THE IMPACT OF WORKING CAPITAL MANAGEMENT ON PROFITABILITY OF LISTED CEMENT COMPANIES IN TANZANIA:
A COMPARATIVE STUDY OF TANGA CEMENT COMPANY LTD AND TANZANIA PORTLAND CEMENT COMPANY LTD

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By

Evance Wiliam Lyimo

A Dissertation Submitted in Partial Fulfillment of the Requirements for Award of the Degree of Master of Science in Accounting and Finance (MSc-Accounting and Finance) of Mzumbe University

2015

CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University, a dissertation entitled **The Impact of Working capital Management on Profitability of Listed Cement Companies in Tanzania: A Comparative Study of Tanga Cement Company Ltd and Tanzania Portland Cement Company Ltd**, in partial/fulfillment of the requirements for award of the degree of Master of Science in Accounting and Finance of Mzumbe University.

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I, Evance William Lyimo, declare that this thesis is my original work and that it has not been presented and will not presented to any other University for Similar or any other degree award.

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ACKNOWLEDGEMENT

This research work would not have been successful without contribution of many people. Even though I have written this dissertation individually, I would like to thank the people who have lent their continuing support, encouragement and guidance through the research period. I wish to profoundly thank my supervisor, Prof. (Dr). Sri nivas Madishetti of School of Business, Mzumbe University for his support and valuable advices given to me in making of this dissertation.

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To all the numerous people who I have not mentioned individually, I say thank you for your invaluable and material support and may God bless you.

Now it is time for me to test how well my knowledge can be applied into practice.

Evance Lyimo.

DEDICATION

This research work is dedicated to my family members particularly my mother Rosemary Manyanga, my father William Lyimo, to my brothers Gerald, Wisdom, Erick, Victor, Baraka and Carim and to my sisters Happiness and Farida, to my aunt Agnes Manyanga and her family for their love, consideration, tolerance and encouragement during this turbulent route of academic career. I love you all.

LIST OF ABBREVIATIONS AND ACRONYMS

↑	-	Increase
↓	-	Decrease
ACP	-	Average Collection Period
APP	-	Average Payment Period
ATR	-	Acidity Test Ratio
CCC	-	Cash Conversion Cycle
CMSA	-	Capital Market and Security Authority
CR	-	Current Ratio
CS	-	Company Size
DSE	-	Dar-Es-Salaam Stock Exchange
GOP	-	Gross Operating Profit
ITID	-	Inventory Turnover in Days
NSE	-	Nairobi Security Exchange
SG	-	Sale Growth
SME's	-	Small and Medium Enterprises
SPSS	-	Statistical Package for Social Science
TCCL	-	Tanga Cement Company Ltd (Simba Cement)
TPCCL	-	Tanzania Portland Cement Company Ltd (Twiga Cement)
α	-	Alpha

ABSTRACTS

Working capital management is needed for day to day operations of a business firm. Working capital management involves administration of the most liquidity resources of the business firms which include cash and cash equivalents, inventories and trade and other receivables. Adequate management of working capital will resulted in achievement of maximum gross operating profit thus maintaining liquidity position and maximizing shareholders wealth which is the central tendency of goal of any firm. Unlikely, insufficient working capital administration will result into illiquidity due to the fact that respective company won't able to generate enough GOP to enhance liquidity position. Business firms required to hold appropriate working capital so as to trade-off between liquidity and bankruptcy.

Companies can use working capital management as an approach or tool to influence GOP. This paper investigated the impact of working capital management on profitability of cement companies registered in Tanzania. The study based on two companies only due to the fact that at the time of conducting research there were only two listed companies. The study covers a period of 8 years from year 2006 to 2013. Descriptive statistics, correlation and multiple regressions analyses are employed to explore the relationship between working capital components and GOP.

The correlation analysis for TCCCL established that GOP is negatively related with APP against expected and ITID as expected. While correlation and multiple regression analyses found that GOP is negatively related with ACP as expected and positive related with CCC against expected. Regression for TPCCL established that GOP was negatively related with ACP as expected and positively related with ITID against expected. Also GOP positively related with APP (as expected) while negatively related with CCC (as expected). This commented that profitability of Cement Company depends on effective working capital management in order to trade off between liquidity and bankruptcy.

The study is therefore recommended that for those working capital components bring unpredicted results, efficient in supervision is needed to improve. Similarly for those insignificant relationships care is required to advance from respective areas.

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CHAPTER ONE

INTRODUCTION

1.1Background information

The viability of any company or business depends much on the proper working capital management. When there is a poor working capital management, a lot of fund may be tied up in an idle current assets or it might result into shortage of inventory. This will reduce liquidity position of the firm or increasing unnecessary holding cost and sometime loosing of market share due to shortage of inventory for sale. Not only that but also it reduces the ability of the firm to make investment in the fixed assets so as to generate sales to enhance firm's profitability.

Proper management and control of working capital not only solve the problem of liquidity but also increase the ability of the firm to generate profit. This is because working capital establishes the link between production and sales. Efficient management of working capital is crucial for both profitability and prosperity of any firm (Ankilo & Olufisayo, 2007).

As Smith (1980) observed, working capital management is important because of its effect on the firm's profitability and risk, and consequently its value. Working capital management involves administration of current assets and currently liabilities; it directly deals with the management of current assets and currently liabilities and directly affects the liquidity and profitability of the company.

Efficient working capital management involves excessive planning and controlling. There must be a balance between current assets and current liabilities for eliminating the risk of insolvency. The working capital management is very sensitive area in the field of financial management (Josh, 1995). It is important due to many reason, among those is that the current assets of typical manufacturing firms account for over half of their total assets. Excessive or shortage has a negative implication on the firms' profitability.

Tanzania like other developing countries, management of working capital is vital for development of respective corporations and the nation as a whole. In this area of corporate finance, in Tanzania very little has been done concerning working capital management as argued by Madishetti and Kibona (2013). Especially in the cement companies such studies are lacking. This gap impressed the researcher to research this area of corporate finance in the field of working capital management and its impact on GOP in cement companies listed in DSE.

1.2 Statement of the problem

Working capital management in cement industry is very crucial due to the fact that these companies are the backbone of the economy (Arshad & Gondal, 2013). Administration of working capital is very important part of corporate finance because it directly affects companies' liquidity and profitability (Deloof, 2003, Eljelly, 2004). Thus efficient management is fundamental part of the overall corporate strategy to maximize shareholders' wealth. Generally companies are required to maintain optimal level of working capital that maximizes shareholders value (Deloof, 2003). This is because goal of the firms is to maximize shareholders' value. The efficient management of working capital is very essential for business survival.

Too much holding of working capital signifies inefficiency while too little signifies that the firm's liquidity is in question (Kimeli, 2012). Most business firms do not hold the appropriate amount of current assets (Cash and cash equivalent), due to this reason the firms is unable to meet its short term obligation when they fall due. Not only that but also lack of enough working capital signifies that the firm is unable to expand productions and increase its sales thus limiting the growth and profitability of the business firms. Working capital management in cement industry is just like in any other manufacturing company is dependent upon various factors like nature of the business, scale of operation, production cycle, credit policy and availability of raw materials just to list a few.

Currently major players in this industry in Tanzania which listed in Dar-Es-Salaam Stock Exchange (DSE) are Tanga Cement Co. Ltd (Simba) and Tanzania Portland Cement Co. Ltd (Twiga) which have been successful in narrowing the gap between demand and supply. Housing sector and Government infrastructure sector are the major consumers of cement in Tanzania. Due to political forces coupled with the need to alleviate poverty and gain political reputation the Government resorted into building more schools, health centers, water supply, roads and railway infrastructures.

The cement industry has been playing its remarkable role to help the Government realize these objectives. However, owing to budget constraints, the government has not been paying on time for cement materials sourced on credit. Uncertainty in power supply due to variations in river regimes compounded by persistent raise in cost of electricity has given rise in the increase cost of production for cement companies. In effect some private sectors have been importing from cheap sources outside the country thus creating stiff competition to the domestic cement companies. In due course players in this industry have been forced to change their credit norms to survive in the competitive environment.

In the light of above statement of the problem, an attempt was made to analyze the relationship between working capital management and gross operating profit.

1.3 Objectives of the study

The study was carried out in order to attain the following general and specific research objectives:-

1.3.1 General objective

The general objective of this study was to assess the impact of working capital management on GOP of DSE registered cement companies in Tanzania.

1.3.2 Specific Objectives

i. To assess and analyze the impact of accounts receivables management on the gross operating profit of cement companies.
ii. To determine and analyze the impact of inventory management on the gross operating profit of cement companies.
iii. To assess and analyze the effect of accounts payable in days on gross operating profit.
iv. To assess and analyze the effect of cash conversion cycle on gross operating profit.

1.4 Research questions

i. How does the accounts receivables management affect the profitability of cement industries in Tanzania?
ii. How does the inventory management impact the profitability of cement companies in Tanzania?
iii. What was the effect of creditors' payment period on profitability of cement industries' in Tanzania?
iv. What was the relationship between Cash conversion cycle and profitability of the cement companies in Tanzania?

1.5 Significance of the study

This is the fact that working capital management is extremely essential to all business firms in accomplishment and maintenance of shareholders value. The findings from this study will help the manufacturing business firms especially those operating in cement industry improve on their financial decision basing on efficient management of working capital. Also the findings will make an organization to maintain appropriate liquidity and profitability level for settling of their obligation when they fall due. With findings on working capital management most corporations will be in the position on proper utilization of scarce resources. The findings may also be of great usefulness to future

researchers in the field of working capital management in providing relevant and reliable literature of forming their research foundation. Not only future researchers but also academicians, students and scholars who will be interested in the area of finance who may found the findings to be usefulness to use for academic purpose. Also this study will bridge the gap left by previous researchers on the area of working capital management and its impact on GOP of cement companies in Tanzania.

1.6 Scope of the study

The focus of the study was to assess the working capital efficiency indicator components namely average collection period, average payment period, inventory turnovers in days and cash conversion cycle and their effect on gross operating profit. The study was limited to only two cement companies which are Tanga Cement Company Ltd and Tanzania Portland Cement Company Ltd trading on the Dar-Es-Salaam Stock of Exchange and their annual audited report for eight (8) years from 2006 to 2013 as there are only two listed companies in Tanzania.

1.7 Limitation of the study

The first limitation of the study was that there were other cement companies which were not listed at that time of study; it was not possible to obtain their published annual report for the period covered by the study, thus the findings of the study may not be generalized to these companies. Secondly, the officers' responsible on financial affairs of the listed companies were not willing to provide all the financial records that formed the main source of data for the study. This limitation prohibited by making assumption that those companies trading on credit. Third limitation is that few financial statements were considered because these companies delayed to publish their statement that's why cut off point deem necessary from 2006 for comparison purpose.

CHAPTER TWO

LITERATURE REVIEW

2.1 Theoretical literature review

2.1.1 Definition of key terms and concepts

This part of theoretical literature review, provide definition of key terms and concepts which are used in this article. It provides more and clear understanding to those concepts.

i. Working capital

Working capital (WC) is a financial metric which represents operating liquidity available to a business, organization or other entity, including governmental entity (Madishetti & Kibona, 2013). Working capital is a common measure of a company liquidity, efficiency and overall health. This is because it includes cash, inventory, accounts receivable, cash payables and the portion of debts due within one year. Pandey (2004) has argued that, there are two concepts of working capital: - Gross working capital and Net working capital.

Gross working capital refers to the firm investment in the current assets. Current assets are those which can be converted into cash within one year and consist of cash and cash equivalents, inventories and receivables. Net working capital is the difference between current assets and current liabilities. Current liabilities are those claims which are expected to mature within one accounting period usually one year. It may include creditors, accounts payable and outstanding expenses.

Net working capital can either be positive or negative, positive net working capital occurs when current assets exceeds current liabilities. This indicates that the company is able to pay off its short term obligation when they fall due. Negative net working capital occurs when current liabilities exceeded current assets. This generally indicates that a firm is unable to do so.

ii. Management

Management is the concept which concern with plan to get things done, organize the company to be efficient and effective, lead and motivate employee and put in place controls to make sure plans are followed and goals are met (Krajewiski & Ritzman, 1993). Good management is basic to starting a business, growing a business and maintaining a business once it has achieved some measure of success.

iii. Working capital management

Nzioki, Kimeli, Abodho, and Nthiwa (2013) have suggested that working capital management is the administration of current assets and current liabilities. It deals with the management of current assets and current liabilities and directly affects the liquidity and profitability of the company (Deloof, 2003). Efficient working capital management involves excessive planning and controlling and it is very important to equalize between current assets and current liabilities to eradicate the risk of insolvency.

iv. Profitability

Profitability means ability to make profit from the business activities. It indicates how the management efficiency in utilization of business resources to generate profit. Profit is the term which means the excess of revenues over associated expenses for an activity over a specified period of time usually one year or accounting period (Pandey, 2005). It is closely linked with the efficiency in managing the components of working capital. Profit is an engine that drives the business enterprises. Any business in order to survive in the market, it should have to earn relative revenue to cover operating expenses and residual is a profit.

2.1.2 Theoretical part

The concept of working capital management was important and continues to be important to all industries and it cut across from manufacturing companies to service oriented organization. Management of working capital involves the relationship between a firm current assets and current liabilities (Pandey, 2004). The aim of management of

working capital is to ensure that the business firm is able to continue in operation in the foreseeable future. Deloof (2013) argued that, the way in which working capital is managed has significant impact on profitability of firms especially to manufacturing sector like cement industries. This is because manufacturing companies maintain relative higher components of working capital.

The management of working capital involves administration of inventories, accounts receivables and payables and cash (Naser, Nuseibeh and Al-Hadeya, 2013). For any business firm to enhance and maintain its liquidity position it must hold appropriate level of working capital in order to trade-off between liquidity and profitability. Ganesan (2007) has explained working capital as short-term financing requirement of the firms. Needs of working capital depends much on type and nature of business and industry, however the components generally includes cash, debtors, receivables, inventories, marketable securities and redeemable futures (Appuhami, 2008).

It has been observed that by minimizing amount of funds invested in current assets, firms can cut-off unnecessary financing cost and probably reserving aside enough funds for capital expenditures like expansion of manufacturing plant and equipment aiming to boost production of goods and services. Due to its important in daily life, cement industry is required to maintain adequate working capital while conducting its day to day operations. Having inadequate amount of working capital, it negatively affect firm's liquidity position not only that but also holding excess working capital results in the reduction of profitability of these companies. Proper estimation of needed working capital is crucial for surviving of cement companies.

2.2 Empirical literature review

2.2.1 Models and theories from other researchers

Management of working capital is very fundamental for any company to stay alive in the marketplace and maintain sufficient liquidity position. Below are summaries of models and theories employed by previous researchers: -

Madishetti and Kibona (2013) studied the impact of receivable and payables management on GOP of Small and Medium Enterprises (SMEs) in Tanzania by using a sample of thirty eight (38) Small and Medium Enterprises (SMEs) from Dar-Es-Salaam and Morogoro regions. They obtained data from the financial statements for the period of five (5) years from 31st March 2006 to March 2011. ACP and APP used as independent variables. Pearson correlation coefficient was employed to investigate the relationship between GOP and these two independent variables.

Authors found that: - As ACP decreases enable turnover to increase hence GOP increases also. This implied negative relationship between ACP and GOP. Also Madishetti and Kibona (2013) found positive correlation between GOP and APP. This implies that when APP decreases GOP decrease as well and when APP increases GOP increase also.

Panigrahi (2013) researched the relationship between inventory management and GOP. Empirical analysis of Indian cement companies employed as a case study. A selected sample composed of five (5) top Indian cement companies over a period of ten (10) years from 2001 to 2010. Panigrahi (2013) employed regression analysis model to assess the relationship between inventory management and GOP and found that there is a significant negative linear relationship between inventory conversion period and GOP.

Nzioki et al. (2013) examined the effect of working capital management on the GOP of manufacturing firms listed on Nairobi Security Exchange (NSE). The population of the study comprised of nine (9) manufacturing companies listed on NSE. Multiple regression and correlation analyses were conducted to assess the relationship between the components of working capital management and GOP. The result shows that the GOP was positively correlated with ACP and APP but negatively correlated with CCC, but the relationship between ITID and GOP was insignificant.

To test the relationship between working capital management and corporate profitability, Soekhoe (2012) used a sample of seventy (70) firms that are listed in Euro next from the

period of 2006 to 2010. Soekhoe (2012) employed correlation and regression analysis techniques to explore the relationship between the variables and found that, there is a significant and negative relationship between the profitability of Dutch listed firms and the number of day's accounts payables and the number of day's accounts receivables.

Napompech (2012) collected a sample of 255 firm's data set from the stock exchange of Thailand for the period of three years from 2007 to 2009. The data set comprises of annualized sale revenue, cost of goods sold, total assets, financial assets, inventory conversion period, average collection period, payable differed period, cash conversion period and debt ratio. The 255 firms comes from seven (7) industries like consumer products, industries, technology, agriculture and food resources, construction and building materials and service.

Napompech (2012) used descriptive statistics, correlation and regression analyses to explore the relationship among variables. The results indicated that, there is a negative relationship between GOP and inventory conversion period and receivables collection periods. Not only that but also findings demonstrated that, industry characteristics have an impact on GOP.

Kimeli (2012) used a sample of nine (9) listed manufacturing firms trading on NSE. Research data were obtained from the consolidated financial statements for the period of five years from 2006 to 2010. Multiple regression and correlation analyses were employed to explore the relationship between working capital components and GOP of the selected companies. The researcher found that GOP positively correlated with ACP and APP but negatively correlated with CCC. Also Kimeli (2012) indicated that there was insignificant relationship between GOP and ITID.

Venkataramana, Ramakrishnaiah and Chengalrayulu (2013) investigated the impact of receivables management on working capital and profitability among four selected cement companies in India. Data were collected from the financial statements of the selected companies for the period of ten years from 2001 to 2010. Working capital and

profitability were considered as dependent variables while Receivables to Current assets ratio, Receivables to total assets ratio, Receivables to Sales ratio, Receivables turnover ratio, Average collection period, Working capital ratio and Profitability ratio were considered as independent variables.

Analysis of Variance (ANOVA) was employed to explore the relationship between variables. The study indicated that receivables management has significant impact on working capital and management.

Rehman and Anjum (2013) examined the impacts of working capital management on profitability. The study was empirical study from the cement sector in Pakistan which consists of a sample of ten cement companies listed at Karachi Stock of Exchange. Data were collected from the financial statements for the period of six years from 2003 to 2008. Correlation and Regression analyses were employed to analyze between independent and dependent variables. The results indicated inverse and positive relationship between working capital management and profitability in cement industry of Pakistan.

To investigates the Impact of working capital management on profitability, Arshad and Gondal (2013). They used a sample of 21 listed cement companies in Karachi Stock Exchange. The analysis consisted of financial statement for the period of seven years from the year 2004 to 2010. Quantitative research method employed to confirm research hypothesis. Current ratio, Quick ratio, Net current assets to Total assets ratio, Working capital turnover ratio and Inventory turnover ratio used as Independent variables while profitability as dependent variable. The researcher employed simple liner regression analysis to explore the relationship among variables and found significant relationship between working capital management on profitability of the firms.

Pansian, Chrispina, Tago and Mkiibi (2014). They analyzed the effect of working capital management on GOP. Researchers used a sample of three manufacturing companies listed on DSE while data were collected from the financial statements for the period of

ten years from the year 2002 to 2013. Pearson's correlation and regression analyses were used to analyze the relationship between variables. The researchers found negative relationship between CCC and GOP while there was a significant negative relationship between ACP and GOP. Pansiana et al. (2014), also found negative relationship between liquidity and profitability while there was a highly significant positive relationship between APP and GOP.

Table 2.1 Showing summaries of empirical studies from previous researchers

RESEARCHER	YEAR, PLACE AND THEME	VARIABLES		METHODOLOGY	RELATIONSHIP IDENTIFIED
		DEPENDENT	INDEPENDENT		
Madishetti & Kibona	The researchers examined the Impact of receivables and payables management on profitability of SMEs from Dar-Es-Salaam and Morogoro regions in the year 2013	Gross operating profit	Average collection period Average payment period	. • 38 SMES • 5 years data • Applied descriptive statistics, correlation and multiple regression	Negative relationship between ACP and GOP Positive relationship between APP and GOP
Panigrahi	The author researched the relationship between inventory management and profitability of Indian cement companies in 2013	Gross operating profit	Inventory conversion period (ICP)	• Five (5) Cement companies • Ten years data • Employed regression analysis	Negative linear relationship between ICP and GOP

Source*: Compiled findings from previous researchers*

Table 2.1 Showing summaries of empirical studies from previous researchers

RESEARCHER	YEAR, PLACE AND THEME	VARIABLES		METHODOLOGY	RELATIOSHIP IDENTIFIED
		DEPENDENT	INDEPENDENT		
Nziok et al	The researchers assessed the effect of working capital management on profitability of manufacturing firms listed on Nairobi Security Exchange in Kenya in the year 2013.	GOP	ACP APP CCC ITID	• Nine (9) manufacturing companies • Multiple regression analysis was employed	• Positive relationship between ACP and APP but • Negative relationship between CCC. • Relationship between GOP and ITID was insignificant.
Soekhoe	In the year 2012, the author test the relationship between working capital management on corporate profitability in Netherlands	GOP	Number of day's accounts receivables Number of day's accounts payable	• Sample seventy (7) firms • Period of five (5) years • Correlation analysis employed • Regression analysis employed	• Significant and negative relationship between GOP and ACP • Significant and negative relationship between GOP and APP
Napompech	Analysis of the relationship between	GOP	Inventory conversion period	• Sample of 255 firms used	• Negative relationship between GOP and inventory conversion period

Source: *Compiled findings from previous researchers*

Table 2.1 Showing summaries of empirical studies from previous researchers

RESEARCHER	YEAR, PLACE AND THEME	VARIABLES		METHODOLOGY	RELATIONSHIP IDENTIFIED
		DEPENDENT	INDEPENDENT		
	Working capital components and GOP of firms listed in Thailand stock Exchange in Thailand in 2012		Receivable collection period	• Period of 3 years • Descriptive statistics, correlation and regression analysis's employed	• Negative correlation between receivable collection period and GOP
Kimeli	In 2012, the researcher assessed the effect of working capital components and GOP for manufacturing company listed on Nairobi Security Exchange in Kenya	GOP	ACP APP CCC ITID	• Sample of 9 manufacturing firms • Period of 5 years • Regression and correlation analyses were employed	• GOP is positively correlated with ACP and APP • GOP is negatively correlated with CCC. • Relationship between GOP and ITID were insignificant

Source*: Compiled findings from previous researchers*

Table 2.1 Showing summaries of empirical studies from previous researchers

RESEARCHER	YEAR, PLACE AND THEME	VARIABLES		METHODOLOGY	RELATIONSHIP IDENTIFIED
		DEPENDENT	INDEPENDENT		
Venkataramana et al.	In 2013 researchers investigated the impact of receivable management on working capital and GOP of cement companies in India	Working capital and GOP	Receivable to Current asset ratio, Receivable to Total asset ratio, Receivable to Sales ratio Receivable Turnover ratio, Average collection period, Working capital ratio and profitability ratio	• Sample of 4 firms • Period of 10 years • Analysis of Variance employed	• Receivable management has significant impact on working capital management
Raheman and Anjun	In 2013, Raheman and Anjun examined the Impact of working capital management on profitability. The article was empirical study for Cement sector in Pakistan	GOP	Working capital components	• Sample of ten cement companies • Period of six years • Correlation and regression analyses	• Inverse and positive relationship between working capital management and profitability

Source*: Compiled findings from previous researchers*

Table 2.1 Showing summaries of empirical studies from previous researchers

RESEARCHER	YEAR, PLACE AND THEME	VARIABLES		METHODOLOGY	RELATIONSHIP IDENTIFIED
		DEPENDENT	INDEPENDENT		
Arshad and Gondal	In 2013 researchers used a sample of 21 companies in Pakistan to investigate the impact of working capital management on Profitability	Profitability	Current ratio, Quick ratio, Net current asset to Total assets ratio, Working capital turnover ratio and Inventory turnover ratio	• Sample of 21 manufacturing • Period of seven years • Simple linear regression used	Significant relationship between working capital management on profitability.
Ponsian, Chrispina, Tago and Mkiibi	Ponsian et al. (2014). Analysed the effect of working capital management for selected three companies listed in Dar-Es-Salaam Stock Exchange in Tanzania	Profitability	CCC Liquidity ratio ACP APP	• Sample of three manufacturing companies. • Period of ten years • Pearson's correlation analysis was used • Regression analysis used	Liquidity ratio was negatively related with GOP. Highly significant positive relationship between APP and GOP.

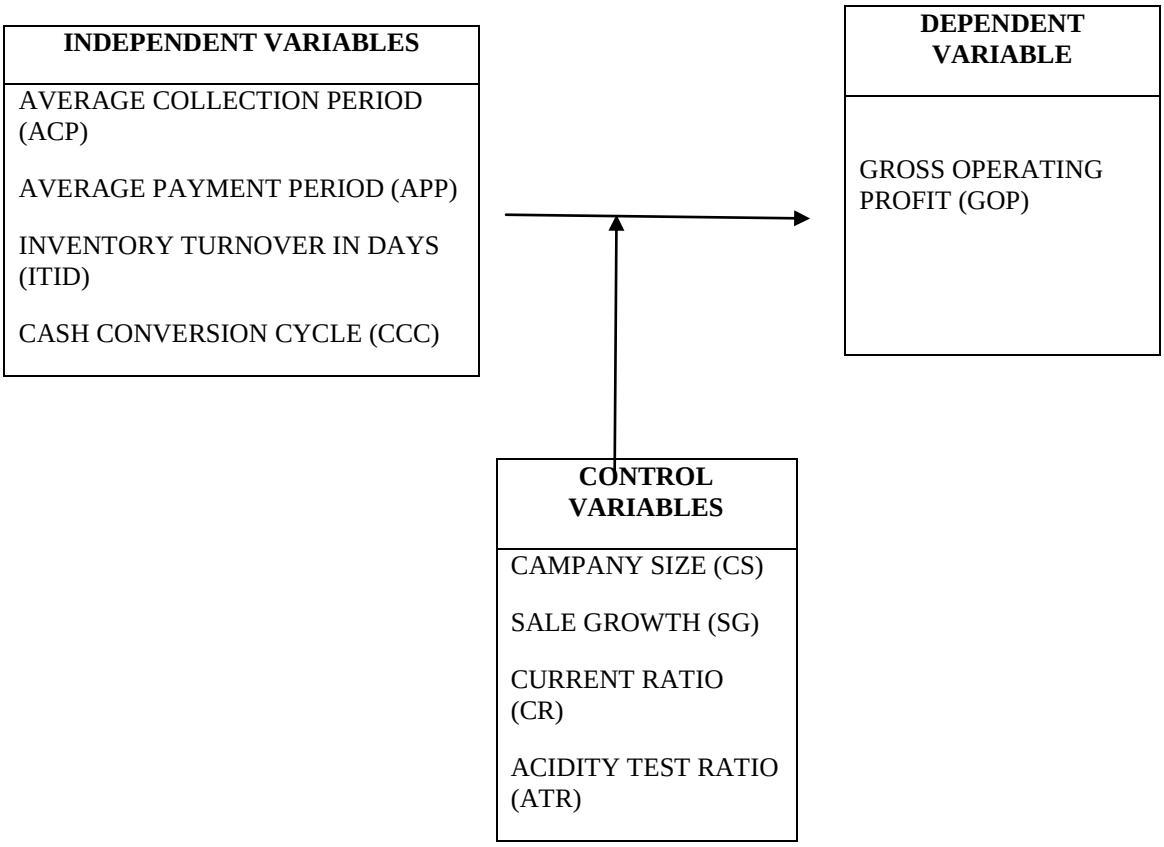
Source*: Compiled findings from previous researchers*

2.3 Conceptual framework

A conceptual frame work is the foundation base of conducting research. A conceptual framework is integration set of research concepts, variables together with their logical relationships. Usually the logical relationship among dependent and independent variables is presented in form of pictorial diagrams, charts, graphs or mathematical

equations. The conceptual framework which indicate the relationship between independents, dependent and control variables is presented bellow.

Figure 2.1: Shows the conceptual framework indicated how the variables depend on each other.



Source: *Relationships identified in previous study* (Kimeli, 2012)

For further elaboration, the variables in the conceptual frame work and their relationships including roles of control variables are fully explained in research methodology chapter below.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Research methodology chapter explain how this research work carried out to achieve the specific and general objectives. Research methodology consist of the type of research conducted, appropriate sample size which used, method of data collection employed from the field, types of variables which used in this study and statistical analysis techniques used in exploring the relationship between working capital components and gross operating profit.

3.2 Research Design

A research design is the arrangement of conditions for collection and analysis of data in manner that aims to combine relevance to the research purpose with economy in procedures (Kothari, 1990). At the time of conducting this study the diagnostic research design employed, it is due to the fact that there was a need of asses to what extent the profitability of the firm will change either increasing or decreasing depends on whether there is an efficiency working capital management or not.

The selection of diagnostic research design was due to the fact that the study concerned with the impact of working capital components on profitability. The study aspired to assess the general impacts of working capital components to profitability. These working capital components include the following: - Average collection period (ACP), Average Payment Period (APP), Inventory Turnover in Days (ITID) and Cash Conversion Cycle (CCC).

Diagnostic research design allowed assessment of relationship between independents and dependent variables that is working capital components as independent variables and gross operating income as dependent variable.

3.3 Population and Sample size

The population of study composed of all cement companies listed on DSE. At the time when the study is conducted, only two cement companies were listed under DSE which are Tanga Cement Company Ltd and Tanzania Portland Cement Co. Ltd. Listed companies were appropriate for this study since they are public entities operating under strict corporate governance regulators (Kimeli, 2012). Due to having strict corporate governance, the published financial statements which used in this study reflected true and fair view. This means that those information were relevance and reliable for this study and at the end yield optimal results.

Sample size referred to the number of items selected from the universe or whole population to compose a sample to be used to generalize the whole population. This meaning that conclusion of the whole population will be drawn basing on the few items selected from the field. Sample size of the study should not be too small it must be so optimal to fulfill the requirements of efficiency representativeness, reliability, validity and flexibility (Kothari, 1990).

Data source for this study comprised of published financial statements for both two listed companies for the period of eight (8) years from year 2006 to 2013. The cut-off point of eight years deemed necessary due to the fact that those two companies delayed to be listed on DSE. The data set in this research included annualized data on sales; cost of goods sold, total assets, financial assets, inventories, collectables and payables.

3.4 Sampling technique

This study employed secondary data obtained from the financial statements of the two cement companies.

3.5 Research Variables

Variables are properties or characteristics of people or things that vary in quantity or magnitude from person to person or from object to object. In another word, variable is anything that can take on a variety of different values. For example gender is a variable

because it can either be male or female and is possible to assign value. Attributes are the variation in a variable. For example attribute self-esteem can take different forms like high, medium and low level. There are two types of variables which are independent and dependent variables as discussed later. In my study variables used have been selected based on previous researchers' study and are presented below: -

3.5.1 Independent variable

An independent variable is the one which is free from the outcome being measured. Independent variable is manipulated by researcher and observing the outcomes.

i. Average Collection Period

Trade receivable is amount a company needs to collect from customers. The aim of offering credit policy is to increase sales and provide stiff competition against rivals. The efficiency of debtor's collection can be assessed in number of days a company took to collect from the customers. So, the credit policy can be assessed in this way, if the company takes a long period in collecting its debtors it means that the credit policy is not effective and may results into bad debts. But if the company take fewer days in collecting from customers is not good also since it may lose sale revenue due to lose in market share. The company needs to prepare credit policy which yield optimal results. Receivable collection period is calculated as follows: -

$$\text{Average collection period (ACP)} = \frac{\text{Average Receivable}}{\text{Credit sales}} \times 365 \text{ days}$$

ii. Average payment period

Trade payable is the amount to be paid to the suppliers of goods and services purchased within a specified period of time. When a credit period is offered to the company by suppliers, it provides an opportunity for company to maintain liquidity and to maintain finance with other expenses. Average payment period can be calculated as follows: -

$$\text{Average payment period (APP)} = \frac{\text{Average Payables}}{\text{Credit purchase}} \times 365 \text{ days}$$

iii. Inventory turnover in days

Inventory means a list compiled for some formal purpose, such as the details of an estate going to probate, or the contents of a house let furnished (Madishetti and Kibona, 2013). Inventory can take different forms like raw materials, work in progress or finished goods. Inventory takes the largest portion of manufacturing industries. Inventory management is primarily about specifying the shape and percentage of stocked goods. The higher the level of inventory turnover in days is not good because it increase the storage cost. Inventory turnover in days is calculated as follows: -

$$\text{Inventory turnover in days (ITID)} = \frac{\text{Average inventory}}{\text{Cost of sales}} \times 365 \text{ days}$$

iv. Cash conversion cycle

The Cash Conversion Cycle (CCC) measures how fast is the company can convert cash on hand into even more cash on hand. The CCC does this by following the cash as it is the first converted into inventory and accounts payable, through sale and accounts receivable and then back into cash. It is thus a measure of the liquidity risk entailed by growth. (Myers, 2003). The Bloomsbury Business Library - Business & Management Dictionary defines the cash conversion cycle as the time between the acquisition of a raw material and the receipt of payment for the finished product. Cash conversion cycle can be calculated as follows: -

Cash conversion cycle = Average collection in days + Inventory turnover in days – Average payment in days

3.5.2 Dependent variables

Dependent variable is the measure of the effect of the independent variable. The term dependent variable means it is influenced by independent variable. It is also known as response variable or output. Based on my study the dependent variable is discussed based on previous researchers' work as follows: -

i. Gross operating profit

The aim of any business existence is to maximize share holders wealth. But the question is how the share holder wealth can be maximized? Gross operating profit is calculated as follows: -

Gross operating profit (GOP) = Sales revenue – Cost of goods sold

Generally a high profit margin means ability of the company to keep its cost to a minimal level is high. The reason for using this variable was because the study aimed to associate the company's operating 'success' or 'failure' with an operating ratio and relate this variable with other operating variables. (Madishetti and Kibona, 2013).

3.5.3 Control variables

A control variable is the one that is held fixed in order to determine the relationship between independent and dependent variables. A control variable in an experiment may affect either positively or negatively the research outcome.

Spector and Brannick (2013). Explain that roles of control variables, as to intend to purify the observed relationship among variables of interest and to avoid contamination in measurement of variables of interest. Care should be placed in order to avoid the effect of control variable. Control variables refer to variables that are fixed or eliminated in order to clearly identify the relationship between an independent variable and a dependent variable. In my study the following variables were controlled in order to come up with valid output.

i. Company size

Size of the firm can influence the firms' performance in several ways through creating of goodwill which enable the company to earn huge market share. Also size of the firm may facilitate building strong distribution systems or channels so as to access easily consumers. Company size may motivate lenders to advance loan when needed by the firm. According to Buveld (2012) measure the firms size as a natural logarithm of sales (ln of sales).

Size of the firms = Natural logarithms of sale

ii. Sale growth

Sale growth is ability of the firm to generate more revenue in the current financial year in comparison with the previous financial year. Makori and Jagongo (2013) measure sales growth as follows: -

$$\text{Sale growth} = \frac{\text{Sale}_t - \text{Sale}_{t-1}}{\text{Sale}_{t-1}}$$

Where

Sale_t = Current sales value

Sale_{t-1} =Previous sales value

iii. Current ratio

The current ratio measures the adequacy of current assets to meet the liabilities as they fall due. A high or increasing figure may appear safe but should be regarded with suspicion as it may be due to high level of inventory and receivables and high cash levels which could be put to better use like investing in non-current assets. Makori and Jagongo (2013) measure current ratio as follows: -

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

iv. Acidity Test Ratio

The Acidity test ratio measure quick ability of the firm to extinguish its liability when fall due. Acidity test ratio omit inventories because inventory is not easy to be converted into cash.

Acidity Test Ratio is measured as follows: -

$$\text{Acidity test ratio} = \frac{\text{Current assets - Inventories}}{\text{Current liabilities}}$$

Table 3.1 Summary of key variables and the expected impact on GOP

Variable	Variable type	Expected coefficient sign	Rationale
Average collection period (ACP)	Independent variable	Negative	ACP↑ ⇨ GOP↓
Average payment period (APP)	Independent variable	Positive	APP↑ ⇨GOP↑
Inventory turnover in days (ITID)	Independent variable	Negative	ITID↑ ⇨GOP↓
Cash conversion cycle (CCC)	Independent variable	Negative	CCC↑ ⇨GOP↓
Company Size (CS)	Control variable	Positive	CS↑ ⇨GOP↑
Sales Growth (SG)	Control variable	Positive	SG↑ ⇨GOP↑
Current ratio (CR)	Control variable	Positive	CR↑⇨ GOP↑
Acidity Test Ratio (ATR)	Control variable	Positive	ATR↑ ⇨GOP↑

Source*: Relationships identified in previous studies.*

3.6 Types of data and collection methods

3.6.1 Types and source of data

Only secondary data employed by researcher as a source of information. Secondary data are those which have been already collected by someone else and which have been already passed through the statistical process (Kothari, 2006).

3.6.2 Sources of Secondary data

The main source of data used by researcher to draw conclusion are published financial statements for the period of eight years from 2006 to 2013. Published financial statements preferred than non-published financial statements because listed companies operating in strictly regulatory environment. Dar-Es-Salaam Stock Exchange (DSE) and Capital Market and Security Authority (CMSA) are the regulatory bodies in Tanzania deals with overseeing listed companies.

3.6.3 Data collection procedures

The letter of approval was obtained from Mzumbe University, School of Business. Then, audited financial statements for the period covered by the study was downloaded from the website of the selected two cement companies for the period of eight years from 2006 to 2013.

3.7 Validity and reliability of data collected

The researcher ensure that the data before being collected should represent what is supposed to represent, means that the financial statements are from selected cement companies and contain all detailed information relevant in assessing impact of working capital management on GOP. The efficiency ratios calculated on the basis of data collected from annual reports is verified twice in order to ensure accuracy. Further F test and multi collinearity tests are conducted to ensure the data is suitable for applying regression.

3.7.1 Assessment of Normality of Data set for TCCL

Table 3.2: TCCL test of normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Gross operating profit	.219	8	.200*	.929	8	.509

Source*: Compiled information run on SPSS* (Version 16)

Table 3.2 present the results of the Kolmagorov-Smirnov statistics which indicated P-value of 0.2 which is more than 0.05 which indicate non-significant of data distribution. A non- significant indicated normality of the data.

3.7.2 Assessment of Normality of Data set for TPCCL

Table 3.3: TPCCL test of normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Gross operating profit	.144	8	.200*	.980	8	.962

Source*: Compiled information run on SPSS* (Version 16)

Table 3.3 present the results of the Kolmagorov-Smirnov statistics which indicated P-value of 0.2 which is more than 0.05 which indicate non-significant of data distribution. A non- significant indicated normality of the data.

3.8 Data analysis and presentation

This study is consistent with Kimeli (2012), as he used multiple regression and correlation analysis in his work. Then, multiple regression and correlation were used to explore the relationship between the dependent variables which is GOP and independent variables which are working capital components (ACP, APP, ITID and CCC).

3.8.1 Regression Analysis

Regression model is used to predict one variable (dependent variable) from one or more other variables (independent variables). In this part the researcher presented the empirical findings on the relationship between working capital management and profitability of the Cement companies listed in DSE. To investigate the impact of working capital management on profitability, the model used for the regression analysis is expressed generally as: -

GOP = f (ACP, APP, ITID, CCC, CS, SG, CR, ATR)

In the above general equation the GOP is the dependent variable and it is influenced by the independent variables i.e. ACP, APP, ITID, CCC, CS, SG, CR, ATR.

Regression analysis is concerned about exploring the relationship between independent and dependent variables while correlation measure the relationship between independent

and dependent variables. The control variables in this study are company size (CS), sales growth (SG), current ratio (CR) and acidity test ratio (ATR). Four models were developed in order to verify the research questions, these models are as follows: -

Models number one

This model tests the relationship between ACP and GOP.

$Y_{it} = \alpha + \beta_1 ACP_{it} + \beta_2 CR_{it} + \beta_3 CS_{it} + \beta_4 SG_{it} + \beta_5 ATR_{it} + e$

Model number two

This model explains the relationship between APP and GOP.

$Y_{it} = \alpha + \beta_1 APP_{it} + \beta_2 CR_{it} + \beta_3 CS_{it} + \beta_4 SG_{it} + \beta_5 ATR_{it} + e$

Model number three

The third test model, it tested the relationship between ITID and GOP.

$Y_{it} = \alpha + \beta_1 ITID_{it} + \beta_2 CR_{it} + \beta_3 CS_{it} + \beta_4 SG_{it} + \beta_5 ATR_{it} + e$

Model number four

The fourth model, it tested the relationship between CCC and GOP.

$Y_{it} = \alpha + \beta_1 CCC_{it} + \beta_2 CR_{it} + \beta_3 CS_{it} + \beta_4 SG_{it} + \beta_5 ATR_{it} + e$

Where by:

α = Constant term for the independent variables

Y = Gross operating profit

ACP = Average collection period

CR = Current ratio

CS = Company size

SG = Sale growth

ITID = Inventory turnover in days

APP = Average payment period

ATR = Acidity test ratio

CCC = Cash conversion cycle

e = the error term

β = Regression coefficient model

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.1 Introduction:

The independent, dependent and control variables were calculated from the information obtained from the financial statements of the two companies. The Average collection period, Average payment period, Inventory turnover in days, Cash conversion cycle, Gross operating profit, Current ratio, Sales growth, Company size and Acidity test ratio are the variables which employed to assess the relationship between working capital management and GOP. This section starts by applying descriptive analysis in-terms of mean, range and standard deviation to enumerate the findings, then correlation and multiple regressions will follow.

4.2 Descriptive analysis

To get good insight about the variables used in this study, descriptive analysis employed in-terms of mean, standard deviation, variance, range, minimum and maximum values of the information obtained for the period covered by the study for both the companies. They are presented hereunder.

4.2.1 Descriptive statistics of TCCL

The descriptive statistics of TCCL in terms of minimum, maximum, average and standard deviation are presented in table 4.1

Table 4.1 Descriptive statistics of variables for TCCL [Figures in TZs]

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
GOP	8	34.034 bill	31.67 bill	65.708 bill	52.9 bill	11.16 bill	12.46bill
ACP	8	11.06	5.99	17.05	12.9088	3.73511	13.951
APP	8	53.04	19.07	72.11	35.0713	22.15642	490.907
ITID	8	83.43	19.46	102.89	48.2975	32.00489	1024.313
CCC	8	37.27	8.56	45.83	26.1350	11.79088	139.025
CS	8	.92	25.08	26.00	25.6050	.32298	.104
SG	8	.36	-.07	.29	.1387	.12699	.016
CR	8	2.72	1.28	4.00	2.5038	.99847	.997
ATR	8	1.75	.39	2.14	1.1450	.64218	.412
Valid N (listwise)	8						

Source*: Compiled information run on SPSS* (Version 16)

The following observation was made from table 4.1 above which were prepared based on the period covered by the study: -

- The GOP of TCCL ranges between Tsh 31.673 billion and Tsh 65.708 billion with mean of Tsh 52.9 billion and standard deviation of Tsh. 11.16 billion which indicate high volatility.

- ACP ranges between 5.99 and 17.05 days with an average of 12.9088 days and standard deviation of 3.73511 days which indicate less variability.

- APP range between 19.07 days and 72.11 days with a mean of 35.0713 days and standard deviation of 22.15642 days.

- The ITID ranges between 19.46 days and 102.89 days with average of 48.2975 days and standard deviation of 32.00489 days reflecting very high range and volatility.

- The CCC ranges between 8.56 days and 45.83 days with mean of 26.1350 days and standard deviation of 11.79088 days.

- The mean of company size for the period covered by the study recorded the natural logarithm of sale at 25.6050 with standard deviation of natural logarithm of 0.32298 and range of natural logarithm of 0.92 which shows less variation.

- Sales Growth (SG) of the company for the period of 8 years from year 2006 to 2013 recorded the average growth factor of 0.1387 and range of 0.36 with standard deviation of 0.12699.

- Current ratio (CR) of the TCCL ranges between 1.28 and 4.00 with average of 2.5038 and standard deviation of 0.99847 which reflected that, there was a less liquidity variability of the company for the period of eight (8) years.

- Acidity test ratio (ATR) of the TCCL ranges between 0.39 and 2.14 with average of 1.1450 and standard deviation of 0.64218 which indicated that there was a less liquidity variability for the period of eight years from 2006 to 2013.

Hence, it can be inferred that the deviations in terms of standard deviation of ACP, APP, ITID, CCC CS, CR, SG, ATR and GOP are lower than their respective averages.

4.2.2. Descriptive statistics of TPCCL

The descriptive statistics in terms of minimum, maximum, average and standard deviation are presented in table 4.2.

Table 4.2 Descriptive statistics of variables for TPCCL [Figures in TZs]

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
GOP	8	79.394 bill	43.011bill	100.0bill	82.9bill	25.97bill	6.743bill
ACP	8	13.66	6.14	19.80	10.5100	4.30214	18.508
APP	8	36.52	46.61	83.13	63.1263	10.97959	120.551
ITID	8	105.18	13.95	119.13	29.5962	36.37934	1323.456
CCC	8	129.92	-61.41	68.51	-23.0200	40.48670	1639.173
CS	8	1.13	25.11	26.24	25.8388	.37441	.140
SG	8	.63	-.14	.49	.1638	.17460	.030
CR	8	4.95	.91	5.86	2.9900	1.47538	2.177
ATR	8	3.43	.46	3.89	1.6950	1.05071	1.104
Valid N (listwise)	8						

Source*: Compiled information run on SPSS* (Version 16)

The following observation was made from table 4.2 above which were prepared based on the period covered by the study: -

- The GOP of TPCCL ranges between Tsh 43.011billion and Tsh 100.0 billion which indicate the difference of Tsh 79.394 billion with mean of Tsh 82.9 billion and standard deviation of 25.97 billion .

- The ACP of TPCCL ranges between 6.14 days and 19.80 days with an average of 10.51 days and standard deviation of 4.30 days.

- APP ranges between 46.61days and 83.13 days with a mean of 63.1263 days and standard deviation of 10.97959 days.

- The ITID ranges between 13.95 days and 119.13 days with average of 29.5962 days and standard deviation of 36.37934 days which reflected greater variability in terms of days used by the TPCCL to convert finished good into sales revenue.

- The CCC ranges between -61.41 days and 68.51 days with mean of -23.02 days and standard deviation of 40.48670 days which indicated high variability.

- The mean company size (natural log of sales) of the TPCCL for the period of eight (8) years recorded 25.8388 with standard deviation of natural logarithm of 0.37441 and range of natural logarithm of 1.13.

- Sale Growth (SG) of the company for the period covered by the study recorded the average of growth factor of 0.1638 and range of 0.63 with standard deviation of 0.17460.

- Current ratio for TPCCL ranges between 0.91 and 5.86 with average of 2.9900 and standard deviation of 1.47538 which indicated that the company was liquid enough to settle their current liabilities when they fall due.

- The acidity test ratio of TPCCL ranges between 0.46 and 3.89 with mean of 1.6950 and standard deviation of 1.05071. This implied that TPCCL experience less liquidity variation within the period covered by the study.

Thus it can be inferred that the deviations in terms of standard deviation of ACP, APP, CS, CR, ATR and GOP are lower than their averages whereas the SD of SG, ITID and CCC are more than their respective averages.

4.3. Correlation between variables

An attempt was made to find the correlation between the variables used in this work by employing Pearson's coefficient of correlation analysis. As reflected in the literature review, if ACP decreases within specified period of time it enables the firm to achieve higher sales revenue and automatically GOP increases. For this rationale the expected correlation will be negative. Not only that but also the correlation between GOP and APP is expected to be positive. This indicated that when the firms' APP decreases it will cause same impact on GOP. Also there is expected negative correlation between GOP and ITID. The correlation between CCC and GOP is expected to be negative. The correlation between GOP and control variables has been calculated and presented below.

4.3.1 Correlation of TCCL

The table 4.3 below presents the result for correlation of TCCL.

Table 4.3 Correlation analysess of TCCL

Control Variables			GOP	ACP	APP	ITID	CCC	CS	SG	CR	ATR
-none-[a]	GOP	Correlation	1.000	-.313	-.277	-.148	.021	.924	-.212	.473	.251
		Significance (2-tailed)	.	.450	.506	.727	.961	.001	.613	.236	.549
	ACP	Correlation	-.313	1.000	-.109	-.068	.336	-.015	-.014	.163	.399
		Significance (2-tailed)	.450	.	.796	.872	.415	.971	.975	.699	.327
	APP	Correlation	-.277	-.109	1.000	.981	.750	-.401	.476	-.588	-.648
		Significance (2-tailed)	.506	.796	.	.000	.032	.324	.234	.126	.082
	ITID	Correlation	-.148	-.068	.981	1.000	.848	-.262	.535	-.534	-.620
		Significance (2-tailed)	.727	.872	.000	.	.008	.531	.172	.172	.101
	CCC	Correlation	.021	.336	.750	.848	1.000	.038	.554	-.295	-.337
		Significance (2-tailed)	.961	.415	.032	.008	.	.929	.154	.478	.415

Source*: Compiled information run on SPSS* (Version 16)

The following observations can be made from the analysis of the above table:

- The Correlation between ACP and GOP is negative recording -0.313 and it is not significant at 5% level (0.45).
- The Correlation between APP and GOP is negative (-0.277) which is against expectation, however it is not significant (0.506).
- The correlation between ITID and GOP is negative (-0.148) as per expectation, however the correlation is insignificant (0.727).

- The correlation between CCC and GOP is positive (0.021) but against expectation therefore, the correlation is not significant (0.961)

From the above observations it can be inferred that the correlations between ACP, ITID and GOP are negative as expected but not significant. The correlation between APP and GOP is negative which is against the expectation. Similarly the correlation between CCC and GOP was positive and not as expected.

4.3.2 Correlation of TPCCL

The table 4.4 below presents the result for correlation of TPCCL

Table 4.4 Correlation analyses of TPCCL

Control Variables			GOP	ACP	APP	ITID	CCC	CS	SG	CR	ATR
-none-[a]	GOP	Correlation	1.000	.091	.440	-.620	-.667	.896	-.274	-.179	-.281
		Significance (2-tailed)	.	.830	.275	.101	.071	.003	.511	.672	.500
	ACP	Correlation	.091	1.000	-.486	.084	.314	.338	-.706	.328	.302
		Significance (2-tailed)	.830	.	.222	.843	.449	.413	.050	.428	.466
	APP	Correlation	.440	-.486	1.000	-.131	-.440	.242	-.087	-.221	-.275
		Significance (2-tailed)	.275	.222	.	.758	.275	.563	.837	.600	.510
	ITID	Correlation	-.620	.084	-.131	1.000	.943	-.756	-.075	.805	.864
		Significance (2-tailed)	.101	.843	.758	.	.000	.030	.860	.016	.006
	CCC	Correlation	-.667	.314	-.440	.943	1.000	-.709	-.119	.818	.883
		Significance (2-tailed)	.071	.449	.275	.000	.	.049	.779	.013	.004

Source*: Compiled information run on SPSS* (Version 16)

The following observations can be made from the analysis of data in the above table:

- The correlation between ACP and GOP is positive 0.091 as against expectation. However the relationship is not significant (0.83).
- The correlation between APP and GOP is positive 0.440 as expected, however the correlation is not statistically significant (0.275).
- The correlation between ITID and GOP is negative -0.620 as per expectations while the correlation is not significant (0.101).
- The correlation between CCC and GOP is negative -0.667 as expected. The correlation is not significant.

From the above observations it can be inferred that the correlations between ITID, CCC and GOP are negative as expected but not significant. Similarly the correlation between ACP and GOP is positive and not as expected but not significant. Also the results revealed the expected positive correlation between GOP and APP, however it is not significant.

4.4 Regression Results of TCCL:

Regression analysis has been conducted to assess whether there is significant relationship between efficiency measures of working capital management and GOP of TCCL. ACP, APP, ITID and CCC are included as independent variables or as predictor of operating profit and CS, SG, CR and ATR are taken as control variables. GOP is taken as dependent variable. The following aspects deal with the same.

4.4.1 The impact of ACP on GOP.

The Model summary, regression coefficients of TCCL to assess the impact of ACP on GOP are given in the following tables:

Table 4.5: Model summary of TCCL

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.992[a]	.985	.948	2.553E9	.985	26.364	5	2	.037

Source*: Compiled information run on SPSS* (Version 16)

Table 4.6 Regression coefficients of TCCL

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-6.616E11	9.029E10		-7.327	.018		
	ACP	-6.093E9	4.541E8	-.204	-1.342	.312	.324	3.090
	CS	2.791E10	3.620E9	.808	7.710	.016	.681	1.468
	SG	-8.662E7	1.279E10	.000	.007	.995	.353	2.832
	CR	7.102E9	4.458E9	.635	1.593	.252	.047	6.580
	ATR	-8.731E9	8.210E9	-.502	-1.064	.399	.033	5.859

Source: *Compiled information run on SPSS* (Version 16)

The following observations can be made from the analysis of data in the above table:-

- The overall model explain 98.5% of variation in GOP caused by ACP after controlling the effects of control variable, therefore the variation is significant at 5% confidence level (0.037). The collinearity is below the required level.
- The relationship between ACP and GOP is negative -6.093 as expected and the relationship is not significant at 5% confidence level (0.312).
- The CR (7.102), CS (2.791) are positive related with GOP but significant only in the case of CS (.016). While SG (-8.662) and ATR (-8.731) are negatively related with GOP against expectation but the relationship is not significant.

4.4.2 The impact of APP on GOP.

The model summary and regression coefficients of the impact of APP on GOP are presented below.

Table 4.7: Model summary of TCCL

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.987[a]	.975	.911	3.334E9	.975	15.288	5	2	.063

Source: *Compiled information run on SPSS* (Version 16)

Table 4.8 Regression coefficients of TCCL

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-6.534E11	1.220E11		-5.356	.033		
	CS	2.723E10	4.765E9	.788	5.714	.029	.670	1.491
	SG	-1.120E10	1.310E10	-.127	-.855	.483	.573	1.744
	CR	1.133E10	3.876E9	1.013	2.923	.100	.106	9.431
	APP	3.785E7	7.934E7	.075	.477	.680	.514	1.946
	ATR	-1.661E10	6.629E9	-.956	-2.506	.129	.088	8.412

Source*: Compiled information run on SPSS* (Version 16)

The following observations can be made from the analysis of data in the above table:-

- The overall model explains 97.5% of variation in GOP caused by APP after controlling the effects of control variable however the variation is not significant. The collinearity is below the required level.
- The relationship between APP and GOP is positive 3.785 as expected and the relationship is not significant (0.680).
- The CR (1.133), CS (2.723) are positive related with GOP but significant only in the case of CS (.029). While SG (-1.120) and ATR (-1.661) are negatively related with GOP against expected and the relationship is insignificant.

4.4.3: The impact of ITID on GOP

The model summary and regression coefficients are given in the following tables:

Table 4.9 Model summary of TCCL

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.987[a]	.975	.912	3.312E9	.975	15.503	5	2	.062

Source*: Compiled information run on SPSS.* (Version 16)

Table 4.10 Regression coefficients of TCCL

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-6.425E11	1.153E11		-5.572	.031		
	CS	2.681E10	4.537E9	.776	5.910	.027	.730	1.371
	SG	-1.217E10	1.327E10	-.138	-.917	.456	.551	1.813
	CR	1.136E10	3.836E9	1.016	2.961	.098	.107	9.366
	ITID	2.649E7	5.215E7	.076	.508	.662	.562	1.778
	ATR	-1.674E10	6.466E9	-.963	-2.589	.122	.091	9.005

Source*: Compiled information run on SPSS* (Version 16)

The following observations can be made from the tables:

- The regression model summary clarifies 97.5% of variation in GOP caused by ITID after controlling the effects of control variables but the variation is insignificant. The collinearity is below the required level.
- The relationship between ITID and GOP is positive 2.649 against expectations; however the relationship is not significant.
- The relationship between CS (2.681), CR (1.136) and GOP are positive but significant only in the case of CS (.027). But there was insignificant negative relationship between SG (-1.217), ATR (-1.674) and GOP.

4.4.4: The impact of CCC on GOP

The model summary and regression coefficients of the impact of CCC on GOP are presented below.

Table 4.11 Model summary of TCCL

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.986[a]	.972	.903	3.469E9	.972	14.093	5	2	.068

Source*: Compiled information run on SPSS* (Version 16)

Table 4.12 Regression coefficients of TCCL

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-6.257E11	1.238E11		-5.055	.037		
	CS	2.619E10	4.921E9	.758	5.321	.034	.680	1.470
	SG	-1.274E10	1.589E10	-.145	-.802	.507	.422	2.368
	CR	1.179E10	4.060E9	1.055	2.904	.101	.105	9.560
	CCC	3.363E7	1.397E8	-.036	.241	.832	.634	1.578
	ATR	-1.794E10	6.554E9	-1.032	-2.737	.112	.097	9.306

Source: Compiled information run on SPSS (Version 16)

The following observations can be made from the tables:

- The overall regression model explains 97.2% of discrepancy in GOP caused by CCC after controlling the effects of control variables, however the variation is insignificant. The collinearity is below the required level.

- The relationship between CCC and GOP is positive (3.363) against expected; however the relationship is not significant.

- The relationship between CS (2.619), CR (1.179) and GOP are positive but significant only in the case of CS (.034). Whereas the relationship between SG (-1.274), ATR (-1.794) and GOP is negative against expected but insignificant.

From the above interpretations it can be concluded that the impact of ACP on GOP is negative as expected and the relationship is not significant. Also the impact of APP on GOP is positive as expected but not significant. While the relationship between CCC and GOP is positive against expected but not significant. However the relationship between ITID and GOP is positive but not expected and is not significant. The relationship between CS, CR and GOP are positive as expected but significant only in case of CS. Whereas relationship between SG, ATR and GOP is insignificant negative against expected.

4.5 Regression Results of TPCCL:

Regression analysis has been carried to evaluate whether there is significant relationship between efficiency measures of working capital management and GOP of TPCCL. ACP, APP, ITID and CCC are included as independent variables or as predictor of GOP and CS, SG, CR and ATR are taken as control variables. GOP is taken as dependent variable. The following aspects deal with the same.

4.5.1 The impact of ACP on GOP.

The model summary and regression coefficients are given in the following tables below:

Table 4.13 Model summary of TPCCL

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.994[a]	.989	.960	5.167E9	.989	34.965	5	2	.028

Source*: Compiled information run on SPSS* (Version 16)

Table 4.14 Regression coefficients of TPCCL

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-2.235E12	2.316E11		-9.651	.011		
	ACP	-2.384E9	7.027E8	-.395	-3.392	.077	.417	2.397
	CS	8.957E10	8.993E9	1.291	9.960	.010	.336	2.973
	SG	2.229E10	1.716E10	.150	1.299	.324	.425	2.354
	CR	7.378E9	9.232E9	.419	.799	.508	.021	8.676
	ATR	1.457E9	1.390E10	.059	.105	926	.018	5.955

Source*: Compiled information run on SPSS* (Version 16)

The following observations can be made from the analysis of data in the above table:

- The regression model explain 98.9% of variation in GOP caused by ACP after controlling the effects of control variable, hence the variation is significant at 5% confidence level (0.028). The collinearity is below the required level.
- The relationship between ACP and GOP is negative -2.384 as expected; therefore the relationship is insignificant.
- The relationship between CS (8.957), SG (2.229), CR (7.378), ATR (1.457). and GOP are positive but significant only in case of CS (0.01).

4.5.2 The impact of APP on GOP

The model summary and regression coefficients of the impact of APP on GOP are presented below.

Table 4.15 Model summary of TPCCL

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.997[a]	.993	.977	3.947E9	.993	60.212	5	2	.016

Source: *Compiled information run on SPSS* (Version 16)

Table 4.16 Regression coefficients of TPCCL

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-2.132E12	1.722E11		-12.384	.006		
	CS	8.292E10	6.582E9	1.196	12.597	.006	.366	2.730
	SG	5.795E10	1.107.E10	.390	5.233	.035	.595	1.680
	CR	3.443E9	7.238E9	.196	.476	.681	.020	5.250
	APP	6.847E8	1.489E8	.289	4.599	.044	.833	1.201
	ATR	5.578E9	1.084E10	.226	.514	.658	.017	8.731

Source*: Compiled information run on SPSS* (Version 16)

The following observations can be made from the analysis of data in the above table:

- The regression model explain 99.3% of variation in GOP caused by APP after controlling the impacts of control variables, therefore the discrepancy is statistically significant at 5% confidence level (0.016). The collinearity is below the required level.
- The relationship between APP and GOP is positive 6.847 as expected and is significant at 5% confidence level (0.044).
- The relationship between SG (5.795), CS (8.292), CR (3.443), ATR (5.578) and GOP are positive while SG and CS are significant at 5% confidence level (.035), (.006) respectively.

4.5.3 The impact of ITID on GOP

The model summary and regression coefficients of the impact of ITID on GOP are presented below.

Table 4.17 Model summary of TPCCL

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.994[a]	.988	.957	5.370E9	.988	32.332	5	2	.030

Source: *Compiled information run on SPSS* (Version 16)

Table 4.18 Regression coefficients of TPCCL

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	T	Sig.	Tolerance	VIF
1	(Constant)	-3.764E12	5.836E11		-6.449	.023		
	ITID	1.060E9	3.270E8	1.484	3.241	.083	.029	4.340
	CS	1.470E11	2.238E10	2.120	6.571	.022	.059	7.034
	SG	1.270E11	2.714E10	.854	4.679	.043	.183	5.451
	CR	2.121E10	9.795E9	1.205	2.165	.163	.020	6.686
	ATR	-4.027E10	1.687E10	-1.629	-2.387	.143	.013	7.261

Source: *Compiled information run on SPSS* (Version 16)

The following observations can be made from the analysis of data in the above table:

- The regression model explain 98.8% of variation in GOP is caused by ITID after controlling the impacts of control variables, therefore the variation is significant at 5% confidence level (0.030). The collinearity is below the required level.
- The relationship between ITID and GOP is positive 1.060 against expectations; however the relationship is not significant.
- The relationship between CS (1.470), SG (1.270), CR (2.121) and GOP are positive but only significant in case of CS (.022) and SG (0.43). However there is unexpected negative relationship between ATR (-4.027) and GOP but not significant.

4.5.4 The impact of CCC on GOP

The model summary and regression coefficients are presented in the following tables.

Table 4.19: Model summary of TPCCL

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.998[a]	.997	.988	2.842E9	.997	16.470	5	2	.009

Source: *Compiled information run on SPSS* (Version 16)

Table 4.20 Regression coefficients of TPCCL

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-5.411E11	2.589E11		-2.090	.172		
	CS	2.157E10	1.019E10	.311	2.117	.169	.079	9.124
	SG	-2.721E10	1.472E10	-.183	-1.848	.206	.175	5.725
	CR	-1.257E10	6.336E9	-.714	-1.984	.186	.013	8.733
	CCC	-1.063E9	1.627.E8	-1.657	-6.530	.023	.027	7.615
	ATR	4.964E10	1.176E10	2.008	4.222	.052	.008	9.169

Source: *Compiled information run on SPSS* (Version 16)

The following observations can be made from the analysis of data in the above tables:

- The overall regression model explain 99.7% of variation in GOP caused by CCC after controlling the effects of control variables, the variation is significant at 5% confidence level (0.009). The collinearity is below the required level.
- The relationship between CCC and GOP is negative -1.063 as expected; Therefore the relationship is significant at 5% confidence level (0.023).
- The relationship between CS (2.157), ATR (4.964) and GOP are positive but insignificant. Whereas relationship between SG (-2.721), CR (-1.257) was insignificant negative against expected.

From the above observations it can be inferred that the impact of ACP on GOP is negative as expected but the relationship was insignificant. While relationship between

CS, CR, SG, ATR and GOP are positive but significant only in case of CS. Also it can be concluded that the relationship between APP and GOP is positive as expected and significant.

The relationship between ITID and GOP is positive against expectations however it is not significant, but the relationship between CS, SG, CR and GOP are positive while it's significant in case of CS and SG only while ATR brings un-expected insignificant negative relationship on GOP. Also there is a negative relationship between CCC and GOP as expected but significant while the relationship between CS, ATR, and GOP is insignificant positive also SG, CR brings unexpected insignificant negative relationship on GOP.

4.6 Comparison between TCCL and TPCCL

An attempt is made to assess the comparative performance of both listed cement companies in term of regressions. The regression coefficients of independent variables viz; ACP, APP, ITID and CCC and their significance levels of both the companies are presented below.

Table 4.21 Regression coefficients of TCCL and TPCCL

		ACP	APP	ITID	CCC
TCCL	Coefficients	-6.093	3.785	2.649	3.363
	Significance	0.312	0.680	0.662	0.832
TPCCL	Coefficient	-2.384	6.847	1.060	-1.063
	Significance	0.077	0.044	0.083	0.023

Source*: Compiled information from regression tables of TCCL and TPCCL*

The above comparative table reveals the following:

- The impact of ACP on GOP in both companies is negative as expected but insignificant. Comparatively TCCL appears better as it s coefficient is higher.

- The impact of APP on GOP in both companies is positive as expected but significant (0.044) in the case of TPCCL. Comparatively TPCCL appears better performance in APP management.

- The impact of ITID on GOP in both companies is positive against expectation but not significant in both companies. Comparatively TCCL appears better as it is coefficient is lower.

- The impact of CCC on GOP for TCCL is positive against expected but insignificant while for TPCCL is significant negative as expected. Comparatively TPCCL appears better as its relationship is significant negative as expected.

- The impact of CS on GOP is positive in both the companies and also significant. Further the SG also positive in both companies but not at significant level. The SG and ATR bring insignificant negative relationship with GOP on TCCL while yield positive relationship for TPCCL but significant only in-case of SG.

Thus basing on the variables of interest TPCCL performing much better than TCCL.

CHAPTER FIVE

DISCUSSION OF THE FINDINGS

5.1 Introduction

This study investigates the impact of working capital management on profitability of cement companies listed on Dar-Es-Salaam Stock Exchange. The purpose of this chapter is to present discussion of the findings obtained in chapter four. The chapter start to discuss correlation results then regression results will follow.

5.2 Discussion of Correlation.

An attempt was made to analyze the correlation between management of working capital components of TCCL and TPCCL and their GOP respectively. The followings deal with the discussion on the same.

5.2.1: Correlation between working capital efficiency ratios of TCCL and its GOP:

The correlation between GOP and ACP was negative as expected but insignificant. This implied that as firm collects their collectable quickly automatically GOP will increase but when they takes longer to collect accounts receivables this will make GOP to decrease. This could be due to the fact that by collecting early firms will have cash on hand which can invest into short term investments like marketable securities, open fixed deposit accounts hence gains from those investment will contribute into GOP increase. Similarly collecting early will reduce the risks of bad debts. This finding is consistent with Soekhoe (2012), Pansiana et al. (2014), Madishetti and Kibona (2013).

The study inferred negative correlation between GOP and APP against expectation but this relationship in not significant. This un-expected outcomes is due to inefficiency in working capital management so particular company should take measure to proper management of APP to bring into positive relationship. This agreed to Falope and Aljilore (2009).

The observations from the study indicating negative correlation between GOP and ITID as expected which implied that when firms took few days to convent inventory into revenue will earn huge GOP but when it take longer obvious GOP will decrease. This result is agreed with Panigrahi (2013). Found negative correlation between GOP and Inventory conversion period.

On the other hand the evidence revealed that there is a positive correlation between GOP and CCC against expectation but this relationship in not significant. This un-expected outcomes could be due inefficiency in working capital management, therefore management should take enough effort to manage their CCC to bring into negative position.

5.2.2 Correlation between working capital efficiency ratios and GOP of TPCCL

An attempt was made to examine the correlations between working capital components of TPCCL and its GOP. The followings are the discussions.

The correlation between GOP and ACP is positive against expected but the correlation is insignificant. This un-expected outcomes is due to inefficiency in ACP management, therefore management must get enough and further effort to administer their ACP to change direction. The result agreed to Nzioki et al. (2014), Kimeli (2012) and Ghosh and Maji (2003). Both of them found positive correlation between GOP and ACP.

The observations from the study indicating positive correlation between GOP and APP as expected but the correlation is not significant. This implied that as firm delay payment earn huge GOP but when pay early earn less GOP. The result agreed to Madishetti and Kibona (2013), Nzioki et al. (2013), Pansiana et al. (2014) and Kimeli (2012). Both of them found positive correlation between GOP and APP.

The above observation indicating negative correlation between GOP and ITID as expected but is not significant. It implied that when firms took few days to convent inventory into revenue will earn huge GOP but when it take longer obvious GOP will

decrease. This result is agreed with Panigrahi (2013). Found negative correlation between GOP and Inventory conversion period.

It also concluded that the correlation between GOP and CCC is negative as expected but it is not significant. The implication is that for company having less CCC earns huge GOP while those having high CCC earn less GOP. This result agreed to Nzioki et al. (2013), Eljel (2004) and Pansiana et al. (2014). Both of them found negative relation between GOP and CCC.

Therefore based on the above correlation results, in both companies some of the result revealed unpredicted correlations, so that an attempt should be made to reverse the situations. Not only that but also to control working capital in a manner that the correlation between GOP and working capital components should be significant as expected.

5.3 Discussion of Multiple regression.

5.3.1. The impact of independent variables of working capital on GOP of TCCL

An attempt was made to assess the impact of working capital management on GOP, below are the discussions for TCCL results.

The relationship between ACP and GOP is negative as expected and the relationship is insignificant, this infer that by having few days to collect accounts receivables GOP will increase but also by having a policy of delaying to collect receivables obvious GOP will be decreasing. This finding is consistent with Madishetti and Kibona (2013), Napompech (2012) and Pansiana et al. (2014). Both of them found negative relationship between ACP and GOP.

The relationship between APP and GOP is positive as expected and the relationship is not significant. It implied that by having a policy of paying suppliers early it will reduce the GOP but delaying in payments will cause GOP to increase. Similar result obtained by Kimeli (2012), Pansiana et al. (2014), and Rehman and Anjum (2013).

The relationship between ITID and GOP is positive against expected and the relationship is not significant. This unforeseen result signifies inefficiencies in ITID management, so that care should be taken to improve the supervision of ITID to get correct relationship between GOP and ITID.

It also concluded that the relationship between GOP and CCC is positive against expected but the relationship in not significant. The implied that companies having less CCC earn less GOP while those having high CCC earn higher GOP.

5.3.2: The impact of independent variables of working capital on GOP of TPCCL

An attempt was made to assess the impact of working capital management on GOP, below are the discussion for TPCCL results.

The relationship between ACP and GOP is negative as expected and is insignificant, this deduce that by having few days to collect accounts receivables GOP will increase but also delay to collect receivables evident GOP will decrease. Similar findings obtained by Madishetti and Kibona (2013), Napompech (2012) and Raheman and Nasr (2007).

The relationship between APP and GOP is positive as expected and the relationship is significant. It implied that by having a policy of paying suppliers before time it will reduce the GOP but delaying in payments will cause GOP to increase. Similarly Kimeli (2012), Pansiana et al. (2014), and Rehman and Anjum (2013). Both of them found similar result.

The relationship between ITID and GOP is positive against expected, however the relationship is not significant. This unpredicted conclusion signifies inefficiencies in ITID management, so that care should be taken to improve the management of ITID to get negative relationship between GOP and ITID.

It also accomplished that the relationship between GOP and CCC is negative as expected and the relationship is significant. This implied that when company has less CCC earn gigantic GOP while those having high CCC earn a smaller amount of GOP. This result agreed to Nzioki et al. (2013) and Pansiana et al. (2014). Both of them found negative relation between GOP and CCC.

CHAPTER SIX

SUMMARY, CONCLUSION, AND POLICY IMPLICATION

6.1 Introduction

This paper aspired to analyze the impact of management of working capital components on GOP of listed Cement Companies in a DSE. This chapter is therefore a summary of the findings from the analyzed data, conclusion, recommendation and policy implication based on the findings. Not only that but also this chapter provide suggestion for further study in the area of management of working capital.

6.2 Summary

The objective was to assess the impact of working capital management on GOP for registered cement companies in Tanzania. The analysis employed two cement companies (TCCL and TPCCL) as cases for study. The examination covers a period of eight years from 2006 to 2013. Descriptive statistics, Correlation and Multiple regression analyses employed to evaluate data obtained from the published financial statements for the period covered by the study. The following are the summary of this study for both companies.

i. **Summary for Correlation analysis in both companies**

The correlation analysis for TCCL, the study established that an increase in ACP lead to decrease in GOP while decrease in ACP lead to an increase in GOP. Indicating ACP is negatively correlated to GOP. This result is similar to Raheman and Nasr (2007) and Pansiana (2014).

The correlation analysis for TPCCL, the study established positively correlation between ACP and GOP against expectations. Management of ACP for TPCCL requires attention. Similar result obtained by Nzioki et al. (2014), Kimeli (2012) and Ghosh and Maji (2003).

The study established negative correlation between APP and GOP for TCCL against expectation. Now proper management of APP is needed to avoid negative correlation. This is similar to Falope and Ajilore (2009).

Also for TPCCL, the correlation analysis revealed a positive correlation between APP and GOP as expected. This implies as APP increases will cause GOP to increase similarly as APP decreases automatically GOP decrease also. This agreed to Lazaridis and Tryfinidis (2005).

The correlation between ITID and GOP is negatively correlated as expected in both companies. This implied that when ITID increases will cause GOP to decrease, also when ITID decrease GOP will increase. This agreed to Panigrahi (2013).

This study established that a positive correlation between CCC and GOP exists against expected for TCCL. This area requires extensive management to get negative correlation between GOP and CCC.

The study also established negative correlation between CCC and GOP for TPCCL as expected. This implied that as CCC increases will cause GOP to decrease and when CCC decreases GOP will increase also. This is similar to Nzioki et al. (2013), Eljel (2004) and Pansiana et al. (2014).

ii. Summary for Multiple regression analysis for both companies

The impact of ACP on GOP for both companies revealed negative relationship as expected. This implies that an increase in ACP lead into decrease in GOP while decrease in ACP lead into increase in GOP. This is similar to Madishetti and Kibona (2013), Pansiana (2014) and Napompech 2012).

The impact of APP on GOP for both companies revealed positive relationship as per expectations. This implied that an increase in APP lead into an increase in GOP while decrease in APP lead into decrease in GOP also. This is similar to Kimeli (2012), Pansiana et al. (2014), Nzioki et al. (2013) and Reheman and Anjum (2013).

In both companies, the impact of ITID and GOP revealed a positive relationship against expected so that, both companies need to emphasis on efficient management of inventories.

The impact of CCC on GOP for TPCCL revealed a negative relationship as expected. This implied that as CCC decreases will cause GOP to increase and while when CCC increases GOP automatically will increase. This is similar to Nzioki et al. (2013) and Pansiana et al. (2014). Contrarily the impact of CCC on GOP for TCCL revealed a positive relationship against expected. Now emphasis should be made on efficient management of cash and cash equivalent for particular company to get a negative relationship.

6.3 Conclusions

From the analysis infers that, GOP of Cement Companies registered by DSE depends upon well-organized working capital management. The correlation of TCCL revealed that GOP is negatively correlated to ACP as expected while negatively correlated to APP against expected also the study unveil negative correlation between ITID and GOP however the correlation between GOP and CCC was positive against expected. It's emphasized to manage efficiently APP and CCC to avoid unforeseen results.

Furthermore the regression findings unveil that the relationship between GOP and ACP was negative as expected while the relationship between GOP and APP was positive as expected also the relationship between ITID and GOP was positive against expectation while unexpected positive relationship between CCC and GOP occurred. Therefore emphasis should be put on management of ITID and CCC to avoid positive relationship consequence.

In favor of TPCCL, the correlation analysis uncovers unpredicted positive correlation between ACP and GOP while expected positive correlation between APP and GOP. Furthermore it uncovers expected negative correlation between ITID and GOP while there was a negative correlation between CCC and GOP as expected. Therefore it

emphasizing on properly management of ACP to avoid positive correlation against GOP.

Also the multiple regressions revealed that GOP is negatively related to ACP as expected while positively related to APP as expected and positively related to ITID against expected also there was a negative relationship between GOP and CCC as expected. This concluded that care and competent is required on management on ITID.

Comparative performance of both companies in working capital management: Comparatively TPCCL is faring well in the case of APP, CS and SG where as TCCL is performing well in the case of ACP. Both companies are not doing well in the case of ITID as the relationship was positive.

6.4 Recommendations for action

Regression results of both companies showed that positive relationship between ITID and GOP against expectations. Hence both companies have to invest efforts so as to improve its performance in inventory management.

The regression results of impact of APP on GOP of TCCL is positive as expected but not significant. Hence this company has to manage it payable in such way that it should result into a significant level.

The regression for CCC on GOP was positive against expectation but insignificant for TCCL, thus particular company should take measure on cash and cash equivalent management to attain their performance into positive and significant level.

The sales growth of both the companies is positive with GOP but not significant. Hence the managements of both the companies have to invest their efforts in this area.

6.5 Policy implication

This implies that companies depend upon properly working capital management for better achievement of gross operating profit.

6.6 Suggestions for Further Studies

The following are some of the areas that need further investigation: -

- Why there is positive relationship between ITID and GOP in both companies.
- Similar study taking all the companies including private companies.

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APPENDICES

Appendix I: List of Listed Cement Companies

1. Tanga Cement Co. Ltd (Simba Cement)
2. Tanzania Portland Cement Co. Ltd (Twiga Cement)

Appendix II: Financial Statements for TCCL

Income statements for Tanga cement company Ltd for the year ending 31st December 2007 in Tsh

	2007	2006
Revenue	**93,784,426,000**	**77,626,645,000**
Cost of sales	(51,057,886,000)	(45,952,752,000)
Gross profit	42,726,540,000	31,673,893,000
Other Operating Income	1,267,303,000	396,414,000
Selling and Administrative expenses	(7,590,738,000)	(7,148,240,000)
Depreciation and amortization cost	(2,024,505,000)	(1,895,277,000)
Profit from operations	**34,378,600,000**	**23,026,790,000**
Share of profit from associates	431,432,000	90,000,000
Finance cost	(123,952,000)	(137,377,000)
Finance revenue	1,232,000	1,553,000
Foreign exchange gain/(losses)	265,467,000	84,457,000
Profit before tax	**34,421,845,000**	**23,065,423,000**
Tax	(10,831,187,000)	(7,067,479,000)
Profit for the year	**23,590,658,000**	**15,997,944,000**

Source: *TCCL Published financial statements*

Tanga cement company Ltd statement of financial position as at 31st December 2007 in Tsh"000"

	2007	2006
ASSETS		
Non-current assets		
Property, Plant and Equipment	40,811,597	25,226,657
Intangible assets	79,674	119,512
Employees' share trust	-	133,009
Investment in Associates	435,677	418,246
	41,326,930	**25,897,424**
Current Assets	17,688,472	
Inventories	3,219,070	9,113,426
Trade and other receivables	6,552,597	3,906,770
Cash and short term deposits	**27,460,139**	10,112,629
	68,787,069	**23,132,825**
TOTAL ASSETS		**49,030,249**
EQUITY AND LIABILITIES		
Capital and reserves	1,273,421	
Issued capital	2,933,351	1,273,421
Non-distributable reserves	46,307,762	3,081,673
Retained Earnings		31,100,806
	50,514,534	**35,455,900**
Non-current liabilities		
Provision for site restoration	49,443	45,442
Differed tax liabilities	3,795,9403	4,467,136
	3,845,383	**4,512,578**

Source*: TCCL Published financial statements*

Tanga cement company Ltd statement of financial position as at 31st December 2007 in Tsh"000"

	2007	2006
Current liabilities		
Interest bearing loans and borrowings	1,027,386	419,554
Trade and other payables	11,547,684	8,627,451
Income tax payables	1,852,082	14,766
	14,427,152	**9,061,771**
TOTAL EQUITY AND LIABILITIES	**68,787,069**	**49,030,249**

Source*: TCCL Published financial statements*

Income statements for Tanga cement company Ltd for the year ending 31st December 2009 in Tsh "000"

	NOTES	**2009**	**2008**
Revenue- Sale of goods		119,898,248	121,349,244
Cost of sales		(63,828,094)	(68,871,990)
Gross profit	7	**56,070,154**	**52,471,254**
Other income		361,012	999,277
Other expenses	9(a)	(206,083)	(146,016)
Selling expenses	9(b)	(1,297,792)	(1,232,231)
Administration expenses		(7,7,327,710)	(7,091,646)
Depreciation and amortization cost	10	(2,450,783)	(2,207,366)
Operating profit	11	**45,148,798)**	**42,799,272**
Foreign exchange losses	18&19	(1,763,217)	(286,853)
Finance revenue	**12**	58,101	31,382
Finance expenses		-	(312,057)
Share of profit from associates	13	390,898	987,282
Profit before tax	14	**43,834,580**	**43,219,026**
Income tax expenses		(13,414,337)	(12,965,708
Profit for the year		**30,420,243**	**30,253,318**

Source: *TCCL Published financial statements*

Tanga cement company Ltd statement of financial position as at 31st December 2009 in Tsh"000"

	NOTES	2009	2008
ASSETS			
Non-current assets			
Property, Plant and Equipment	18	84,319,136	58,776,827
Due from employees, share trust		379,482	-
Intangible assets		-	39,836
Investment in associates	19	219,885	468,959
	20	**84,990,503**	**59,285,622**
Current Assets			
Inventories		17,176,966	21,138,953
Trade and other receivables		3,808,699	4,600,852
Cash and cash equivalents	21	10,169,853	3,804,282
	22	**31,155,518**	**29,544,087**
TOTAL ASSETS	23	**116,146,021**	**88,829,709**
EQUITY AND LIABILITIES			
Capital and reserves			
Issued share capital		1,273,,421	1,273,421
Revaluation surplus		2,668,534	2,795,906
Retained Earnings	24	87,939,964	57,337,761
	24		
		91,881,919	**61,407,088**
Non-current liabilities			
Provision for site restoration	25	57,445	53,444
Differed tax liabilities	16	13,293,426	6,340,887
		13,350,871	**6,394,331**

Source*: TCCL Published financial statements*

Tanga cement company Ltd statement of financial position as at 31st December 2009 in Tsh"000"

	NOTES	**2009**	**2008**
Current liabilities			
Interest bearing loans and borrowings		-	6,078,136
Trade and other payables		10,626,875	14,422,864
Income tax payables	23&30	286,356	527,290
	26	**10,913,231**	**21,028,290**
TOTAL EQUITY AND LIABILITIES	27	**116,146,021**	**88,829,709**

Source*: TCCL Published financial statements*

Notes to the financial statements

7. COST OF SALES

	2009	2008
	Tsh "000"	Tsh "000"
Finished goods purchased	(5,899,248)	(7,857,883)
Raw materials	(6,028,374)	(6,465,771)
Distribution costs	(8,745,923)	(7,777,629)
Fuel expenses	(15,406,176)	
(16,021,212)		
Electricity expenses	(7,474,184)	(7,170,066)
Personnel expenses	(6,394,511)	(7,069,782)
Maintenance expenses	(5,615,556)	(7,883,346)
Other production expenses	(8,473,656)	
(8,749,986)		
Royalties	(93,146)	(115,273)
Changes in inventory	302,680	238,958
	(63,828,094)	**(68,871,990)**

21.INVENTORIES	2009 Tsh "000"	2008 Tsh "000"
Raw materials (at cost)	2,006,422	1,219,085
Semi finished and finished products (at cost)	1,869,970	5,951,057
Fuels (at cost)	2,996,992	5,466,938
Parts and consumables (at cost)	10,303,582	8,501,873
	17,176,966	**21,138,953**

22.TRADE AND OTHER RECEIVABLES	2009 Tsh "000"	2008 Tsh "000"
Trade receivables	2,040,328	1,892,886
Prepaid expenses	752,752	672,380
Other receivables	1,064,755	2,084,724
Provision for impairment of receivables	(49,136)	(49,136)
	3,808,699	**4,600,852**

26. TRADE AND OTHER PAYABLES	2009 Tsh "000"	2008 Tsh "000"
Trade payables	3,266,824	6,878,111
Other payables	7,360,051	7,544,753
	10,626,875	**14,422,864**

Income statements for Tanga cement company Ltd for the year ending 31st December 2011 in Tsh "000"

	NOTES	Company 2011	Group 2011	Company 2010	Group 2010
Revenue	6	161,435,718	233,863,262	149,181,278	199,428,259
Cost of sales	7	(109,400,777)	(170,126,923)	(89,465,874)	(131,843,967)
Gross profit		**52,034,741**	**63,736,339**	**59,715,404**	**67,584,292**
Other income	9	1,800,390	178,049	895,248	251,579
Other expenses	9b	-	-	(25,628)	-
Selling expenses	10	(1,819,970)	(1,819,970)	(1,939,858)	(1,939,858)
Administration expenses	11	(1,765,620)	(16,872,110)	(6,995,412)	(12,823,099)
Depreciation and amortization cost	19	(5,001,140)	(5,353,534)	(5,489,312)	(5,698,387)
Operating profits		**38,248,401**	**39,868,774**	**46,160,442**	**47,374,527**
Finance costs	13	(613,577)	(741,001)	(806,180)	(880,586)
Finance income	14	52,438	52,438	78,445	78,445
Gain in fair value of pre-acquisition shares	22	-	-	698,680	698,681
Foreign exchange losses	15	(2,238,845)	(2,095,013)	(1,450,858)	(1,227,762)
Share of profit of associates	16	-	-	146,709	146,709
Impairment on an associates	22	-	-	(131,171)	(131,171)
Profit before tax		**35,448,417**	**37,085,198**	**44,696,068**	**46,058,843**
Tax	17	(13,519,747)	(14,794,279)	(12,501,850)	(13,485,040)
Profit for the year		**21,928,670**	**22,290,919**	**32,194,218**	**32,573,803**

Source: *TCCL Published financial statements*

Tanga cement company Ltd statement of financial position as at 31st December 2011in Tsh"000"

	NOTES	Company 2011	Group 2011	Company 2010	Group 2010
Assets					
Non-Current Assets					
Plant, Property and Equipment	16	99,612,508	105,237,748	96,355,635	101,841,407
Intangible assets	20&5	-	2,827,792	-	2,827,792
Due from employee share Trust	21	320,813	320,813	317,376	317,376
Investments	5&22	5,468,,104	-	5,468,104	-
		105,401,425	**108,386,353**	**102,141,115**	**104,986,575**
Current assets					
Inventories	23	32,497,799	36,114,556	25,242,443	30,962,073
Trade and other receivables	24	8,428,127	9,087,416	7,121,056	8,152,341
Cash and cash equivalents	25	9,760,646	12,683,619	8,182,860	9,566,666
		50,686,572	**57,885,591**	**40,546,359**	**48,681,080**
		156,087,997	**166,271,944**	**142,687,474**	**153,667,655**
Total Assets					
Equity and Liability					
Capital and reserves					
Issued capital	26	1,273,421	1,273,421	1,273,421	1,273,421
Retained earnings		115,318,590	113,713,675	106,311,915	105,370,632
Equity attributable to owners of parent		**116,592,011**	**114,987,096**	**107,585,336**	**106,644,053**
Non-controlling interest		-	1,841,493	-	1,935,612
Total Equity		**116,592,011**	**116,828,589**	**107,585,336**	108,579,665
Non-Current Liabilities					
Interest bearing loans	33	-	-	2,500,000	2,500,000

Source*: TCCL Published financial statements*

Tanga cement company Ltd statement of financial position as at 31st December 2011in Tsh"000"

	NOTES	Company 2011	Group 2011		Group 2010
Provisional for liabilities and charges		65,447	65,447	61,446	61,446
Deferred tax liability	27	17,563,609	17,563,609	15,045,642	15,045,642
		17,629,056	17,629,056	17,607,088	17,607,088
Current Liabilities	17				
Interest-bearing loans		2,500,000	2,500,000	5,000,000	5,000,000
Bank overdraft		-	934,367	-	868,076
Trade and other payables	33	18,373,871	27,270,891	12,256,301	21,279,187
Income tax payable	33	993,059	1,109,041	238,749	333,039
	28	**21,866,930**	**31,814,299**	**17,495,050**	**27,480,902**
Total liabilities	29	**39,495,986**	**49,443,355**	**35,102,138**	**45,087,990**
Total Equity and Liabilities		**156,087,997**	**166,271,944**	**142,687,474**	**153,667,655**

Source*: TCCL Published financial statements*

Notes to the financial statements

7. COST OF SALES

	Company 2011 Tsh "000"	**Group 2011 Tsh "000"**	**Company 2010 Tsh "000"**	**Group 2010 Tsh "000"**
Included in cost of sales are				
Raw materials				
Distribution cost	34,104,158	34,483,705	26,890,326	26,890,326
Fuel expenses	13,638,865	73,985,264	12,375,626	26,296,791
Electricity expenses	21,919,871	21,919,871	17,412,683	17,412,683
Personnel's expenses	12,368,489	12,368,489	9,322,403	9,322,403
Maintenance expenses	7,625,285	7,625,285	6,931,190	6,931,190
Other production expenses	12,924,744	12,924,744	9,219,168	9,219,168
Cost cement purchases	6,819,565	6,819,565	7,314,478	7,314,478
	-	-	-	28,456,928
Total	**109,400,977**	**170,126,923**	**89,465,874**	**131,843,967**

23 INVENTORIES

	Company 2011 Tsh "000"	Group 2011 Tsh "000"	Company 2010 Tsh "000"	Group 2010 Tsh "000"
Raw mateials (at cost)	2,764,261	2,764,261	2,063,037	2,063,037
Semi finished and finished products (at cost)	9,743,299	11,595,996	7,594,155	11,053,664
Fuel (at cost)	7,063,143	7,063,143	2,829,992	2,829,992
Parts and consumables (at Cost)	16,420,840	16,420,840	16,200,675	16,200,675
Goods in Transit		1,764,060		2,260,121
	35,991,543	39,608,300	28,687,559	34,407,489
Provision for obsolete stocks	3,493,744	3,493,744	3,445,416	3,445,416
Total inventories at the lower of cost and net realizable value	**32,497,799**	**36,114,556**	**25,242,443**	**30,962,073**

24 TRADE AND OTHER RECEIVABLES

	Company 2011 Tsh "000"	Group 2011 Tsh "000"	Company 2010 Tsh " 000"	Group 2010 Tsh "000"
Trade accounts receivable	7,356,644	2,290,245	5,498,609	3,541,683
Preapaid expenses	493,363	6,219,051	1,452,109	4,440,320
other receivables	578,120	578,120	170,338	170,338
Provision for impairment of receivables				
Total	**8,428,127**	**9,087,416**	**7,121,056**	**8,152,341**

28 TRADE AND OTHER PAYABLES

	Company 2011 Tsh "000"	Group 2011 Tsh "000"	Company 2010 Tsh "000"	Group 2010 Tsh "000"
Trade accounts payable	9,340,322	14,252,580	7,568,150	15,636,338
Advance from customer		2,505,247		
Freight and duty clearing	824,244	243,040	1,069,195	1,069,195
Dividend payable	1,370,320	1,370,320	1,521,715	1,521,715
Accrual expenses	852,142	2,236,720	825,843	870,843
Other payable	5,986,843	6,662,984	1,271,398	2,181,096
Total	**18,373,871**	**27,270,891**	**12,256,301**	**21,279,187**

Income statements for Tanga cement company Ltd for the year ending 31st December 2013 in Tsh "000"

	NOTES	Company 2013	Company 2012	Group 2013	Group 2012
Revenue	5	182,784,033	195,603,983	233,060,598	257,921,831
Cost of sales	6	(120,063,342)	(129,895,517)	(161,388,119)	(178,537,803)
Gross profit		**62,720,691**	**65,708,466**	**71,672,479**	**79,384,028**
Other income	7	1,821,165	1,796,386	67,834	164,135
Selling expenses	8	(2,200,158)	(2,046,290)	(2,200,158)	(2,046,290)
Administration expenses	9	(9,829,803)	(8,357,451)	(16,129,269)	(14,978,179)
Depreciation	10	(5,778,295)	(5,133,902)	(6,052,769)	(5,462,771)
Operating profits	10	**46,733,600**	**51,967,209**	**47,358,117**	**57,060,923**
Finance costs	11	(12,207)	(211,483)	(71,195)	(354,147)
Finance income	12	382,378	507,381	382,378	507,381
Foreign exchange losses	13	(1,058,553)	(991,434)	(1,345,531)	(1,281,090)
Profit before tax		**46,045,218**	**51,271,673**	**46,323,769**	**55,933,067**
Tax	14	(13,588,984)	(16,772,541)	(14,158,879)	(18,819,650)
Profit for the year		**32,456,234**	**34,499,132**	**32,164,890**	**37,113,417**

Source*: TCCL Published financial statements*

Tanga cement company Ltd statement of financial position as at 31st December 2013in Tsh"000"

	NOTES	Company 2013	Company 2012	Group 2013	Group 2012
Assets					
Non-Current Assets					
Plant, Property and Equipment	16	132,736,446	103,026,587	137,902,268	108,464,946
Intangible assets	17	-		7,444,384	2,827,792
Due from employee share Trust	18	506,787	467,241	506,787	467,241
Investments	19	11,596,812	5,468,104	-	
		144,840,045	**108,961,932**	**145,853,439**	**111,759,979**
Current assets					
Inventories	20	20,257,181	28,218,706	22,093,147	31,882,065
Trade and other receivables	21	9,414,579	9,139,159	4,895,344	3,649,146
Tax recoverable	26	1,749,304		4,780,650	5,643,832
Cash and cash equivalents	22	30,531,552	38,756,679	31,612,679	40,943,678
		61,952,616	**76,114,544**	**63,381,820**	**82,118,721**
Total Assets		**206,792,661**	**185,076,476**	**209,235,259**	**193,878,700**
Equity and Liability					
Capital and reserves					
Issued capital	23	1,273,421	1,273,421	1,273,421	1,273,421
Retained earnings		169,737,752	143,959,986	168,431,556	143,176,878
Equity attributable to owners of the parent		171,011,173	145,233,407	`169,704,977	144,450,299
Non-controlling interest		-	-	-	2,473,971
Total Equity		**171,011,173**	**145,233,407**	**169,704,977**	146,924,270

Source*: TCCL Published financial statements*

Tanga cement company Ltd statement of financial position as at 31st December 2013 in Tsh"000"

	NOTES	Company 2013	Company 2012	Group 2013	Group 2012
Non-Current Liabilities					
Provisional for Quarry site restoration		73,449	69,448	73,449	69,448
Deferred tax liability	24	20,226,783	19,354,560	20,226,783	19,354,560
		20,300,232	**19,424,008**	**20,300,232**	**19,424,008**
Current Liabilities	14				
Bank overdraft		-	-	60,598	911,922
Trade and other payables		15,481,256	18,419,498	19,169,452	24,332,276
Income tax payable	30	-	1,999,563	-	2,286,224
	25	**15,481,256**	**20,419,061**	**19,230,050**	**27,530,422**
Total liabilities	26	**35,781488**	**39,843,069**	**39,530,282**	**46,954,430**
Total Equity and Liabilities		**206,792,661**	**185,076,476**	**209,235,259**	**193,878,700**

Source*: TCCL Published financial statements*

5. COST OF SALES (Tsh "000")

	Company 2013	Company 2012	Group 2013	Group 2012
Production cost	119,614,667	129,389,301	160,939,444	178,031,587
Royalties	448,675	506,216	448,675	506,216
	120,063,342	**129,895,517**	**161,388,119**	**178,537,803**

20. INVENTORIES (Tsh "000")

	Company 2013	Company 2012	Group 2013	Group 2012
Raw materials	4,529,622	3,646,022	4,529,622	3,646,022
Semi and finished goods	2,936,430	9,523,841	3,841,104	11,724,591
Fuel	2,187,807	4,700,774	2,187,807	4,700,774
Parts and consumables	15,795,759	14,914,155	15,795,760	14,914,155
Goods in transit	-	-	931,291	1,462,609
	25,449,618	32,784,792	27,285,584	36,448,151
Provisional for obsolete stock	(5,192,437)	(4,566,086)	(5,192,437)	(4,566,086)
Total inventories	**20,257,181**	**28,218,706**	**22,093,147**	**31,882,065**

21. TRADE AND OTHER RECEIVABLE

	Company 2013 Tsh "000"	Company 2012 Tsh "000"	Group 2013 Tsh "000"	Group 2012 Tzs "000"
Trade accoounts receivables	8,063,612	8,250,796	3,379,793	2,159,324
Advance to suppliers		285,806	164,584	852,952
Prepaid expenses	977,399	203,161	977,399	203,161
Staff advances and loans		396,561		396,561
Other receivables	373,568	2,835	373,568	37,148
Provision for impairment of receivables				
	9,414,579	**9,139,159**	**4,895,344**	**3,649,146**

Appendix III: Financial Statements for TPCCL

Income statements for TPCCL for the year ending 31st December 2007 in Tsh "000"

	NOTES	2007	2006
Revenue	7	119,764,889	80,203,239
Cost of sales	9	(60,647,709)	(37,192,018)
Gross profit		**59,117,180**	**43,011,222**
Other Income	**8**	249,374	124,462
Selling and Marketing cost	10	(1,093,907)	(913,722)
Admistration cost	11	(8,840,836)	(6,194,846)
Depreciation and amortization cost	6,15 &16	(2,906,872)	(2,768,886)
Other expenses	12	(379,924)	(283,436)
Write-off and increase in provision for obsolete stock	17	(904,731)	(4,723,717)
Operating profit		**45,240,284**	**28,251,077**
Finance Revenue	13	586,715	290,721
Financial cost	14	(355,843)	(345,275)
Foreign currency translation		(1,889,594)	(264,192)
Profit before tax		**43,581,562**	**27,932,331**
Tax	27	(13,469,977)	(8,432,293)
Profit for the year		**30,111,586**	**19,500,037**

Source: *TPCCL Published financial statements*

TPCCL statement of financial position as at 31st December 2007 in Tsh"000"

	NOTES	2007	2006
Assets			
Non-Current Assets			
Plant, Property and Equipment	6	59,947,439	29,172,977
Intangible assets	15	43,972	28,408
Leasehold land	16	209,534	215,062
		60,200,945	**29,416,448**
Current assets			
Inventories	17	18,112,545	13,177,260
Trade receivables	18	2,422,990	2,510,930
Other Short-term operating receivables	19	1,577,586	14,630,972
Tax recoverable	27		953,369
Cash and Bank balances	20	20,652,680	8,149,852
		42,765,801	**39,422,383**
Total Assets		**102,966,746**	**68,838,831**
Equity and Liability			
Equity			
Share capital	21	3,598,462	3,598,462
Retained earnings		75,291,771	50,218,031
		78,890,233	**53,816,493**
Non-Current Liabilities			
Long-term financial liabilities	23	579,184	629,548
Gratuity provision	24	465,000	481,985
Deferred tax	27	6,190,325	7,180,050
		7,234,509	**8,291,583**

Source*: TPCCL Published financial statements*

TPCCL statement of financial position as at 31st December 2007 in Tsh"000"

	NOTES	2007	2006
Current Liabilities			
Trade and other payables		15,952,113	6,645,290
Lon-term financial liabilities (Current portion)		83,366	85,464
Tax payable	27	806,525	
Total Equity and Liabilities	23	16,842,004	6,730,754
	27	**102,966,746**	**68,838,831**

Source*: TPCCL Published financial statements*

Notes to financial statements

18 TRADE RECEIVABLE

	2007	2006
	Tsh "000"	**Tsh "000"**
Trade Receivable	2,857,953	2,923,143
Provision for improvement on receivable b/f	(412,213)	(430,435)
Provision for improvement on receivable written -off	51,888	29,859
Provision for improvement on receivable recovered	-	36,918
Provision for improvement on receivable during the year	(74,638)	(48,555)
Provision for improvement on receivable c/f	(434,968)	(412,123)
	2,422,990	**2,510,930**

17 OTHER SHORT-TERM OPERATING RECEIVABLES

	2007	**2006**
	Tzs "000"	**Tzs "000"**
Advanced to supplier	1,153,632,	14,454,651
Prepaid expenses	186,999	56,408
Staff loans and advance	132,180	39,876
Other receivable	325,932	301,194
Less		
Provision for improvement on short –term operating	(221 157)	(221,157)
Receivable	**1,577,586**	**14,630,972**

TPCCL Income statements for the year ending 31st December 2009 in Tsh "000"

	NOTES	2009	2008
Revenue	8	178,999,595	148,709,578
Cost of sales	10	(86,554,681)	(80,048,539)
Gross profit		**92,444,914**	**68,661,039**
Other Income	9	744,361	706,653
Selling and Marketing cost	11	(1,050,150)	(966,538)
Administration cost	12	(12,228,076)	(10,970,349)
Depreciation and amortization cost	7,17 &18	(7,496,290)	(3,320,711)
Other expenses	14	(563,313)	(1,238,495)
Provision for obsolete stock	20	131,349	288,245
Operating profit		**71,982,795**	**53,159,844**
Finance Revenue		417,426	426,171
Financial cost	15	(665,706)	(358,299)
Loss on foreign currency translation	16	(2,946,750)	(3,034,766)
Profit before tax		**68,787,765**	**50,192,950**
Tax	30	(20,794,795)	(15,230,630)
Profit for the year		**47,992,970**	**34,962,320**

Source: *TPCCL Published financial statements*

TPCCL statement of financial position as at 31st December 2009 in Tsh "000"

	NOTES	2009	2008
Assets			
Non-Current Assets			
Plant, Property and Equipment	7	142,135,724	121,927,365
Intangible assets	17	48,881	21,231
Leasehold land prepayment	18	198,479	204,006
		142,383,084	**122,152,602**
Current assets			
Cash and bank balances	19	10,141,193	18,882,294
Inventories	20	29,531,531	22,791,501
Trade receivables	21	4,620,107	2,579,658
Tax receivable	30	710,774	
Other Short-term operating receivables	22	4,949,449	2,259,927
		49,953,054	**46,513,380**
Total Assets		**192,336,138**	**168,665,982**
Equity and Liability			
Equity			
Share capital	23	21,794,889	3,598,462
Retained earnings		137,915,750	102,517,397
		141,514,212	**106,115,859**
Non-Current Liabilities			
Deferred tax	30	21,794,889	9,520,060
Other interest-bearing loans	24	478,456	528,820
Provision for employees benefits	27	1,895,502	1,116,879
		24,168,847	**11,165,759**

Source*: TPCCL Published financial statements*

TPCCL statement of financial position as at 31st December 2009 in Tsh "000"

	NOTES	2009	2008
Current Liabilities			
Other interest-bearing loans		72,284	76,595
Other borrowings	24		25,717,595
Trade and other payables	25	25,724,876	24,512,103
Dividend payable	26	855,919	113,063
Tax payable			965,007
	30	**26,653,078**	**51,384,363**
Total Equity and Liabilities		**192,336,138**	**168,665,982**

Source: *TPCCL Published financial statements*

Notes to financial statements

20. INVENTORIES

	2009	2008
	Tsh "000"	**Tsh "000"**
Raw materials, additives, consumable and spare parts	30,879,869	23,203,721
Work in progress	2,045,688	3,089,131
Fineshed goods and good for resale		
➢ Tanga extra cement	586,898	828,153
➢ Tanga Ordinary Cement	135,592	133,044
Less: - Provision for obsolete stocks	(4,119,514)	(4,462,548)
	29,531,531	**22,791,501**

TPCCL Income statements for the year ending 31st December 2011 in Tsh "000"

	NOTES	2011	2010
Revenue	8	217,258,974	199,600,699
Cost of sales	10	(117,210,962)	(97,773,581)
Gross profit		**100,048,012**	**101,827,118**
Other Income	9	922,201	594,830
Selling and Marketing cost	11	(1,795,085)	(1,555,710)
Administration cost	12	(15,086,465)	(13,044,814)
Depreciation and amortization cost	7,18 & 19	(10,348,860)	(9,977,563)
Other expenses	15	(468,196)	(676,770)
Provision for obsolete stock	21	(499,813)	(1,285,355)
Operating profit		**72,771,794**	**75,881,736**
Finance Income	13	470,470	207,603
Financial cost	16	(365,151)	(533,199)
Loss on foreign currency translation	17	(603,132)	(3,627,040)
Profit before tax		**72,773,981**	**71,929,100**
Tax	30	22,168,719	(21,724,048)
Profit for the year		**50,605,262**	**50,205,052**

Source*: TPCCL Published financial statements*

TPCCL statement of financial position as at 31st December 2011in Tsh "000"

	NOTES	2011	2010
Assets			
Non-Current Assets			
Plant, Property and Equipment	7	151,178,364	137,939,288
Intangible assets	18	35,853	40,687
Leasehold land prepayment	19	1,280,414	899,269
		152,494,631	**138,879,244**
Current assets			
Inventories	21	43,159,580	40,319,300
Trade receivables	22	5,781,520	5,302,296
Other Short-term operating receivables	23	4,987,192	5,804,116
Cash and bank balance	20	46,245,482	26,865,013
		100,173,774	**78,290,725**
		252,668,402	**217,169,969**
Total Assets			
Equity and Liability			
Equity			
Share capital	24	3,598,462	3,598,462
Retained earnings		183,277,390	164,730,799
		186,875,852	**168,329,261**
Non-Current Liabilities			
Other Interest-bearing loans	25	377,728	428,092
Provision for employees benefits	27	2,368,112	2,674,162
Deferred tax liabilities	30	23,583,073	22,626,302
		26,328,913	**25,728,556**

Source*: TPCCL Published financial statements*

TPCCL statement of financial position as at 31st December 2011 in Tsh "000"

	NOTES	2011	2010
Current Liabilities			
Trade and other payables		36,617,564	19,454,417
Other interest-bearing loans	26	75,012	71,236
Dividend payable	25	2,152,863	2,010,794
Tax payable		618,201	1,575,705
	30	**39,463,640**	**23,112,152**
Total Equity and Liabilities		**252,668,405**	**217,169,969**

Source*: TPCCL Published financial statements*

TPCCL Income statements for the year ending 31st December 2013 in Tsh "000"

	NOTES	2013	2012
Revenue	8	213,775,188	249,111,727
Cost of sales	10	(138,409,472)	(126,706,477)
Gross profit		**75,365,716**	**122,405,520**
Other operating Income	9	11,269,524	333,962
Selling and Marketing cost	11	(2,779,828)	(1,743,717)
Administration cost	12	(20,337,037)	(17,100,620)
Depreciation and amortization cost	7,18 & 19	(13,110,694)	(11,959,927)
Other operating expenses	15	(1,251,064)	(775,086)
Operating profit		**49,156,619**	**91,159,862**
Finance Income	13	766,866	1,014,462
Financial cost	16	(228,467)	(583,608)
Non-operating expenses		(1,229,473)	
Gain/Loss on foreign currency translation	17	1,929,896	750,464
Profit before tax		**50,395,441**	**92,341,180**
Tax	30	(12,755,372)	(30,762,591)
Profit for the year		**37,640,069**	**61,578,589**

Source: *TPCCL Published financial statements*

TPCCL statement of financial position as at 31st December 2013 in Tsh "000"

	NOTES	2013	Restated 2012	Restated 1 January 2012
Assets				
Non-Current Assets				
Plant, Property and Equipment	7	176,390,452	153,246,024	151,178,364
Intangible assets	18	141,980	251,308	35,853
Leasehold land prepayment	19	1,229,542	1,254,978	1,280,414
		177,761,974	**154,752,310**	**152,494,631**
Current assets				
Inventories	21	52,372,241	50,117,949	43,159,580
Tax receivables	31	208,964		
Trade receivables	22	10,839,581	12,349,406	5,781,520
Other Short-term operating receivables	23	10,019,374	6,043,519	4,987,192
Cash and bank balance	20	43,488,040	54,567,099	46,245,482
		116,928,200	**123,077,973**	**100,173,774**
		294,690,174	**277,830,283**	**252,668,405**
Total Assets				
Equity and Liability				
Equity				
Share capital	24	3,598,462	3,598,462	3,598,462
Retained earnings		220,203,808	208,238,491	181,935,648
		223,802,270	**211,836,953**	**185,534,110**
Non-Current Liabilities				
Interest-bearing loans	25	276,998	327,363	377,728
Employees benefit liability	31	5,479,930	5,264,950	4,284,887
Deferred tax liabilities	30	24,810,815	29,462,736	23,583,073

Source*: TPCCL Published financial statements.*

TPCCL statement of financial position as at 31st December 2013 in Tsh "000"

	NOTES	2013	Restated 2012	Restated 1 January 2012
		30,567,743	**35,055,049**	**28,245,688**
Current Liabilities				
Trade and other payables		37,731,328	28,278,311	36,617,564
Interest-bearing loans	26	66,523	70,511	75,012
Dividend payable	25	2,522,310	2,418,266	2,152,863
Tax payable			171,193	43,168
	31	**40,320,161**	**30,938,281**	**38,888,607**
Total Equity and Liabilities		**294,690,174**	**277,830,283**	**252,668,405**

Source: *TPCCL Published financial statements*