financial gains. Profit is an excess of revenues over associated expenses for an activity over a period of time (Almazari, 2013).

1.7.6 Working Capital

The capital of a business that is used in its day-to-day trading operations, calculated as the current assets minus the current liabilities (Agyei & Yeboah, 2011).
1.8 Chapter Summary

This chapter covers the statement of the problem along with the purpose of the study in which this report had introduced as well as the background of the study. The research questions have indicated the direction as well as the focus of this study, which will later outline the importance of this report and how it could benefit those that use this report.

In the next chapter, the literature review, which shall be looked at, will give an understanding of the literature that has been written by many scholars and other researchers. Chapter Three will look at the methodologies, which shall be used to gain data from the targeted sample.

The results and findings are presented in chapter four while chapter five presents the discussion, conclusion and recommendation arrived at.
CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter is set on analyzing the literature on analyzing the relationship between working capital management and profitability of manufacturing and construction firms listed on the Nairobi Securities Exchange (NSE). This study will be guided by the following research questions: What is the effects of Average Collection Period on profitability on the firm in the manufacturing and construction industry? What is the impacts of Inventory Conversion Period (ICP) on profitability of firms in the manufacturing and construction industry? What is the effect of Cash Conversion Cycle (CCC) on profitability on firms in the manufacturing and construction industry?

2.2 Effects of Average Collection Period on Firm Profitability

2.2.1 Firms Performance

The objectives of firms revolve round ensuring that they satisfy all the stakeholders involved in the business. The manager of a firm has to make both financing and investment decisions that will aid the realization of the firm's objective. In making financing decision, one of the priorities of the manager is to ensure that he selects the best financing mix or capital structure of the firm (Ogebe et al., 2013). Capital structure can be viewed as a way in which a firm can finance its whole operations and growth through the utilization of various sources of funds.

The capacity of companies to carry out the needs of their stakeholders is closely associated with capital structure (San & Heng, 2011). The determination of the capital structure of a firm is challenging in reality. In deciding the optimal capital structure, a firm might have to issue various securities in a limitless mixture in order to have a combination that will maximize its overall value. There is a close relationship between capital structure and corporate performance (Tian & Zeitun, 2007). The measurement of a firm's performance can be done through the utilization of variables which involve productivity, profitability, growth or customer's satisfaction. These measures have some sort of connections between them. Financial measurement has been found to be one of the tools, which reveal the financial strengths, weaknesses, opportunities, and threats. As stated by Barbosa and Louri (2005), the financial measurements are return on investment
(ROI), residual income (RI), earning per share (EPS), return on Asset (ROA), dividend yield, price earning yield, price earnings ratio, growth in sales, market capitalization etc.

The research works on working capital management WCM practices and firm performance on Pakistan context by Attari and Raza (2012), Majeed et al. (2012) identified significant negative relationship between two profitability variables ROA, ROE and operating profit. Majeed et al., in examining the relationship between CCC and its explanatory variables found CCC and Average collection period significantly influence the firm profitability. Attari and Raza (2012) also noted that a significant negative relationship between CCC and firm profitability, obtained similar findings. The former study proxy three profitability measures, ROA, ROE and operating profit, whereas firm size and total assets were used as profitability measure for the latter.

2.2.2 Average collection period

Account receivable as one the three variables in cash conversion cycle (CCC) represented as the average collection period result from a company selling its products or services on credit. This period is the average length time form a sale on credit until the payment becomes usable funds for the firm(Attari & Raza, 2012). ACP involves managing the credit available to the firm’s customers, and in receiving, processing and collecting payments. Setting credit standards enables effective management of credit and accounts receivable process (San & Heng, 2011). This process involves applying techniques for determining which customer should receive credit and how much credit should be granted. Relaxed credit standards generally yield increased sales and additional profits, whereas tightened credit standards reduce investment in accounts receivable and thus lowered sales and profit(Hrishikes, 2012).

According to Pandey (2014), accounts receivable is money owed to a firm when it sells its products or services on credit and it does not receive cash immediately. Credit is the ability of a business or an individual to obtain economic value on faith in return for an expected future payment. Trade credit is provided when there is a delay between the delivery of goods and the provision of services by a supplier and payment for them. For the seller, or the service provider, it represents an investment in accounts receivable (Pedro and Pedro, 2008). According to Hrishikes (2012), accounts receivable are created by a firm when it sells its output on credit. According to Pandey (2014), trade credit creates receivables or book debts which the firm is expected to collect in the near future.
Trade credit is, within most firms, seen as an essential element of business life. The practice of granting trade credit can be traced as far back as 1000 BC yet, until recently, it has attracted relatively little research attention. According to Pedro and Pedro (2008), trade credit has one effect on the level of investment in assets and consequently may have an important impact on the profitability and liquidity of the firm and also grandly trade credits improves the sales for the firm but over-investment in accounts receivables can be costly due to increase of investment in current assets and because it may signal acceptance of late paying customers.

According to Pandey (2014), the receivable arising out of credit has three characteristics: First, it involves an element of risk which should be carefully analyzed. Second, it is based on economic value to the buyer, the economic value in goods or services passes immediately at the time of sale, while the seller expects an equivalent value to be received later on. Third, it implies futurity. The cash payment for goods or services received by the buyer will be made by him in a future period. The importance of trade credit is seen by virtue of its size (Pike & Cheng, 2015). Further Pike and Cheng (2011) found that, unsecured open account trade credit represents a substantial figure on most corporate balance sheets. (Pandey, 2014).

The functions of accounts receivable management emanate from its goal which is stated simply as setting out credit terms, selecting the customers, installing appropriate collection and monitoring system and financing the receivables for maximizing the value of the firm (Hrishikes, 2015). Although accounts receivables are short-term in nature, the policy decisions that create accounts receivables often have a long-term impact on the organization and its financial structure, because, once a receivables policy is determined, it is difficult to come out of it except at the cost of adverse market reactions. Besides, credit policy decisions are part of an integrated approach, and interface actively with production, marketing and finance functions of an enterprise (Hrishikes, 2015). According to Arnold (2005), the first issue in the management of trade debtors is to decide whether to grant credit at all. Credit is no inevitable. Arnold (2016), further say that if a firm decides that it is in its best interest to allow delayed payments then it needs to set up a system and guidelines which will amount to a debtor policy.

In the absence of written credit policy document, credit decisions suffer from short-term considerations and this may often cause a firm severe liquidity crisis (Hrishikes, 2015).
The primary goal of receivables management is to maximize the value of the enterprise by striking a balance between liquidity, risk, and profitability. A significant part of receivables management involves the proper selection of customers, because every credit sale involves the risk of delayed payment or non-payment of the value involved (Hrishikes, 2015). This study will seek therefore to establish if average collection period affect working capital in the construction firms listed in the NSE.

2.2.3 Relationship between Average Collection Period and Profitability

Dong (2010) states that the average collection period refers to the average length of time required to convert the firm’s receivables into cash following a sale. It is calculated by dividing accounts receivable by the average credit sales per day. Naimulbari (2012) states that this ratio measures the length of time it takes to convert the average sales into cash. This measurement defines the relationship between accounts receivable and cash flow. A longer average collection period requires a higher investment in accounts receivable. A higher investment in accounts receivable means less cash is available to cover cash outflows, such as paying bills.

Mekonnen (2011) shows that there is statistically significant negative relationship between profitability and average collection period. This result suggests that firms can improve their profitability by reducing the number of day’s accounts receivable outstanding. Also this can be interpreted as the less the time it takes for customers to pay their bills, the more cash is available to replenish inventory hence the higher the sales realized leading to high profitability of the firm. Lazaridis and Tryfonidis (2006) states that the negative relationship between average collection period and profitability suggests that an increase in the number of day’s accounts receivable by 1 day is associated with a decline in profitability.

Through this, managers can improve profitability by reducing the credit granted to their customers, Lazaridis and Tryfonidis (2006). The study by Mekonnen (2011) states that managers can increase corporate profitability by reducing the average collection period. The longer the number of day’s accounts receivable outstanding, the greater the chance that the firm may lose its profitability. Mansoor and Muhammad (2012) highlights that if firms don't manage debtors, they gradually lose control due to reduced cash flow and could experience an increased rate of bad debts. So the longer someone owes firm’s money, the greater the chance the firm never gets paid.
Falope and Ajilore (2009) states that as a result, profit may only be called real profit after the receivables are turned into cash. Therefore, the management of account receivables is inevitable and largely influenced by the credit policy and collection procedure. Arunkmar and Ramanan (2013) also state that a credit policy specifies requirements to value the worthiness of customers and a collection procedure provides guidelines to collect unpaid invoices that will reduce delays in outstanding receivables. Therefore, there exists a highly significant negative relationship between the time it takes firms to collect cash from their customers (receivables collection period) and profitability. Other authors with the same results of negative relationship between profitability and average collection period include (Mathuva, 2010).

2.3 Impacts of Inventory Conversion Period (ICP) On Firms Profitability

2.3.1 Inventory Conversion Period

Inventory consists of the firm’s stock of raw materials, work in process and finished goods. Inventory as one of the major component of WCM is a crucial concern for firms because of the large investment involved. Firms strive to maintain optimal inventory levels to avoid potential major losses in asset values and to increase firm profitability (Simchi-Levi et al., 2014). The smaller level of inventory needed to support the firm’s sales, the faster the total asset turnover and higher the return on total assets. Rapid inventory turnover also reduces the potential obsolescence and resulting price concessions (Brigham & Davis, 2010). On the other hand, small inventories reduce the firm’s short-term financing requirements and thereby lower financing costs and improve profits. The inventory conversion period is the average time taken to use up raw materials, plus the average time taken to convert raw materials into finished goods, plus the average time taken to sell finished goods to customers (Ruichao, 2013).

The trade-off between risk and return which occurs in policy decisions regarding the level of investment in current assets is a policy decision on the choice between short and long-term funds to finance the working capital (Brigham & Davis, 2010). Aggressive working capital policy, organization holds a minimal level of inventory, minimize costs, finance part of its permanent asset base with short term debt, but the organization may not be able to respond rapidly to increases in demand because of the low stocks. A large inventory is maintained under the conservative policy and therefore the return is lower than under an aggressive policy. Under a conservative working capital financing policy, the
organization’s non-current assets, permanent current assets as well as a part of the fluctuating current assets are financed with permanent financing (equity and long term debt). Therefore, the conservative financing policy is the least risky policy but it gives lowest return to the company as there is less reliance on short-term funding. In terms of risk and return, a moderate policy falls somewhere between the two extremes. With a moderate working capital financing policy, non-current assets and permanent current assets are financed with permanent finance and only the fluctuating current assets are financed with short term debt (Ruichao, 2013).

Continuous review and periodic review are two main types of models for companies to decide when to order. According to Simchi-Levi et al. (2014), in continuous review model inventory should be reviewed every day. Then management makes the decision whether the company needs to order more. And different from the continuous review policy, the periodic review is the policy in which the inventory is reviewed at regular intervals, and an appropriate quantity is ordered after each review. Simchi-Levi et al. (2014) also mention that both of the above two models have a common basis, which is the concept of inventory position.

Davis et al. (2013) pointed out the reorder point (ROP) system determines when to place orders based on the number of component units on hand. The reorder point consists of 18 two components. The first is the average demand during lead time, and the second is the safety stock. The safety stock is the amount of inventory that the company needs to keep at the warehouse and in the pipeline to protect against deviations from average demand during lead time (Simchi-Levi et al., 2014). ROP is calculated using lead time, average demand, and safety stock. Lin (2014) suggested if demand has no seasonal fluctuation, and the supplier’s lead time is reliable, the reorder point is just the demand during lead time (DDLT) plus a small amount of safety stock.

In many real situations, the continuous review is generally not practical. The more popular way is that the inventory is reviewed periodically, at regular interval. For example, the inventory level may be reviewed at the end of each month and an order may be placed at the same time. The review period can be set according to the company’s actual situation. Since the inventory levels are reviewed at a periodic interval, the fixed cost of placing an order is a sunk cost and hence can be ignored (Simchi-Levi et al., 2014). Since fixed cost does not play a role in this review model, one parameter for
inventory is the base-stock level. The company determines a target inventory level, the base-stock level, and each review interval point the inventory position is reviewed, and the replenishment order is placed for an amount large enough to bring the inventory level back to the base-stock level (Blackstone, Jr & Cox, 2015).

2.3.2 Relationship between Inventory Turnover in Days and Profitability

Inventory turnover in days refers to the average time required to convert materials into finished goods. It is calculated as Inventory turnover ratio, which represents the efficiency of inventory management, is expected to be high for firms with greater profitability. A low inventory turnover ratio could indicate either poor sales or an excess amount of inventory, Ruichao (2013). Mansoor and Muhammad (2012) on their study show that managers can improve firms’ profitability by shortening inventory collection period. Dong (2010) focuses on the variables that include profitability, conversion cycle and its related elements and the relationship that exists between them. Niresh (2012) postulates that the research finds that the relationships among these variables are strongly negative. Mansoor and Muhammad (2012) adds that this denote that decrease in the profitability occur due to increase in cash conversion cycle. It is also finds that if the number of days of account receivables and inventories are diminished then the profitability increases.

Although most empirical research suggests a negative relation between inventory turnover in days and profitability (Mansoor & Muhammad, 2012). Raheman and Nasr (2007) find contradictory findings on the relationship between inventory turnover in days and profitability. Gill, Biger and Mathur (2012) and Mathuva (2010) suggest a positive relationship between inventory turnover in days and profitability. Maintaining sufficiently high inventory levels reduces costs of possible interruptions in the production process and loss of doing business due to scarcity of products (Mathuva, 2010). While investing too much in inventories unnecessarily blocks the funds in working capital that could be invested in revenue generating activities. Since inventory determines the level of activities in a company, managing it strategically contributes to profitability (Ruichao, 2013), the key to manage inventory of a business is to know how quickly firm’s overall stock is moving, how long each item of stock sits on shelves before being sold.

Managing inventory is a juggling act. Excessive stocks can place a heavy burden on the cash resources of a business. Insufficient stocks can result in lost sales, delays for customers (Falope & Ajilore, 2009). The key issue for a business is to identify the fast
and slow stock movers with the objectives of establishing optimum stock levels for each category and, thereby, minimize the cash tied up in stocks. The stock sitting on shelves for long periods ties up money, which may reduce the profitability of firms.

2.3.3 Inventory holding Period

Maintaining optimal inventory levels reduces the cost of possible interruptions and prevents loss of business arising from scarcity of products. It also reduces supply costs and protects against price fluctuations. Setting the right inventory holding period is the main goal of inventory management. A study to investigate the optimal inventory levels was carried out by Swaminathan (2012), in which the study found out that adjusting raw materials and finished goods as a component of inventory is faster than the inventory as a whole to reach the reasonable levels. AutuKaite and Molay (2011) found out that there are some other methods that can ease inventory management such as order quantity method and just-in-time inventories.

Empirical studies have shown that inventory conversion period has a negative effect on a business’s performance. For instance, shortening the inventory conversion period could increase stock out costs of inventory which results in losing sales opportunities and leads to poor performance (Deloof, 2013). Managers of firms should therefore keep their inventory to an optimum level since mismanagement of inventory will lead to tying up excess capital at the expense of profitable operations (Lazaridis & Dimitrios, 2015). Dimitrios (2015) points out that too much inventory could demand more physical space, could lead to a financial distress, and increases the possibility of inventories damages, deterioration and losses. Moreover, holding large amount of inventory frequently indicates inefficient and careless management practices and procedures.

On the other hand, too little inventories might lead to the interruption of operation in manufacturing, increase the possibility of losing sales and consequently lower the profitability of the firms. Singh (2008) studied the relationship between inventory management and working 15 capital management focusing on the importance of inventory management. He found out that firms with a poor inventory management can cause serious problems which destroy the long-term profitability and firms’ survival chances. Also firms with well-thought inventory management can reduce the inventory to an optimal level which has no negative effect on production and sales. The study also
indicates that the size of inventory directly affects the working capital and its management.

2.4 Effect of Cash Conversion Cycle (CCC) On Profitability Of Firms

2.4.1 Cash conversion cycle CCC

The elapsed time between the points at which a firm pays for raw materials and at which it receives payment for finished goods is called the CCC (Megginson et al., 2010). The CCC, which represents the interaction between the components of working capital and the flow of cash within a company, can be used to determine the amount of cash needed for any sales level. The length of the CCC depends on the length of inventory conversion period (ICP), average receivable collection period (ACP) and average accounts payable period (APP). The longer the CCC, the greater the amount of investment required in working capital (Singh & Kumar, 2014).

If the firm pays cash for its inventory, this period is identical to the firm’s operating cycle. However most of the firms buy their inventory on credit, which reduces the amount of time between the cash investment and the receipt of cash from that investment. In order to maximize shareholder value, the firm should manage the short-term activities in a way that shortens the CCC, which will enable the firm to operate with minimum cash investment. The firm can find alternative uses for any cash that it is not using to fund the CCC like using the cash to pursue more productive long-term investments, using it to pay down expensive long-term financing or distributing it to the owners as dividends.

A positive CCC means that trade credit does not provide enough financing to cover the firm’s entire operating cycle. In such circumstances, the firms seek other forms of financing like bank lines of credit and term loans. However, the cost of these financing sources tend to be higher that the costs of trade credit. Apparently, the firm will benefit by findings ways to shorten its operating cycle or lengthen its payment period. As a measure of the cash cycle, CCC is calculated as the sum of a firm’s inventory days and accounts receivable days, less its accounts payable days.

At the outset of 21st century, Deloof’s (2003) work reconnaissance the relation between WCM and corporate profitability for a sample of 1,009 large Belgian non-financial firms for the 1992-1996 period. Number of day’s accounts receivable, inventories and accounts payable are used as measures of trade credit and inventory policies. The CCC is used as a
comprehensive measure of WCM. The study identified that the CCC and its components are negatively correlated with the Gross operating income. The results of regression analysis found very meaningful relationship between gross operating income and the number of days of accounts receivable, inventory and accounts payable. Number of days of accounts receivable showed a high significant relationship whereas CCC negative relationship was not significant with gross operating profit.

A contradictory finding to Deloof’s study was reported by Makori and Jagongo’s (2013) study on manufacturing and construction firms listed on Nairobi securities exchange, Kenya. A balanced panel data analysis of 100 firm year observation in their study found negative relationship between profitability and number of day’s accounts receivable and CCC, but a positive relationship between profitability and number of days of inventory and number of day’s payable. Mathuva (2014) also conducted a similar study on non-financial firms in Kenya revealed that older firms and with more internal resources maintain longer CCC. The results of the study showed that higher return on assets, investment in capital expenditure and growth opportunities have a significant negative association with the CCC whereas a significant positive association is observed between inflation and the CCC. An interesting finding of this study is that CCC is not only influenced by internal firm specific factors, but also by an external, economy wide factor, inflation.

2.4.2 Liquidity and profitability

Liquidity refers the amount of cash a company can put its hands on quickly to settle its debts (and possibly to meet other unforeseen demands for cash payments too). For the purpose of this research, current ratio (CAR) is used as a measure of liquidity and calculated by dividing current assets by current liabilities (Azam & Haider, 2011). Finance managers have to take various types of financial decisions like investment decision, finance decision, liquidity decision, and dividend decision, in different times. In every area of financial management, the finance managers are always faced with the dilemma of liquidity and profitability, hence have to strike a balance between the two (Eljelly, 2004).

Most of the time, liquidity goals of a firm is to have adequate cash to pay for its bills, to make large unexpected purchases and finally, firm has an adequate cash reserve to meet emergencies in all time. Whereas, profitability goal on the other hand requires that, funds
of a firm are used so as to yield higher returns. Therefore, when one increases, the other decreases, Brigham and Houston (2003). Apparently, liquidity and profitability goals conflict in most of the decisions the finance managers make. Higher inventories are kept in anticipation of increase in prices of raw materials; hence, profitability goal is approached but the liquidity position of a firm is endangered. In reality, none of the managers choose any of these two extremes instead they want to have a balance between profitability and liquidity which fulfils their need of liquidity and gives required level of profitability (Arnold, 2008).

Mekonnen (2011) finds that there is a significant negative relationship between liquidity and profitability. Similarly, Eljelly (2004) empirically examines the relationship between profitability and liquidity, as measured by current ratio and cash gap (cash conversion cycle) on a sample of 929 joint stock companies in Saudi Arabia, finds a significant negative relationship between the firm's profitability and its liquidity level. Raheman and Nasr (2007) on their study about the effect of different variables of working capital management including average collection period, inventory turnover in days, average payment period, cash conversion cycle, and current ratio on the net operating profitability of Pakistani firms, selected a sample of 94 Pakistani firms listed on Karachi Stock Exchange for a period of six years from 1999 - 2004 and found a strong negative relationship between liquidity (as measured by current ratio) and profitability of the firm. In contrast, other studies (Naimulbari, 2012; Azam & Haider, 2011) show a positive correlation between gross operating profitability and current ratio. This shows that as the firm’s current ratio increases, the gross operating profitability also increases.

2.4.3 Relationship between Cash Conversion Cycle and Profitability

Cash conversion cycle equals the length of time between the firm’s actual cash expenditures to pay for productive resources (materials and labor) and its own cash receipts from the sale of products (that is, the length of time between paying for labor and materials and collecting on receivables) (Vural, Sökmen & Çetenak, 2012). The cash conversion cycle thus equals the average length of time a shilling is tied up in current assets. It is calculated as; (Average Collection Period + Inventory turnover in days - Average Payment Period) (Azam & Haider, 2011).

Cash conversion cycle can be shortened in three ways: One, by reducing inventory conversion period by processing and selling goods more quickly. Two by reducing
receivables period by speeding up collections from sales and three by lengthening payables or deferral period through slowing down firm’s own payments. Naimulbari (2012) in the study “The impact of working capital management on profitability” of pharmaceuticals sector in Bangladesh” shows that there is a negative relationship between cash conversion cycle and profitability. Saghir, Hashmi and Hussain (2011) adds that as the cash conversion cycle has the negative relationship with the profitability, this cycle should be short as much as possible without hurting the operations.

This would improve profits, because the longer the cash conversion cycle, the greater the need for external financing, and that financing has a cost. The study by Dong (2010), reports that working capital management affects the firms’ profitability and liquidity. From the research, it is found that the relationship between CCC and profitability is strongly negative. This denotes that decrease in the profitability occurs due to increase in cash conversion cycle. Despite many authors postulating a negative relationship between cash conversion cycle and profitability, (Mansoor & Muhammad, 2012; Mekonnen, 2011).

Uyar (2009) examined the impact of CCC with firm size and performance for firms listed at Istanbul Stock. The Results showed that there is a considerable negative association between CCC and the firm performance. Gill et al.(2010) find significant association between the CCC and performance calculated through gross operating profit. They examined a negative correlation between performance and average days of accounts receivable and a positive correlation between CCC and performance. Raheman et al. (2010) find WCM has a significant negative impact on operating profitabilityof the firms and plays a vital role to generate value for shareholders. Mohamad and Saad (2010) find significant negative links between WC variables with firm’s profitability of Malaysian listed companies. Dong and Su (2010) found negative relationship between CCC and corporate performance in Vietnam and a positive link between number of days accounts payable and performance. So managers can enhance profits by minimizing the number of days accounts receivable and inventories and more profitable firms wait longer for payment of their bills.
Nobanee et al. (2011) finds a strong negative link between the CCC and ROA for all industries except for consumer goods and services in Japan. Karaduman et al. (2011) in Turkey finds CCC indisputably influences the performance of the firms measured in terms of ROA, listed in the ISE (Istanbul Stock Exchange). The results advocate that it may be possible to enhance performance by improving efficiency of WC. Hayajneh and AitYassine (2011) confirmed the link between the WC efficiency and performance of Jordanian manufacturing firms and found strong negative correlation between average receivables collection period, average conversion inventory period, average payment period and the performance measures. Gill (2011) finds the negative link between firm size and WC requirements as bigger firms have lower WC requirements than the smaller firms in Canada and efficient WCM is vital to create the higher profits. Vijayakumar (2011) observed link between liquidity and performance is one of the areas of performance of corporate enterprise. Empirical outcomes of the studies found a strong but negative correlation between performance and Accounts Receivable Period (ARP), Inventory Conversion Period (ICP) and Cash Cycle (CCC) for a sample of Indian automobile industry.

2.5 Chapter Summary

The literature reviewed in this chapter highlights findings and observations that were established in previous studies. These literatures are directly related to the study and they show the importance of their application to the study. This is guided by the research questions. The next chapter will discuss the research methodology, which is about how the research was carried out to establish the objective of the study.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction
This part outlines how the research study was performed. It incorporates the research design used, the picked sample which prompts to the population and reasons with reference to why the population will be picked. Data collection, analysis and presentation are likewise explained on in the part.

3.2 Research Design
This research study utilized a descriptive research design. This was aimed at determining why and how the variables are related (Willis, Sullivan-Bolyai, Knafl & Cohen, 2016). This design utilized depiction as an apparatus to sort out the data gathered into examples that develop amid analysis and presentation. A research design is a framework for the gathering and analysis of information to answer studies query and meet studies goals with a reasoned justification for data collection methods and evaluation techniques (Saunders, Lewis & Thornhill, 2016). This was used as a blueprint or guide for the collection and analysis of facts, based on the research questions of this study. According to Sekaran and Bougie (2013), descriptive research is a layout used to answer the query, what's happening? How it's going on? Why it's going on?

This research adopted this design because the study pursuit was at accumulating data from respondents on their perceptions with regards to the impact of working capital management and profitability of construction firms listed on the Nairobi Securities Exchange (NSE). Further, the correlational method was adopted because the research sought to explain relationship between Average Collection Period, Inventory Conversion Period (ICP) and Cash Conversion Cycle (CCC) on profitability on firms in the construction industry. Cooper and Schindler (2011) highlight that one of the goals of descriptive studies is the discovery of institutions amongst extraordinary variables. This goal was often categorized a correlation have a look at, a subset of descriptive research.

The researcher used quantitative research to gain a higher expertise and in-depth expertise of the consequences. The dependent variable was the performance of construction companies while the independent variables was the average collection period, inventory conversion period and cash conversion cycle.
3.3 Population and Sampling Design

A population is the precise number of elements that is included in the research study (Sanoff, 2016). The study’s population consisted of employees in the finance department in the five construction companies.

3.3.1 Population

The target population for this study was 180 employees in finance sector in the 5 listed construction companies at the Nairobi securities exchange.

3.1 Population

<table>
<thead>
<tr>
<th>Company</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athi River Mining</td>
<td>35</td>
<td>19</td>
</tr>
<tr>
<td>Bamburi Cement Ltd</td>
<td>45</td>
<td>25</td>
</tr>
<tr>
<td>Crown Berger Ltd</td>
<td>25</td>
<td>14</td>
</tr>
<tr>
<td>E.A.Cables Ltd</td>
<td>30</td>
<td>17</td>
</tr>
<tr>
<td>E.A.Portland Cement Ltd</td>
<td>45</td>
<td>25</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>180</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

(Source NSE: 2017)

3.3.2 Sampling Design

A sample is a proportion of the population being examined through a research study. Thus the sampling design refers to the definite procedure that the researchers used in selecting the items from the population that formed the sample. In this study, random sampling was used to arrive at the desired sample size.

3.3.2.1 Sampling Frame

The sampling frame for any probability sample is a complete description of all the cases in the target population from which the sample is drawn (Saunders, Lewis, & Thornhill, 2016). The sample frame for this study consisted of 180 employees in the finance sector in the five construction firms obtained from the various human resource offices.

3.3.2.2 Sampling Technique

Stratified random sampling method was used for this study. This entailed dividing the population into mutually exclusive groups, in this case the various firms and random samples was drawn from each group.
Out of the 180 employees random sampling was undertaken and the researcher selected an individual from the strata’s. This thus resulted in saving time and cost of undertaking the study.

### 3.3.2.3 Sample Size

The target population was staff in the finance departments in the 5 construction firms listed at the NSE. Due to the nature of the study, the study only considered finance directors, finance officer, Senior Accountant, credit officers, production manager and Risk management Officer in each of the construction companies and using the sample formula \( n = \frac{N}{1 + N(e)^2} \) derived from Yamane (1967) formula (Sekaran and Bougie, 2013),

The total population of 135 employees was taken to represent that sample size of the study.

Where: 
\( n \) = sample size  
\( N \) = Population  
\( e \) = error  

At 95% confidence interval and a population of 180 the sample size was calculated as:

\[
\begin{align*}
    n &= \frac{180}{1 + 180 (0.05)^2} \\
    &= \frac{180}{1 + 0.45} \\
    &= \frac{180}{1.45} \\
    &= 124
\end{align*}
\]

**Table 3.2: Sample Size**

<table>
<thead>
<tr>
<th>Company</th>
<th>Frequency</th>
<th>Sample Size (124 *percentage)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athi River Mining</td>
<td>35</td>
<td>24</td>
<td>19</td>
</tr>
<tr>
<td>Bamburi Cement Ltd</td>
<td>45</td>
<td>31</td>
<td>25</td>
</tr>
<tr>
<td>Crown Berger Ltd</td>
<td>25</td>
<td>17</td>
<td>14</td>
</tr>
<tr>
<td>E.A. Cables Ltd</td>
<td>30</td>
<td>21</td>
<td>17</td>
</tr>
<tr>
<td>E.A. Portland Cement Ltd</td>
<td>45</td>
<td>31</td>
<td>25</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>180</strong></td>
<td><strong>124</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

(Source HR Managers, 2017)
3.4 Data Collection Methods
This research study utilized both primary and secondary information gathering methods and the questionnaire was the tool of choice. The questionnaire was divided into four parts with the first capturing demographic information, and the second third and fourth capturing the specific research objectives. The questions used a five point Likert scale where the respondents were allowed to either agree or disagree with the statements. The reason for using the questionnaire was the low cost involved and the limited time available for the research. The questionnaire was developed based on the literature reviewed in chapter two.

3.5 Research Procedures
The research instruments used in this study were developed based on the research objectives. A pre-test was done to confirm flow, accuracy, and clarity of the interview questions. Where necessary adjustments was made before the final administration. A pilot study was carried out using 10 questionnaires before they were fine tuned for the research.

The survey instruments was distributed to the respondents and follow up visits was made to ensure feedback. Secondary data and information was obtained from journals, books and previous studies.

3.6 Data Analysis Methods
Data Analysis system is the way toward bundling the gathered data; place it all together and organizing its principle parts in a way that the discoveries can be successfully and effortlessly communicated. The information given was coded and input into SPSS (Statistical Package for Social Sciences) where the data was examined through descriptive statistics where the means and standard deviation will be measured. In addition, inferential statistics was used to establish the relationship between the dependent variable (impact of working capital management on the profitability) against other variables. A Cronbach reliability analysis was done on the variables before conducting a Correlation and linear regression models to establish this relationship. This was done with the aid of SPSS software and excel. The information gathered was exhibited through utilization of tables, pie diagrams and charts where applicable.
3.7 Chapter Summary
The chapter looked at the methodology applied for the study, which includes what the population of the study was and how the sample was arrived at. It also gives a breakdown of the data collection instrument as well as how the data was collected, to analysed and presented. Chapter four looks at the results and findings attained from the study.
CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Introduction
This chapter provides descriptive analysis of general background information about the respondents. All the sections are arranged based on the research questions of the study. The first section provides findings on the effects of Average Collection Period on profitability on the firm in the construction industry. The second section presents findings on the second research question, the impacts of Inventory Conversion Period (ICP) on profitability of firms in the construction industry. While the third section gives findings on the effect of Cash Conversion Cycle (CCC) on profitability on firms in the construction industry? Lastly, the fourth section provides findings on firm performance. The data findings are presented in the form of tables and percentages for quicker interpretation.

4.1.1 Response Rate
The researcher managed to collect 116 dully filled questionnaires from the respondents. This is 93.55% return rate, hence acceptable and good for generalizations. Kothari (2009) elucidates that a response rate of 50% is sufficient for a study.

4.2 Background Information
4.2.1 Gender of the Respondents
The study sought to investigate the gender of the targeted respondents. The results are shown in table 4.1 below. Majority of the respondents were male at 57.76 percent followed by female at 42.24 percent.

Table 4.1: Response Rate

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>67</td>
<td>57.76%</td>
</tr>
<tr>
<td>Female</td>
<td>49</td>
<td>42.24%</td>
</tr>
</tbody>
</table>

4.2.2 Age of the Respondents
The study sought to investigate the age distribution of the respondents. The study found that majority were aged between 36 to 40 years at 25.00 percent followed by those in the category of 31 to 35 years at 24.14%. The third category comprised the respondents aged
between 26 to 30 years, those between ages of 20 to 25 and those above 40 years comprised 14.66 percent each.

**Table 4.2: Age of the Respondents**

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-25</td>
<td>17</td>
<td>14.66%</td>
</tr>
<tr>
<td>26-30</td>
<td>25</td>
<td>21.55%</td>
</tr>
<tr>
<td>31-35</td>
<td>28</td>
<td>24.14%</td>
</tr>
<tr>
<td>36-40</td>
<td>29</td>
<td>25.00%</td>
</tr>
<tr>
<td>Above 40</td>
<td>17</td>
<td>14.66%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>116</strong></td>
<td><strong>100.00%</strong></td>
</tr>
</tbody>
</table>

**4.2.3 Education Levels of the Respondents**

The study also sought to investigate the education levels of the respondents. It was established that majority were undergraduates at 45.69 percent, followed by graduates at 29.31 percent. The postgraduate became third at 13.79 percent while diploma holders were fourth at 11.21 percent.

**Table 4.3: Education level**

<table>
<thead>
<tr>
<th>Education Levels</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diploma</td>
<td>13</td>
<td>11.21%</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>53</td>
<td>45.69%</td>
</tr>
<tr>
<td>Graduate</td>
<td>34</td>
<td>29.31%</td>
</tr>
<tr>
<td>Post Graduate</td>
<td>16</td>
<td>13.79%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>116</strong></td>
<td><strong>100.00%</strong></td>
</tr>
</tbody>
</table>

**4.2.4 Years of Experience**

The study sought to investigate the number of years the respondents had spent in the industry. Half the respondents had worked for duration of 4 to 5 years whereas 28.5 percent had worked for more than five years. Those who worked for a period of between 2 to three years comprised 14.66 percent while only 6.90 percent had worked for a period less than a year. The results collected are illustrated in the table 4.4.
4.2.5 Management level

The study also sought to investigate the management levels of the respondents. Middle level management comprised the majority at 50.86 percent whereas the senior level management made up 31.90 of the total respondents. Lastly, the third level management was third at 17.24 percent. The results are tabulated below:

Table 4.5: Management level

<table>
<thead>
<tr>
<th>Management</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Level</td>
<td>20</td>
<td>17.24%</td>
</tr>
<tr>
<td>Middle Level</td>
<td>59</td>
<td>50.86%</td>
</tr>
<tr>
<td>Senior Level</td>
<td>37</td>
<td>31.90%</td>
</tr>
</tbody>
</table>

4.3 Effect of Average Collection Period on Firm’s Profitability

The first research question of the study was to investigate the effects of Average Collection Period on profitability on the firm in the construction industry.

Table 4.6 presents the summary statistics of the variables used in the study. The average value of effective credit management is 3.94 with a standard deviation of 1.20. The mean sufficient credit collection period is 3.62 with a standard deviation of 1.03. The mean for effective credit standards 3.82 with a standard deviation of 1.21 while that of undertaking of credit analysis by construction firms is 4.20, having a standard deviation of 1.00. On recovering funds from receivables, the mean is 4.05 with a standard deviation of 1.60. The table also shows that on average the firms perceived that they were the best in collecting receivables in the industry at 3.89 with a standard deviation of 0.89. The respondents also indicated that the average collection period affected profitability at a mean of 4.9 having a standard deviation of 1.42. The table further shows that on average
of 4.13, firms carefully analyzed the element of risk associated with collection period. A mean of 4.09 indicated the awareness of credit policy by employees within the firm. Lastly, a mean of 4.26 indicated that the firm would suffer liquidity crisis in the absence of credit decisions. It had a standard deviation of 1.14.

**Table 4.6: Effect of Average Collection Period on Firm’s Profitability**

<table>
<thead>
<tr>
<th>Statement</th>
<th>SD</th>
<th>DA</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective management of credit</td>
<td>0.86</td>
<td>1.72</td>
<td>14.66</td>
<td>68.10</td>
<td>14.66</td>
<td>3.94</td>
<td>1.20</td>
</tr>
<tr>
<td>Sufficient average collection period</td>
<td>2.59</td>
<td>10.34</td>
<td>25.00</td>
<td>46.55</td>
<td>15.52</td>
<td>3.62</td>
<td>1.03</td>
</tr>
<tr>
<td>Credit standards that enable effective management of credit</td>
<td>1.72</td>
<td>6.90</td>
<td>23.28</td>
<td>43.97</td>
<td>24.14</td>
<td>3.82</td>
<td>1.21</td>
</tr>
<tr>
<td>Undertake credit analysis of our customers</td>
<td>0.86</td>
<td>0.86</td>
<td>14.66</td>
<td>44.83</td>
<td>38.79</td>
<td>4.20</td>
<td>1.00</td>
</tr>
<tr>
<td>Efforts have been made to ensure that funds are not tied up in receivables for longer periods</td>
<td>1.72</td>
<td>3.45</td>
<td>13.79</td>
<td>50.00</td>
<td>31.03</td>
<td>4.05</td>
<td>1.60</td>
</tr>
<tr>
<td>Compared to other firms in the industry our collection period is the best.</td>
<td>1.72</td>
<td>1.72</td>
<td>35.34</td>
<td>28.45</td>
<td>32.76</td>
<td>3.89</td>
<td>0.98</td>
</tr>
<tr>
<td>Average collection period affects our profitability</td>
<td>0.00</td>
<td>0.00</td>
<td>7.76%</td>
<td>35.34</td>
<td>56.90</td>
<td>4.49</td>
<td>1.42</td>
</tr>
<tr>
<td>We carefully analyse element of risk associated with collection period.</td>
<td>0.86</td>
<td>0.86</td>
<td>17.24</td>
<td>45.69</td>
<td>35.34</td>
<td>4.13</td>
<td>1.31</td>
</tr>
<tr>
<td>Am aware of the firms written credit policy document</td>
<td>0.00</td>
<td>1.72</td>
<td>16.38</td>
<td>53.45</td>
<td>28.45</td>
<td>4.09</td>
<td>1.08</td>
</tr>
<tr>
<td>In the absence of, credit decisions the firm may suffer from severe liquidity crisis</td>
<td>1.72</td>
<td>0.86</td>
<td>12.07</td>
<td>40.52</td>
<td>44.83</td>
<td>4.26</td>
<td>1.14</td>
</tr>
</tbody>
</table>

**4.4 Effect of Inventory Conversion Period on Firm Profitability**

Table 4.7 presents descriptive analysis; the mean, standard deviation, and percentages of different variables. Respondents indicated that they had large piles of raw materials at 2.32 with a standard deviation of 1.111. They also indicated that they efficiently maintained records of goods or materials in their business with a mean of 3.1 and standard deviation of 1.21. Frequent stock taking had a mean of 4.12 with a standard deviation of 1.08. While those who felt that the business policy enabled periodic inventory levels averaged at 3.54 and standard deviation of 0.82. Business maintained accurate inventory records at mean of 3.88 and standard deviation of 0.99.
installation system had a mean of 4.36 and standard deviation 1.22. On the other hand, a mean of 4.39 with a standard deviation of 1.18 indicated that long inventory holding period had an effect on profitability of the firms. Thereafter, a mean of 3.72 and standard deviation of 1.07 indicated that rapid inventory turnover has reduced the potential obsolescence and resulting price concessions. Respondents also indicated that the organizations held minimal level of inventory that minimized costs at a mean of 3.83 and standard deviation 0.98. Lastly, respondents indicate that they experienced challenges of doing business due to scarcity of raw materials at 2.95 mean and standard deviation of 0.72.

Table 4.7: Effect of Inventory Conversion Period on Firm Profitability

<table>
<thead>
<tr>
<th>Statement</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>We have experienced large pile of raw materials in the business.</td>
<td>27.59%</td>
<td>31.90%</td>
<td>25.86%</td>
<td>10.34%</td>
<td>10.34%</td>
<td>2.32</td>
<td>1.11</td>
</tr>
<tr>
<td>We efficiently maintain records of goods or materials in our business.</td>
<td>3.45%</td>
<td>5.17%</td>
<td>33.62%</td>
<td>42.24%</td>
<td>42.24%</td>
<td>3.61</td>
<td>1.21</td>
</tr>
<tr>
<td>We carry out frequent stock taking</td>
<td>0.00%</td>
<td>2.59%</td>
<td>16.38%</td>
<td>47.41%</td>
<td>47.41%</td>
<td>4.12</td>
<td>1.08</td>
</tr>
<tr>
<td>The business policy enables periodic inventory levels</td>
<td>5.17%</td>
<td>8.62%</td>
<td>36.21%</td>
<td>26.72%</td>
<td>26.72%</td>
<td>3.54</td>
<td>0.82</td>
</tr>
<tr>
<td>The business maintains an accurate inventory records</td>
<td>1.72%</td>
<td>7.76%</td>
<td>15.52%</td>
<td>50.86%</td>
<td>50.86%</td>
<td>3.88</td>
<td>0.99</td>
</tr>
<tr>
<td>The business has installed an inventory control system</td>
<td>0.00%</td>
<td>0.00%</td>
<td>12.93%</td>
<td>37.93%</td>
<td>37.93%</td>
<td>4.36</td>
<td>1.22</td>
</tr>
<tr>
<td>A long inventory holding period has an effect on profitability of SMEs</td>
<td>0.00%</td>
<td>1.72%</td>
<td>6.90%</td>
<td>42.24%</td>
<td>42.24%</td>
<td>4.39</td>
<td>1.18</td>
</tr>
<tr>
<td>Rapid inventory turnover has reduced the potential obsolescence and resulting price concessions</td>
<td>2.59%</td>
<td>3.45%</td>
<td>38.79%</td>
<td>30.17%</td>
<td>30.17%</td>
<td>3.72</td>
<td>1.07</td>
</tr>
<tr>
<td>organization holds a minimal level of inventory thus minimize costs</td>
<td>0.86%</td>
<td>4.31%</td>
<td>33.62%</td>
<td>33.62%</td>
<td>33.62%</td>
<td>3.83</td>
<td>0.98</td>
</tr>
<tr>
<td>We have experienced challenges of doing business due to scarcity of products</td>
<td>9.48%</td>
<td>27.59%</td>
<td>35.34%</td>
<td>13.79%</td>
<td>13.79%</td>
<td>2.95</td>
<td>0.72</td>
</tr>
</tbody>
</table>
4.5 Effect of Cash Conversion Period on Firm Profitability

The third research question sought to establish the effect of cash conversion period on the construction firms’ profitability. The descriptive statistics of the findings are illustrated in the table 4.8 as shown below. Respondents who felt the business had generated sufficient cash over the last five years had mean of 3.80 and standard deviation of 1.12. Secondly, on experiencing lack of sufficient inventory, the mean was 3.40 and standard deviation of 0.88. Thirdly, respondents who indicated the business has experienced operations related challenges due to lack of funds had a mean of 3.81 and standard deviation of 0.77. Additionally, those who indicated the firm bought inventory on credit which ensure cash availability indicated a mean of 4.08 and standard deviation of 1.20. Furthermore, a mean of 3.67 showed that firms could effectively meet their short-term obligations over time. A mean of 3.76 revealed the business has an effective cash management system whereas 4.00 showed the firm regularly budget for the future expenditure. Lastly, a mean of 2.80 showed that finance managers had varied investment decision.

**Table 4.8: Effect of Cash Conversion Period on Firm Profitability**

<table>
<thead>
<tr>
<th>Statement</th>
<th>SD</th>
<th>DA</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>Total</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>The business has generated sufficient cash over the last five years</td>
<td>2%</td>
<td>5%</td>
<td>28%</td>
<td>42%</td>
<td>23%</td>
<td>100%</td>
<td>3.80</td>
<td>1.12</td>
</tr>
<tr>
<td>The business has experienced a lack of sufficient inventory</td>
<td>6%</td>
<td>7%</td>
<td>41%</td>
<td>33%</td>
<td>13%</td>
<td>100%</td>
<td>3.40</td>
<td>0.88</td>
</tr>
<tr>
<td>The business has experienced operations related challenges due to lack of funds</td>
<td>3%</td>
<td>3%</td>
<td>28%</td>
<td>41%</td>
<td>24%</td>
<td>100%</td>
<td>3.81</td>
<td>0.77</td>
</tr>
<tr>
<td>The firms buy their inventory on credit which ensure cash availability</td>
<td>1%</td>
<td>2%</td>
<td>18%</td>
<td>47%</td>
<td>32%</td>
<td>100%</td>
<td>4.08</td>
<td>1.20</td>
</tr>
<tr>
<td>The firm can effectively meet its short-term obligations over time</td>
<td>3%</td>
<td>5%</td>
<td>33%</td>
<td>38%</td>
<td>21%</td>
<td>100%</td>
<td>3.67</td>
<td>0.76</td>
</tr>
<tr>
<td>The business has an effective cash management system</td>
<td>1%</td>
<td>4%</td>
<td>36%</td>
<td>35%</td>
<td>23%</td>
<td>100%</td>
<td>3.76</td>
<td>0.77</td>
</tr>
<tr>
<td>The firm regularly budget for the future expenditure</td>
<td>3%</td>
<td>3%</td>
<td>16%</td>
<td>48%</td>
<td>30%</td>
<td>100%</td>
<td>4.00</td>
<td>1.21</td>
</tr>
<tr>
<td>Finance managers have varied investment decision</td>
<td>12%</td>
<td>19%</td>
<td>48%</td>
<td>15%</td>
<td>4%</td>
<td>98%</td>
<td>2.80</td>
<td>0.90</td>
</tr>
</tbody>
</table>

4.6 Effect on Working Capital Management

Finally, the study sought to establish the overall effect of finance practices by construction firm to their working capital management. To begin with, those who felt firms which felt that cash cycle had an impact on the returns with a mean of 4.30 and standard deviation of 1.13. The second variable was accounts payable impact on firms
leverage with a mean 4.27 and standard deviation of 1.60. Firms also indicated that accounts receivable had the impact on the firm’s profitability, mean of 4.43 and standard deviation of 1.72. About evaluating the gap between actual performance and desired performance in audit findings perspective attracted a mean of 4.16 with standard deviation of 1.08. The last parameter, top management followed up audited areas where control weaknesses were detected indicated a mean of 4.14 and standard deviation of 1.54.

Table 4.9: Effect on Working Capital Management

<table>
<thead>
<tr>
<th>Statement</th>
<th>SD</th>
<th>DA</th>
<th>Z</th>
<th>A</th>
<th>SA</th>
<th>MEAN</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash cycle has an impact on the returns.</td>
<td>0.00%</td>
<td>0.0</td>
<td>15.5</td>
<td>38.</td>
<td>45.</td>
<td>100.</td>
<td>1.13</td>
</tr>
<tr>
<td>Accounts payable has an impact on the firms leverage.</td>
<td>0.00%</td>
<td>1.7</td>
<td>10.3</td>
<td>47.</td>
<td>40.</td>
<td>100.</td>
<td>1.60</td>
</tr>
<tr>
<td>Accounts receivable has an impact on the firm’s profitability.</td>
<td>0.00%</td>
<td>0.0</td>
<td>9.48</td>
<td>37.</td>
<td>52.</td>
<td>100.</td>
<td>1.72</td>
</tr>
<tr>
<td>We evaluate the gap between actual performance and desired performance in audit findings perspective.</td>
<td>0.00%</td>
<td>0.0</td>
<td>12.9</td>
<td>58.</td>
<td>28.</td>
<td>100.</td>
<td>1.08</td>
</tr>
<tr>
<td>Top management follows up audited areas where control weaknesses were detected.</td>
<td>2.59%</td>
<td>4.3</td>
<td>10.3</td>
<td>42.</td>
<td>40.</td>
<td>100.</td>
<td>1.54</td>
</tr>
</tbody>
</table>

4.6.1 Regression Analysis

Table 4.7 shows that there is a good linear association between the dependent and independent variables used in the study. This is shown by the R square value ($R^2$) is 36.9%. This reveals a strong positive relationship between the constants i.e average collection period, inventory conversion period and the cash conversion period and the profitability of construction firms traded at the Nairobi Securities Exchange. Furthermore, the $R^2$ of 36.9% shows that average collection period, inventory conversion period and the cash conversion period have in common a variance of 36.9 % of firm’s profitability.
Table 4.10: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.608(^a)</td>
<td>.369</td>
<td>.403</td>
<td>.794</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Average collection period, inventory conversion and cash conversion period.
b. Dependent Variable: Firm Profitability

The Anova table in table 4.8 indicates that the overall model was a good fit since (F-value = 30.696 and p-value = 0.000 < 0.05). An F-significance value of p = 0.028 reveals that there is a probability of 2.8% of the regression model presenting a false information. As a result, the model is significant.

Table 4.11: ANOVA and Coefficient

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>23.114</td>
<td>3</td>
<td>7.704</td>
<td>30.696</td>
<td>.028(^b)</td>
</tr>
<tr>
<td>Residual</td>
<td>28.375</td>
<td>113</td>
<td>.251</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>51.489</td>
<td>116</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Firm Profitability
b. Predictors: (Constant), Average collection period, inventory conversion and cash conversion period.

Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>.247</td>
</tr>
<tr>
<td>Average collection Period</td>
<td>.258</td>
<td>.132</td>
</tr>
<tr>
<td>Inventory conversion</td>
<td>.391</td>
<td>.132</td>
</tr>
<tr>
<td>Cash conversion</td>
<td>.508</td>
<td>.132</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Firm Profitability
The model becomes

\[
\text{Profitability} = 0.247 + 0.258_{\text{Avg collection period}} + 0.391_{\text{Inventory conversion}} + 0.508_{\text{Cash conversion period}} + e
\]
4.6.2 Correlation Analysis

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Average collection period</th>
<th>Inventory conversion period</th>
<th>Cash conversion period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm profitability correlation</td>
<td>Pearson Correlation .665**</td>
<td>.604**</td>
<td>.701**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>116</td>
<td>116</td>
<td>116</td>
</tr>
</tbody>
</table>

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

The correlation between Average collection period and firm profitability was 0.665**. Thus, demonstrating that decrease in average collection period leads towards increase in profitability and vice versa. Furthermore, the analysis revealed that the average collection period had a positive influence on the profitability of construction firms in Nairobi; beta of 0.258, T= 1.955 and p value of 0.050). Therefore, a unit change in the average collection period results into 0.258 unit increase in the firm’s profitability.

Additionally, the correlation between inventory conversion period and firm profitability was .604**. That shows low inventory conversion period resulting into high profitability and vice versa. The analysis also revealed that the average inventory conversion period had a positive influence on the profitability of construction firms in Nairobi; beta of 0.391, T= 2.962 and p value of 0.050).Therefore, a unit change in the average collection period results into 0.391 unit increase in the firm’s profitability.

Lastly, the correlation between cash conversion period and firm profitability was .701**. That indicates that low cash conversion cycle of company is resulting into higher profitability and vice versa. The study also indicated that the cash conversion period had a positive influence on the profitability of construction firms in Nairobi; beta of 0.508, T= 3.848 and p value of 0.000).Therefore, a unit change in the cash conversion period results into 0.508 unit increase in the firm’s profitability.
4.7 Chapter Summary
The chapter has provided data analysis received from the field and presented them in form of tables. The next chapter, chapter five discusses the study findings, analysis and interpretations of the findings. The chapter also provides conclusion and gives recommendations for further study based on the research questions.
CHAPTER FIVE

5.0 SUMMARY, CONCLUSION AND RECOMMENDATION.

5.1 Introduction
This section provides summary, conclusion and recommendation based on the study findings in chapter four.

5.2 Summary
The study aimed to investigate the relationship between working capital management and profitability of construction firms listed on Nairobi Securities Exchange. The study sought to address the following key questions: What is the effects of Average Collection Period on profitability on the firm in the construction industry? What is the impacts of Inventory Conversion Period (ICP) on profitability of firms in the construction industry? And lastly, what is the effect of Cash Conversion Cycle (CCC) on profitability on firms in the construction industry? The research applied descriptive research design. The population comprised of 180 employees of the construction firms listed at the Nairobi securities exchange. A sample size of 124, representing 68.89% of total population was used. After the analysis using Excel and SPSS, the results were presented in the forms of tables.

Firstly, the research sought to address the first research question on the effect of average collection period, ACP, and the profitability of the construction firms listed on the Nairobi Securities Exchange. The findings revealed a positive significant relationship between the average collection period and firm profitability at a beta value -0.258 with a T-Value being 1.955. As a result, the firm’s practices such as effective management of credit mechanisms, sufficient average collection period, effective credit standards, undertaking of customers’ credit analysis, best collection periods indirectly influenced the firm’s profitability. Furthermore, a correlation of 0.665** indicated that decrease in average collection period leads towards increase in profitability and vice versa.

Secondly, the research also sought to address the question on the impact of inventory conversion period towards the profitability of construction firms listed on Nairobi Securities Exchange. The findings indicated a correlation of 0.604*. As a matter of fact, large raw material piles, efficient record maintenance, frequent stock taking, proper
inventory control systems, and rapid inventory turnover, as well as holding of minimal inventory with aim of reducing costs influence profitability of construction firms.

The last research questions aimed to address the effect of Cash Conversion Cycle (CCC) on profitability on firms in the construction industry. The correlation of .701** that shows that shows low cash conversion cycle of construction firms is resulting into higher profitability and vice versa. Therefore, lack of funds, insufficient inventory, and acquisition of good on credit, regular budgeting for future firm’s expenditure, as well as meeting of both short-term and long-term obligations had a bearing on the overall firm’s profitability.

5.3 Discussion

5.3.1 Effect of average collection period on the firm profitability

The correlation between Average collection period and Return on asset is 0.665**. This illustrates that decrease in ARCP leads towards increase in profitability and vice versa. As a result, the prevailing inverse relation between the firm’s profitability and receivable collection period will tend to lower the profitability of the firm if the collection period of account receivable is high. The inference is that firms need not to incorporate conservative credit approaches in their motive to reduce the bad debts. This is because the firm will be at risk of losing customers if it goes ahead and implement the conservative credit approaches of collecting receivables for the firm. However, with much favorable ad lenient policies, a firm can manage to increase its profitability.

This study supports the findings by Falope and Alijore (2009) who argue that the shorter the receivable collection period, the better the financial performance of the firm. It also affirms the findings by Panigraph (2013) who established that the average collection period, inventory conversion period and the cash conversion cycle were inversely proportional to the profitability of companies.

5.3.2 The Effect of Inventory Conversion Period on the firm Profitability

The study establishes a positive relationship between the profitability of the firm and effective practices of inventory management. In other words, a shorter duration of converting inventory into cash is good for the firm. This is suggested by the positive significant correlation of 0.604. Hence, the study finds out inverse association between inventory conversion period and profitability. Lower inventory conversion periods imply
low costs associated with inventory such as insurance, warehousing, carrying costs among others. That is why firms always need to adopt effective techniques of inventory control.

For instance, the Economic Order Quantity model, commonly known as EOQ, are vital for proper handling of materials, hence the inventory conversion period of those materials. The capital management policy also need to be relevant to the targeted inventory optimal levels, effect on the customer demands and need to retain more customers.

5.3.3 Effect of Cash conversion cycle on the firm’s profitability

The study also established a positive significant relationship between the independent variable, cash conversion cycle practices and the dependent variable, firm profitability. This can be translated as an inverse relationship between cash conversion cycle and profitability of firm. The positive relationship for CCC is consistent with the view that resources are blocked at the different stage of the supply chain thus prolonging the operating cycle. This might increase profits due to increased sales, especially where the costs of the tied up capital is lower than the benefits of holding more inventories and granting more credit to customers.

Through practices such as adopting models that could generate sufficient cash, obtaining trade credit from suppliers coupled with higher proportion of current liabilities. The analysis of the correlation results between the cash conversion cycle and firm’s profitability shows a p-value of 0.000. It indicates that the result is significant at 5% level of significance and that if the average collection period increases it will have a negative impact on the financial performance.

5.4 Conclusion

5.4.1 Effect of average collection period on the firm profitability

The study concludes that there exists a strong positive relationship between average collection period and profitability of construction firms listed on Nairobi Securities Exchange i.e. financial performance. Construction firms targeting to improve financial performance of their firms should emphasize on handling the receivable collection period in a much efficient manner. This is because efficiency in receivables collection impacts the growth rate of the firm, growth in sales, market share as well as firm’s assets. The aforementioned elements of growth directly impacts on the level of firm’s performance.
5.4.2 Effect of Cash conversion cycle on the firm’s profitability

On the effect of cash conversion cycle, the study concludes that construction firms need to reduce the duration of converting cash. This is because of the existing significant positive relationships between the variables of cash conversion cycle and the profitability of construction firms.

5.4.3 Effect of Cash conversion cycle on the firm’s profitability

The cash conversion cycle has to be reduced to the minimum as well. Therefore, the study suggests that decreasing cash conversion cycle is a measure of effective working capital management and it is appraised by companies. However, the firm should use effective policies that would neither result into bad debts nor lose of customers to the firm.

5.5 Recommendations

5.5.1 Recommendations for Improvement

5.5.1.1 Effect of Average collection period on firm profitability

The study also suggests that construction firms should keep the receivable collection period at minimum inorder to enhance financial performance, profitability. To achieve this, firms need effective credit management strategies, proper undertaking of credit analysis on the prospective buyers, and making efforts to ensure that funds are not tied up in receivables for longer periods. However, despite all these techniques, the firm has to adopt lenient mode of approaching customers for receivable collection. This is because a more stringent approach would scare away customers.

5.5.1.2 Effect of Inventory conversion period on firm profitability

Therefore, the study recommends that construction firms should ensure that stock levels stocks are sufficient to meet customer demands at all times. At the same time, the firms should avoid holding onto dead stock as it ties up finances hence negatively impacting on the firm’s financial performance. The construction firms should also train their procurement department on effective strategies of handling stock, install modern technological devices for stock reporting, evaluation and analysis to ensure that the optimization levels are kept at all times. This approach would ensure continuous production, meeting customer demands and avoiding dead stock.
5.5.1.3 Effect of Cash conversion cycle on firm Profitability

Finally, the study recommends that construction firms should adopt effective measures of ensuring the cash conversion cycle is reduced. This can include strengthening partnership with debtors for easier collection of receivables, putting measures to avoid bad debts such as analysing the customer risk on payment, and most importantly instituting effective cash management system in place.

5.5.2 Recommendations for Further Studies

Having looked at the influence of working capital on the financial performance of insurance companies, the study recommends additional research in exploiting the reasons behind these findings. There is need to examine why construction firms should pursue small inventory conversion period, low average collection receivable period and small Cash conversion cycle.
REFERENCES


Lairodni and Lazardis (2000)


APPENDIX I: QUESTIONNAIRE

SECTION A: GENERAL INFORMATION

1. Indicate your gender?
   Male
   Female

2. Age
   20-25
   26-30
   31-35
   36-40
   Above 40

3. What is your highest level of education?
   Diploma
   Undergraduate
   Graduate
   Post Graduate
   Others

4. Management Level
   Low level
   Middle level
   Senior Level

5. Number of years worked as a manager?
   Less than 1 years
   2-3 years
   4-5 years
   Above 5 Years
### SECTION B: Average collection period

1. What is your level of agreement to the following statements on the effects of average collection period (5- Strongly agree, 4- Agree, 3-Neutral, 2-Disagree, 1- Strongly Disagree)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. There is effective management of credit available to the firm’s customers</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>2. The average collection period is sufficient</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>3. We set credit standards that enable effective management of credit and accounts receivable process</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>4. We undertake credit analysis of our customers before engaging in credit sales</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>5. Efforts have been made to ensure that funds are not tied up in receivables for longer periods</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>6. Compared to other firms in the industry our collection period is the best.</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>7. Average collection period affects our profitability</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>8. We carefully analyse element of risk associated with collection period.</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>9. Am aware of the firms written credit policy document</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>10. In the absence of, credit decisions the firm may suffer from severe liquidity crisis</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>
SECTION C: Inventory Conversion Period

On a scale of 1-5 where; 1-Strongly Disagree; 2-Disagree; 3-Neutral; 4-Agree; and 5-Strongly Agree, indicate the extent that you believe relating to the effect of Inventory Conversion Period.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. We have experienced large pile of raw materials in the business.</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>2. We efficiently maintain records of goods or materials in our business.</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>3. We carry out frequent stock taking</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>4. The business policy enables periodic inventory levels</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>5. The business maintains an accurate inventory records</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>6. The business has installed an inventory control system</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>7. A long inventory holding period has an effect on profitability of SMEs</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>8. Rapid inventory turnover has reduced the potential obsolescence and resulting price concessions</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>9. organization holds a minimal level of inventory thus minimize costs</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>10. We have experienced challenges of doing business due to scarcity of products</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>
**SECTION D: Cash Conversion Cycle (CCC)**

What is your level of agreement to the following statements on cash conversion cycle (5-Strongly agree, 4- Agree, 3-Neutral, 2-Disagree, 1- Strongly Disagree)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The business has generated sufficient cash over the last five years</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>2. The business has experienced a lack of sufficient inventory</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>3. The business has experienced operations related challenges due to lack of funds</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>4. The firms buy their inventory on credit which ensure cash availability</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>5. The firm can effectively meet its short-term obligations over time</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>6. The business has an effective cash management system</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>7. The firm regularly budget for the future expenditure</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>8. Finance managers have varied investment decision</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>
**SECTION E: Working capital Management**

To what extent has the following factors affected working capital management (5-Strongly agree, 4- Agree, 3-Neutral, 2-Disagree, 1- Strongly Disagree)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cash cycle has an impact on the returns</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>2. Accounts payable has an impact on the firm’s leverage</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>3. Accounts receivable has an impact on the firm’s profitability</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>4. We evaluate the gap between actual performance and desired performance in audit findings perspective</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>5. Top management follow up audited areas where control weaknesses were detected</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Budget Line Items</td>
<td>Cost in (Ksh)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Proposal Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials</td>
<td>1000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Printing</td>
<td>2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Photocopying</td>
<td>450</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Data Collect (Fieldwork)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Photocopying</td>
<td>450</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travelling</td>
<td>4000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research Assistant</td>
<td>7000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Data Analysis &amp; Interpretation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Analysis</td>
<td>2500</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Report Writing &amp; Dissemination</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Report Writing</td>
<td>1000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Binding &amp; Dissemination</td>
<td>2500</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Cost</td>
<td>20900</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# APPENDIX III: IMPLEMENTATION SCHEDULE

<table>
<thead>
<tr>
<th>Research Activities</th>
<th>Time Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Start</td>
</tr>
<tr>
<td>1. Proposal Development</td>
<td>10&lt;sup&gt;th&lt;/sup&gt; February</td>
</tr>
<tr>
<td>2. Data Collect (Fieldwork)</td>
<td>4&lt;sup&gt;th&lt;/sup&gt; June</td>
</tr>
<tr>
<td>3. Data Analysis &amp; Interpretation</td>
<td>9&lt;sup&gt;th&lt;/sup&gt; July</td>
</tr>
<tr>
<td>4. Report Writing</td>
<td>7&lt;sup&gt;th&lt;/sup&gt; August</td>
</tr>
<tr>
<td>5. Report Dissemination</td>
<td>24&lt;sup&gt;th&lt;/sup&gt; August</td>
</tr>
</tbody>
</table>