THE IMPACT OF WORKING CAPITAL MANAGEMENT ON PROFITABILITY OF THE BREWERY COMPANIES LISTED IN DSE TANZANIA.

By

Anatory Fradius Rugambwa

A dissertation submitted in partial fulfillment of the requirement for Award of the Degree of Master of Science in Accounting and Finance (MSc. Accounting and Finance) of Mzumbe University.

2016
CERTIFICATION
We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University, a dissertation/thesis entitled The Impact of Working Capital on Profitability of brewery Companies Listed on Dar es Salaam Stock of Exchange: The case of Tanzania Breweries Limited (TBL) and East Africa Breweries Limited (EABL), 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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ACKNOWLEDGEMENT

This study is a result of hard work which have been supported and accompanied by many people whom devoted their time and energy to facilitate the accomplishment of this work, which makes me happy to express my gratitude. In a special way I would like to express my sincere thanks to almighty God for protecting and giving me good health, wisdom, time and knowledge in order to complete this research, I would like also to express my sincere appreciation to my supervisor Prof. Srinivas Madishetti of School of Business (SOB), Mzumbe University for his valuable guidance, assistance and inspiration throughout the study.

Lastly my heartfelt thanks go to my family; my father Fradius Anatory Kyaruzi, my mother Dorosela Kalisa, my sisters Salome and Dina and my beloved young brother Dickson. I love you all!
DEDICATION

I would like to dedicate this research report to my father Mr. Fradius Anatory Kyaruzi, my mother Ms. Dorosella kalisa and entire family for being supportive during my studies.
**LIST OF ABBREVIATIONS AND ACRONYMS**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ACP</td>
<td>Average Collections Period</td>
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<td>AP</td>
<td>Average Payables</td>
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<td>APP</td>
<td>Average Payables Period</td>
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<tr>
<td>AR</td>
<td>Average Receivables</td>
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<td>CCC</td>
<td>Cash Conversion Cycle</td>
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<td>CR</td>
<td>Current Ratio</td>
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<tr>
<td>DER</td>
<td>Debt to Equity Ratio</td>
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<tr>
<td>DSE</td>
<td>Dar es Salaam Stock of Exchange</td>
</tr>
<tr>
<td>EABL</td>
<td>East Africa Breweries Limited</td>
</tr>
<tr>
<td>GOP</td>
<td>Gross Operating Profit</td>
</tr>
<tr>
<td>ICP</td>
<td>Inventory Conversion Period</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package for Social Scientist</td>
</tr>
<tr>
<td>TA</td>
<td>Total Asset</td>
</tr>
<tr>
<td>TBL</td>
<td>Tanzania Breweries Limited.</td>
</tr>
<tr>
<td>TD</td>
<td>Total Debt</td>
</tr>
<tr>
<td>TE</td>
<td>Total Equity</td>
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ABSTRACT

The main objective of this study was to investigate if there is relationship between working capital management and profitability of brewery companies listed on Dar es Salaam Stock of Exchange. Divergent views have been brought up by number of researchers particularly authors outside Africa who wrote on impact of working capital to the profitability of the company created a knowledge gap to investigate to what extent working capital affects the profitability of the listed brewery companies at DSE, due to number of factors like difference in laws, culture, and regulations between these country. In dealing with the objective of the study, the ratios of working capital management such as Average Collection period (ACP), Inventory conversion period in days (ICP), Average Payables Period (APP), and Cash Conversion Cycle (CCC) were used as independent variables, while gross operating profit was used as dependent variable and control variable were current ratio (CR) and debt to equity ratio (DER). This study covered all listed brewery companies at DSE covering a period of 10 years from 2005 to 2014. Regression analysis was kept in use when dealing with the objective of the study in order to determine the relationship between working capital management and profitability of the brewery companies listed in DSE. Statistical Package for Social Scientist (SPSS) was used in the study.

The key findings of the study revealed that for TBL; ICP, APP, and CCC were found to have impact on profitability of the company except ACP which was against expectation. This means that all components of working capital of TBL except ACP had good relation with the profitability of the company. In the case of EABL, it is found that some of the components of working capital bear unexpected results in relationship with gross operating profit (GOP) except APP but not significant, meaning that among all components of working capital only APP had impact on the profitability of the EABL, which means other components such as ACP, ICP, and CCC facilitates the decrease in profit of the company. Therefore, it requires separate study to know why the relationship of most of independent variables is not as expected to enable the management to take appropriate decision.
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CHAPTER ONE

PROBLEM SETTING

1.1 Introduction

This chapter introduces the context of the research on working capital management and its effect on the profitability of the company. The chapter is divided into number of section like background of the study, statement of the problem, scope and significance of the study, chapter scheme.

1.2 Background of the study.

Working capital, is the money needed for day-to-day operations of a firm, is described as an investment of the firm’s capital in current assets and the use of current liabilities to fund part of the investment. Management of these current assets and current liabilities is important in creating value for shareholders. If a firm can minimize its investment tied up in current assets without effecting effectiveness, the resulting funds can be invested in value-creating projects, thereby increasing the firm’s growth opportunities and shareholders’ return. However, management can also confront liquidity problems due to underinvestment in working capital. As pointed out by Filbeck and Krueger (2005), the ability of financial managers to effectively manage the components of working capital such as receivables, inventories, and payables has a significant impact on the success of the business.

If capital invested in cash, trade receivables, or inventories is not sufficient, the firm may have difficulty in carrying out its daily business operations. This may result in declining sales and, in the end, a reduction in profit ability. Smith (1980) emphasized the trade-off between liquidity and profitability when he argued that working capital management can play an essential role not only in a firm’s profitability and risk, but also in its value. Decisions regarding an increase in profitability are likely to involve increased risk, and
risk-reducing decisions are likely to result in a reduction in profitability. An accepted measure of working capital management is the cash conversion cycle.

In particular, (Hall, 2002) argued that all activities of the company related to customers, suppliers and products are covered under management of working capital. Thus, in order to keep at low rate risks associated to working capital and advance the generally performance, the financial managers have to keep an eye properly on every component of working capital, the components of working capital are, receivables, payables and inventories. These components of working capital management acts as the vectors of facilitating profitability within the company as can be explained below.

The essential features or issues of working capital management are directly related with the management of payables, cash, accounts receivables and inventories. The mix of these components of working capital in order to accelerate the profitability of the company must be well organized and managed to get the targeted results of the management team. In managing inventory the aim in holding a minimum up to standard point of inventory in relation to the costs associated with inventory like transport, insurance, storage fee, obsolescence and spoilage (deloof and jegers, 2003), but when keeping low level of inventory may result into lost of sales and stock-out, that is why optimal inventory is crucial to the company’s profitability, this shows the capability of the company to take into consideration the fluctuation of customers demand basing on time and quantity. Delof (2003) argues that with the intention of creating or increasing the wealth of shareholders and facilitate the profitability of the company the managers of Belgian firms can reduce the period of converting the raw materials used in production into cash.

Average collections are important components of current assets, which is to say that the financial capacity of the firm can highly be affected with any percentage change in collection magnitude of the firm, in regards when deciding on the credit sales of the firm, there are major key factors which have to be taken into consideration which are market competition, customers, competition price, goods or service offered. Meanwhile when in need to determine the length of period required to convert the collections of the
firm into cash following a credit sales the average collection period have to be taken into consideration. Makonnen (2011) argues, profitability of the company and the average collection period are negatively related with each other, which in turn mean that company can influence the profitability of the company by decreasing number of days in collecting the receivables outstanding.

Similarly, the effective and efficient management of payables have significant impact to the profitability of the company. The company makes credit purchases when other sources of finance are not available, average payables period is the length of time taken by the firm when purchasing raw materials and labour used in production activities of the company, delaying to pay the payables is one of the tool for working capital management, in case of nonpayment of payables to suppliers trade credit may damage the image and reputation of the company. Sometimes it is advised to lengthen the time duration to pay creditors of the firm but one have to ensure that the business relationship is not destroyed for the betterment of the firm. Mathuva (2010) on the research about working capital titled,” the influence of working capital management components on corporate profitability reveals, the profitability of the company is positive related to the average payment period of the given company, meaning that increase in days of accounts payables leads to the increase in profitability of the company.

Share of working capital in relation to the capital of the in these two brewery has been changing frequently from one year to another which in turn might have effect to the profitability of the companies. For example in case of TBL the share of working for the period of 10 years from 2005 to 2014 has been changing as 21%, 27%, 23%, 30%,15%,14%, 23%,26%, 26%, 21% and 22% respectively in relation to the capital of the company, these changes in share of working capital had impact to the changes in components of working capital like payables for the period of 10 years ranged between 2% to 36%, receivables being between 7% to 39% and inventory between 32% to 82% while for the case of EABL the share of working capital for the period of 10 years from
2005 to 2014 was 43%, 45%, 30%, 35%, 45%, 21%, 24%, 33%, 38%, and 37% respectively, these changes facilitated the changes in working capital essential components such as, for the period of 10 years payables ranged between 9% to 32%, receivables between 16% to 34%, and inventories share between 34% to 61%.

Working capital is vital part of the business investment which is important for continuation of the business daily operation, Lazaridis and Tryfonidis (2006) argued that companies make use of working capital in order to maintain their liquidity, solvency and profitability. It is very important for the companies to know and recognize the effects of managing working capital and its significant contribution to the company’s profit. In different countries especially developed countries many researchers have been conducting study on working capital and their effect on profitability of the company while in developing countries where Tanzania belongs due to their difference in culture, economy, capital markets, rules and regulations with developed states needs separate studies to be done on working capital in order to increase evidences of impact of working capital on profitability of the companies that relate to our culture, economy and rules and regulations. Thus this gap calls for research to be conducted in context of Tanzania assessing the impact of working capital management on profitability of the companies. Therefore this study is done to investigate the impact of working capital on profitability of brewery companies listed on Dar es Salaam Stock of Exchange

**Overview of the brewery companies:**
The overview of brewery companies selected for this study is presented here under.

**Overview of TBL**

Tanzania breweries Ltd (TBL), is the Tanzanian –based company which was incorporated in 1994 in Tanzania main land and listed in Dar es salaam Stock Exchange in Sept 9 1998. TBL is the public traded company which has specialized in the production, distribution and marketing of malt beer and alcoholic beverages in
Tanzania. The shares of TBL are traded on the Dar es salaam Stock Exchange with the ticker symbol TBL, the corporate office of the company are located in Dar es Salaam, Tanzania. The TBL company owns, produces and distributes brands are safari, Kilimanjaro Premium Lager, Tusker, Ndovu, Balimi, Castle Milk stout, Eagle, Redds Premium and Konyagi Ice. The TBL company owns a subsidiary called Tanzania Distilleries Ltd which is the spirituous liquor company where it possess approximately 60% interest of this company. SABMiller PLC, which the said to be one of the world’s leading brewers with brewing interests or major distribution agreements in more than 60 countries spread across six continents is also a majority owner of TBL company.

Description and history.

TBL is the manufacture company which produces, sells and distributes alcoholic beverages, clear beer and non-alcoholic beverages within Tanzania. TBL is the controlling interest in Tanzania Distilleries Ltd, and Dar brew Ltd. Apart from this, TBL also owns an interest in an associated company, mountainside Farms Limited. The company is also involved in production of malt since it possesses a malting plant in Moshi. In its daily operation in production the company operates in two main segments, which are clear beer and wines and spirits. The company offers brands like safari lager, Kilimanjaro Premium Lager, and Konyagi. The company owns number of subsidiaries including Tanzania Distilleries Limited, Mountainside Limited and Kibo Breweries Limited. But SABMiller Africa BV is the principal shareholder of the TBL company.

The TBL company most popular clear beer brands includes, safari lager, Kilimanjaro Premium Lager, castle Lager, Pilsner ice and Tusker Lager. Other prominent brands associated with the Tbl group are Konyagi, Gin, Amarula cream, kibuku mwamba, Redds, Premium Cold and konyagi Ice.
Overview of EABL

1920-1949

East African Breweries Limited was founded in 1992, as the Kenyan breweries Limited (KBL) by two white settlers, George and Charles Hurst. The company was owned by the Dodd family of Kenya

KBL acquired Tanganyika-based Tanganyika Breweries in 1935 and 1936 these two companies were merged leading to the creation of the East African Breweries Limited (EABL). The group continued expanding locally through the opening of more breweries such as Mombasa brewery.

1950 - 1999

In 1954, EABL went public by being listed to the Nairobi Securities Exchange. This was among the first listings in the region's oldest stock exchange. As a group, EABL expanded to Uganda through the acquisition of Uganda Breweries in 1959.

In 1964, the group's subsidiary name was changed from Tanganyika Breweries Limited to Tanzania Breweries Limited (TBL) following the political unification of Tanganyika and the People's Republic of Zanzibar and Pemba to form the United Republic of Tanzania. This led to increased market for the group through the creation of union. However, in 1979 the Government of Tanzania nationalized TBL as part of the Arusha Declaration. The group officially opened 1987 Central Glass Industries Limited (CGI), as a producer of glass containers and bottles there for leading to internal sourcing.

By 1990, the Dodd family had reduced their shareholding and most of the shareholders were Kenyan and the company was very successful.
2000 – 2010

Diego acquired majority control of EABL and the following year the group cross listed its shares on the Uganda Securities Exchange in year 2000.

The partnership between EABL and SAB Miller in Tanzania in 2009 went through turbulence, EABL claiming breach of contract by Tanzania Breweries (TBL) that led to low quality of EABL’s drinks that were produced by TBL and restriction of some of Diageo’s and EABL brands to enter the Tanzanian market. This led to EABL’s acquisition of 51% of Serengeti Breweries Limited (SBL) and exit from TBL’s shareholder structure through a $71.5 million successful secondary offer on the Dar es Salaam Stock Exchange in 2011. SAB Miller sold its stake Kenya Breweries to East African Breweries.

2010- To date.

Starting in year 2003, EABL expanded its operations in by establishing East African Beverage South Sudan Limited (EABSS) in South Sudan where the company opened a depot in Juba with the aim of reducing much reliance on the third party distributors logistical arrangements that led to the periodic stock out (www.eabl.com)

1.3 Statement of the problems

Working capital means investment in the current assets and current liabilities which are liquidated in the year or less and very crucial for the firms day to day operations and the profitability of the firm. Firms can maximize their profitability by having an optimal level working level of working capital. In a straight line profitability of the company and its liquidity can be affected by the management of working capital either positive or negative depending on the way how the key components of working capital are managed. That is why it is encouraged to make proper management of working capital since when working capital components are efficiently managed marks as the most essential or primary part of the general strategy to create and increase the shareholders
wealth. Generally, companies when aiming at maximizing their value and shareholders
wealth, achieves their target by keeping to an optimal point the level of working capital
of the company, but sometimes the firms at the cost of liquidity increases their profit
which many times tend to keep the firms into serious problems, hence the substitute of
these two objectives of the firm must be taken into consideration. The firm that do not
care about the profit tend not to survive for a longer period of time but also when the
firm do not take into consideration its liquidity position may highly face the insolvency
problem or bankruptcy. Basing on the above reasons working capital management is
found to be fundamental part in enhancing the profitability of the firms thus proper
consideration must be taken into account for the betterment of the company.

In context of the brewery companies, the amount of working capital in total capital of
the company has been changing which results into effect to the profit of the company,
which means the ratio of working capital has been changing time over time together
with its components, in case of TBL for the period of 10 years from 2005 to 2014 the
percentage share of working capital in relation to the total capital of the company was
ranging from 14% to 27% and the profitability of the company ranges from Tsh
108,146,000 to Tsh 502,538,000,000 where within this period of 10 years share of
payables ranges from 1.6% to 36.5%, collections ranging from 6% to 39 %, and
inventory ranges from 31.5% to 82.5% of the total working capital of TBL.

While in case of EABL for the period of 10 years the percentage share of working
capital in relation to the capital of the company is ranging from 21% to 45.7% and the
company profit ranging from 12,890285,000 to 30,193,626,000 where its components
were changing over time for the period of 10 years like payables which range from 9%
to 38%, collections ranging from 16% to 33.8% and inventory ranging from 33% to
63.6%. The disproportionate change in components of working capital and gross profits
require attention.
There are few known studies which up to now are done investigating the impact of working capital management on profit of listed companies on DSE, but there is no known research that has been conducted on relation of impact of working capital on profitability of listed brewery companies in Tanzania, thus this leaves a knowledge gap. All of the above necessitated making an attempt to the topic ‘the impact of working capital management on profitability of listed Breweries companies in Tanzania’.

1.4 Objective of the study

1.4.1 General objective.
The main objective of this study is to examine the relationship between working capital management and profitability of the Brewery companies listed in Dar es Salaam Stock of Exchange.

1.4.2 Specific objectives
- To determine whether there is a significant relationship between Average Collection Period (ACP) and profitability for the listed brewery companies.
- To establish whether there is a significant relationship between Inventory Conversion Period (ICP) and the profitability of the listed brewery companies.
- To ascertain if there is a significant relationship between Average Payment Period (APP) and Profitability of the listed brewery companies.
- To establish whether there is significant relationship between Cash Conversion Cycle (CCC) and profitability of the listed brewery companies.

1.5 Scope of the study.
The study is limited to the effects of working capital management on the profitability of breweries companies in Tanzania. The study covers the period of ten(10) years from 2005 to 2014, The study will base on the internal factors of working capital affecting the profitability of the company thus using components of working capital like payables,
collections, inventory and cash as independent variables, and gross operating profit as dependent variable, the control variables are current ratio and debt to equity ratio.

1.6 Limitations of the study.

In conducting the study, there were factors that occurred which in one way or another might be the reason for satisfactory results not to be obtained after an investigation. The research was conducted basing on listed brewery companies listed on Dar es Salaam Stock of Exchange (DSE) where there are only 2 companies listed which are Tanzania Breweries Limited (TBL) and East Africa Breweries Limited (EABL), this makes the sample size of the study to be too low for the study but also the results obtained doesn’t reflect other brewery companies which are not registered in DSE since only the public companies are studied. The other limitation which was encountered when conducting investigation is the period to be covered by the research, this resulted due to difference in time for these 2 companies for the time which they were listed in DSE, the other is registered earlier than another with this factor the data for periods to be used must base on the last company to be listed in DSE.

1.7 Significance of the study

The study will provide the easy way to understand how components of working capital relate with the profitability of the company. Apart from that, this research will be of huge importance to different group of people in the in the society and country as whole depending on how they deal with working capital, the corporate managers, researchers and students will find this relevant in their daily works. Researchers and students who are interested in working capital management and the impact of it on performance of the organization or company will find this work of huge benefit. To managers of companies, especially breweries companies will be in the good position to know the best way to optimize balance between liquidity and profitability in the companies which they manage, from this study the managers will be equipped with desirable working capital strategy that maximizes shareholders wealth and solution of the challenges that the entity faces. it will therefore contribute to already done researches in the field area of
corporate finance. Also the research will bridge the gap left by previous researchers on the area of working capital management and its impact on profitability of brewery companies listed in Dar es Salaam stock of Exchange (DSE).

1.8. Chapter plan
In this study, the presentation is divided into six chapters.

Chapter one, deals with background of the study, statement of the problem, objectives, scope of the study, limitation of the study and significance of the study.

Chapter two, deals with theoretical part, empirical part, conceptual frame work and hypothesis.

Chapter three, deals with research design, study population, types and sources of data, data collection method, research measurements and their methods sample size and sampling techniques, types and sources of data and data analysis methods.

Chapter four, deals with presentation of descriptive results, presentation of correlation results and results of coefficient regression.

Chapter five, deals with discussion on correlation results and discussion on multiple regression results of the study.

Chapter six, deals with the summary, conclusion, recommendation and suggestions for the further studies.
CHAPTER TWO

REVIEW OF LITERATURE

2.1 Introduction.
This part of research reviews the theoretical and empirical literatures relevant to the impact of working capital management on profitability to the brewery companies. The part of theoretical literature review provides clear understanding of the key definitions and basic concepts which are used in this study. The part of empirical literature review provides the ideas and knowledge provided by other scholars who published about working capital. It also provides conceptual frame work

2.2 Theoretical literature review
The theoretical review is presented in terms of conceptual review underlying this study.

2.2.1 The conceptual review
In this part, the basic concepts and important definitions which relate to the working capital, working capital management and performance are provided.
According to (Harris, 2005), working capital is defined as money or cash that a firm needs in order to undertake various actions and operating activities in daily functions of the firm such as money to make purchase on raw materials for production, money for paying workers salaries, wages, rent or any other daily repeated expenditure of the firm, It is sometimes obtained demonstrated by taking the difference between current asset of the company and the current liabilities available within the firm. Current asset and current liabilities includes three accounts which are very important for the health of the company, such as inventory, accounts receivables and account payables. Working capital is common measure of company liquidity and efficiency of the company. In working capital there are two concepts which are explained such as Net working capital and gross working capital. Pandey (2007).
Net working capital is often used to measure the efficiency of working capital of the firm, showing the surplus of current assets of the firms over their current liabilities, it demonstrates the ability of the firms to be in a position meet their short term obligation when they fall due,( Brealey& Myers, 2002). The net working capital of the organization can either be positive or negative, where positive net working capital happens at a point in time when there is surplus of current assets over current liabilities of the firm, this means that the firm is in good position to meet its short term obligations as when they fall due.

Positive working capital ensures the firm to continue with its daily operation which means that the firm has adequate fund to meet both, due short term debts and the future operational costs or expenses. Negative net working capital happens at a point where current liabilities of the firm exceed the available current assets of the firm, which means that the firm is in the condition where it cannot meet its short term obligation which fall due. The investment in Working Capital is very fundamental and it helps analysis of capital budgeting of a firm.In short-term sources of finance working capital can be invested, such as cash, inventories, account receivables, and notes receivables. WC can be minimized when terms of payments are made to account payables (creditors), account notes payable and other accrued liabilities of the entity, for the sake of regulating out the optimal levels of costs and benefits of working capital, then the components of working capital which are liquid( easily converted into cash) must be managed with appropriate techniques through raising or lowering the stocks, cash, account receivables and account payables (Arnold, 2008; Gitman, 2009).

Net Working Capital (NWC) = Current Assets (CA) – Current Liabilities (CL)

Gross working capital refers to the amount of funds invested in current assets employed by the business concern. This is going concern concept that enables the financial planners to provide the proper amount of working capital at the right time, so that the operations of the business are not interrupted and the return on working capital
investment is maximized. However, the amount investment in the current asset of the business, by itself doesn’t give a correct indication of the firm’s financial position. For the true assessment of a firm’s financial strength, investment in current assets must be viewed in relation with current liabilities.

For the efficient working capital management both of these two concepts of working capital, net working capital and net working capital are equally important. Net working capital concept indicates liquidity position of the company and it suggests the extent to which net working capital needs may be financed by permanent sources of fund. While, gross working capital focuses on how to optimize investment in current assets and how these current assets may be financed.

**Current assets** are items held by a company with the objective of converting them in the near future, the most important items are debtors or accounts receivable balances (money due from customers), inventory (raw materials stock, WIP and finished goods) and cash or near cash (such as short term loans and tax reserve certificate).

**Current liabilities** are short term sources of finance which are liable to fluctuation, such as trade creditors (accounts payables) from suppliers, bank overdraft and tax payables

**Working capital management**

Working capital management is the process of managing activities and process related to working capital. This level of management serves as a check and balances system to ensure that the amount of cash flowing into a business is enough to sustain the company’s operations. (Meredith, 1986) defined working capital as most important and fundamental part in relation to the management of financial matters of the firm, which is found to be much concerned with management of all areas regarding to finance not just only uses and sources of funds in the related firm but also the financial implications of the major monetary activities performed by the firm such as production, investment, marketing or personnel’s decisions and the total performance of the given firm. That is
to say working capital is widely considered as lifeblood to feed up the day to day operation of the firm, the firm makes use of working capital for the betterment of the business (Seidman, 2004) management of working capital being an unending process must be evaluated using the current assets and liabilities of the firm. The objective of managing working capital is to manage firms current liabilities and assets in order the level of working capital satisfaction is maintained, failure to maintain this, the firm might be in high position to become ruined (broke) and sometimes may even find itself into bankruptcy, therefore in order the day to day activities of the company to run smoothly then working capital management have to be taken into consideration.

**Requirements of working capital**

Generally, to determining working capital requirements of the firm there is no specific rules of formula. There is good number of factors that manipulate the working capital needed for the given firm; each factor has its importance and the importance tend to change from one firm to another. The factors that influence the working capital requirements of the firm are nature and size of the firm, seasonal fluctuation, production policy, taxation, depreciation policy, reserve policy, dividend policy, credit policy, growth and expansion, price level changes, operating efficiency, profit margin and profit appropriation.

The desire of working capital tend to differ from one industry to another but also some times they can differ even among similar companies, which might be due to number of factors such as difference in company’s payment and collection policies, timing of asset purchases, the way how a company writing off some of the accrued accounts receivables and sometimes the extent the company keeps efforts in undertaking capital raising process.

. The importances of working capital management are as follows;
Working capital management is a prevalent metric for the efficiency, liquidity and overall health of the company. It is a reflection of the results of various company activities, including revenue collection, debt management and payment to suppliers. This is because it includes inventory, accounts payable and accounts receivables, cash, portions of debt due within the period of a year and other short term accounts.

**Strengthen the solvency**, when Working capital is managed helps the business to be operated smoothly without any financial problem for making payment to the short-term liabilities that belongs to the firms. Purchasing of raw materials used in production and payment of salary, wages and overhead can be made early as required without any delay.

**Enhance goodwill**, sufficient working capital within the organization or a business concern enables them to make prompt payments to the creditors and hence helps the business in creating and maintaining its goodwill. Goodwill is enhanced because all current assets and current liabilities of the business are paid on time as it is required.

**Easy to obtain loan**, A firm having adequate working capital, high solvency and good credit rating can arrange loans from banks and financial institution in easy and favorable terms because these banks are sure of the loan to be paid back due to the solvency position of the company.

Generally, depending on how working capital is managed with in the firm can have a major effects on both profitability and liquidity position of the firm (shin &soenen,1998). For the firm to achieve them all have to make sure there is good and well balance among these two targets. The operating process of the company can be kept in danger when any trade off appear with in the firm, mean while when it occurs a situation where liquidity of the firm is ignored, the firm is found to be in high position to get a problem of insolvency, because the firm will be limited to access long-term capital markets. Thus working capital management is found to be very useful to the small business since these firms mostly tend to depend heavily on owner financing, trade credit.
and short term bank loans to finance the kind of investment they need, inventory, cash and accounts receivables, (Chittenden et al, accurator, 1994)

**The interaction between working capital management components;**

In general working capital deals with the control of inventories, accounts payables and receivables. Ganesan (2007) argued that an efficient mix of components of working capital must be encouraged to ensure the presence of adequate capital within the company.

**Inventory and firms profitability**

The firm have to take into consideration and hold a minimal acceptable point of inventory in relation to the cost involved in managing it (Toomey, 2000). Indeed, maintaining a large inventory implies using capital to finance it and to cover different costs (insurance, storage, obsolescence, spoilage and transport) Deloof and jegers, (1996). However, keeping a low level of inventory may result in less sales and stock-out (Deloof, 2003). Thus, inventory flexibility must be observed from an integrative perspective; inadequate inventory planning is the major source of many SMEs failure since the incapacity to send required goods to customer handicaps the company’s long run viability, (Robinson and all, 1986). Managers of the companies can reduce the number of days to convert raw materials into cash in order to enhance the profitability of the company and also to create the value of shareholders wealth.

**Accounts payables and firms profitability.**

Many firms make sometimes tend to make use of trade credit as the substitute to the bank credit (Petersen and Rajan, 1994). When the firm delays to pay its suppliers, and creditors, the this action the managers allow the firm to enjoy advantages from a flexible source of finance and reducing the chance for the firm to receive materials with low quality from the suppliers, while by making early payments to the suppliers the company is subject to enjoy discount which can be considered as an implicit cost, thus it is
encouraged the company to make use of credit from suppliers when other financing sources are not available or very cost fully to be obtained, but when delaying to make payment or nonpayment of credit to supplier may be seen about destroying or damaging the image of the firm. Due to these disadvantage related to lengthening the payable period, Deloof (2003) found the negative relationship between profitability and the number of days of accounts payable. The result is consistent with the more profitable companies pay bills in short period of time.

**Average collections and firms profitability**
Accounts receivables being one among of the major component of the current assets, hence financial viability of the company can be influenced by the magnitude change in accounts receivables. Decision on trade credit can be influenced by many factors such as market market competition, price , customers, and goods or services. A flexible trade credit policy with an interest on receivables may increase sales (long and al., (1993) Deloof and Jegers (1996). However, such practice can be expensive due to the lock up money in working capital. Besides, if managers choose to reduce the accounts receivable, they limit sales through credit to customers which in turn leads into loose of purchasers and reduce profits. In his study Deloof (2003) presented the relationship between gross operating income and the time duration a company takes to receive its payment on accounts receivables to be significant negative to each other. However, Working capital management being essential to the company’s financial health and operational success of the brewery companies and other business have to be taken into consideration, the most important task of the managers is to find an optimal working capital in order to increase the profitability of the company since working capital management is found to have a major impact on both the liquidity and profitability position of the company (shin & Soenen, 1998). In a number of studies the cash conversion cycle proves to be a popular measure of working capital management. Cash conversion cycle is the period of time that cash is fixed up in accounts receivables
and inventory. In details, Cash Conversion Cycle (CCC) is concerned with the amount of time that resources of the firm are fixed up,(Dong and Su, 2010; Gill, Biger, and Mathur, 2010; Gitman, 2009). Cash is tied up in the firms operation activities when cash conversion cycle is increased or lengthen, this situation can have two outcomes. It can have a positive effect on profitability if a longer cash conversion cycle leads to more sales or, it can have a negative effect on profitability if the cost of the investment in working capital rises faster than the benefits of having a large inventory or generous trade credit (Deloof, 2003). Which means there will be relative low chance for other investments of this cash flow. In this case cash conversion cycle is said to have negative relationship with company profitability, by handling enough cash conversion cycle and keeping to optimal other components of working capital the owner-managers can create a positive value for the business owners (Gitman, 2009; Uyar, 2009). In contrast when Cash Conversion Cycle shortens, cash becomes free for other usage such as investing on equipment, infrastructures and selling process, which in turn leads to the higher operating profit of the company.

2.3 Empirical literature review.
Working capital management has been studied by many researchers in different views and environments. This study is an attempt to investigate the brewery companies listed in Dar es Salaam Stock of Exchange (DSE). There have been many studies carried out on the subject of working capital and profitability and this section is devoted to the review of existing literatures wrote that relate to this subject. In doing comprehensive analysis in this research most recent information were used. Mentioned below are just few studies which are the useful and interesting relating to this study. Prior studies reported that working capital management may have an important effect on the organization’s profitability.

Dong (2010) in his study “the effect of working capital on profitability and liquidity of listed companies in stock market of Vietnam”. Carrying out the research for the period ranging from the year 2006 to 2008 Dong selected pooled data to assess the companies
listed in Vietnam stock market. Dong in doing his study made focused on the existing relationship between the variables that are used in his research including cash conversion cycle, profitability and the related elements. As per findings obtained from his research Dong found that the relationship between independent and dependent variables of the study are strongly negative related. This implies that increase in cash conversion cycle (CCC) results to the decrease in profitability of the company. He also found that if the number of days of account receivable and inventories are reduced the profitability of the companies will increase. Dong in his study presented that the profit of the organization and liquidity are affected by management of working capital of the organization. He claimed that the value of the shareholders of the organization can be created by the managers of the organization to reduce the time period of cash conversion cycle and also claimed that firms which are more profitable tend to wait for longer period to pay their bills.

Deloof (2003) when conducting his research with the title, Does working capital management affect the profitability of the Belgian firms? Covering the time period of 5 years starting from 1992 to 1996, where the sample of non-financial Belgian companies which were 1009 were selected and used in this research, in making analysis for the results found in this study Deloof employed regression and correlation tests where the outcomes presented from the research reveals that there is significant negative relationship between gross profit and average period of receivables, average period of payable and inventory. He presented that most firms had a high amount of cash invested in working capital, thus the way in which management is done on working capital have significant impact on the profitability of these studied firms. Deloof in his conclusion advised that for the managers of the firms to create value for the shareholders have to reduce to the acceptable level the time period to convert inventories into finished goods and time period to collect receivables.

Raheman and Nasr (2007) in their research work, with the title effect of working capital management on profitability of the firm conducting business in Pakistan. In their study
the variables which were kept in use are components of working capital as independent variable such as inventory turnover, average collection period, average payment period and cash conversion cycle (CCC) current ratio and the net operating profit as dependent variable also employed debt ratio, size of the firm and financial assets to total asset as control variables. The observation as per the study revealed that there is strong negative relationship between variables of working capital management and the profitability of the firm. meaning that when the cash conversion cycle is increased results to the decreasing of the profitability of the firms, thus the positive value of the shareholders of the firms can be increased by reducing the time period which is used to convert the cash cycle of the firm at required possible level. Raheman and Nasr also in their findings found that liquidity of the firm are significant negative related with the profitability of the firm, size of the firm is positively related with the firms profitability, apart from that found a significant negative relationship between profitability and the debt used by the firm.

Shin and soenen (1998), on their study investigating the relationship between cash conversion cycle and the profitability of the firms where the sample was taken from the firms listed in the stock exchange of united states for the time period from year 1975 to year 1994, whereby the findings obtained from the study show that CCC have significant negative relationship with the profitability of the firms used to undertake the research.

Abdul and Mohamed (2007) in their research work conducted to investigate on how net operating profit of Pakistan firms are effected by different variables of working capital management and current ratio, the sample which was used in the study was of 6 years period counting from year 1999 to 2004 making use of 94 Pakistan firms listed on Karachi Stock Exchange. In making analysis from the results obtained Pearson’s correlation and regression analysis were used. The results obtained from the study show that there is a strong negative relationship between components of working capital
which are independent variables and profitability of the firm which is dependent variable, meaning that as the CCC increases, profitability of the firm decreases. In their study, they also came with the results showing that profitability and liquidity are significantly negative related, the positive relationship between the profitability of the firm and the size of the firm and the other results obtained showed that there is significant negative relationship between profitability and debts of the firms used in investigation

Teruel and Solano (2007) in their research on impact of working capital management on profitability of the firm, taking a sample of Spanish organizations which are small to medium size making into consideration time period of 7 years starting year 1996 to year 2002. From the findings it was found that the value of the organization can be increased by reducing time period which is number of days to convert inventory into finished goods and the debtors collection period which in turn leads to reduction of cash conversion cycle, but other researchers suggest that conservative policy which encourages more investment in cash cycle may increase the profitability of the firm believing that maintaining high levels of inventory will result into increase in sales, cutting down any possible kind of cost occurring in production process and protect fluctuations of costs (Blinder and maccini, 1991)

Rehman and anjum (2003) in their study, the impact of working capital management on profitability, conducted empirical study from cement sector in Pakistan where 10 listed cement companies in Karachi Stock Exchange were taken as sample. Secondary data were used, where data are collected from the financial statements for the period from 2003 -2008. To analyze the relationship between dependant and independent variables, correlation and regression analysis were employed. The results obtained from an investigation indicated a positive relationship between components of working capital management and profitability in these cement companies found in Pakistan
Ghosh and Maji, (2004) with the aim of measuring the efficiency of managing working capital Gosh and Maji conducted a research to examine the efficiency of working capital management of the cement companies in India for the period of 1992-93 to 2001-02. Whereby the indices were computed in order to measure the efficiency of working capital management, utilization, performance instead of using the common ratios of working capital. As per results obtained from the study undertaken shows that the cement industry in India as whole did not perform well during this period.

Soekhoe (2012) conducted a research to assess the relationship that exist between management of working capital and profitability of the corporate, whereby in undertaking the study he selected sample of firms listed in the Dutch stock exchange which were 70 in number covering a period of 5 years from 2006 to 2010, in making interpretation and analysis of the results obtained, correlation and regression were kept in use to determine the relationship between independent and dependent. The results obtained shows that there is significant negative relationship between the profit of the Dutch firms listed in the stock market with ACP and APP.

Arshad and Gondal (2013) in their study on impact of working capital management on profitability. The study was conducted covering a period of seven years from 2004 to 2010 using a sample of 21 cement companies listed in Karachi stock exchange, where independent variables used are current ratio, total asset ratio, net current ratio, inventory turnover ratio and working capital turn over and profitability as dependent variable, to confirm research hypothesis quantitative research method was employed. Simple linear regression analysis was used to explore the relationship among variables and found there is significant relationship between working capital management on firm’s profitability.
### 2.1 Table of Summary of empirical review

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Theme, place and year</th>
<th>Variables</th>
<th>methodology</th>
<th>Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dong</td>
<td>In 2003 the researcher examined the impact of working capital on profitability of listed companies on Vietnam stock of exchange for the period from 2006 to 2008</td>
<td>Gross operating profit. Accounts receivable, inventories, accounts payables and cash conversion cycle.</td>
<td>3 years data used. Pooled data used. Applied correlation and multiple regression.</td>
<td>Strong negative relationship between dependent and independent variables.</td>
</tr>
<tr>
<td>Deloof</td>
<td>In 2005 The researcher examined the impact of working capital management on profitability to Belgium firms, the study conducted in 2003</td>
<td>Gross operating profit. Average receivables Average payables period Inventory conversion period And cash conversion cycle.</td>
<td>Correlation and regression analysis were employed.</td>
<td>Negative relationship between gross operating profit and ACP, APP, and ICP.</td>
</tr>
<tr>
<td>Raheman and Nasr.</td>
<td>In 2007 Author examined effect of working capital management of the firm in Pakistan, study conducted in 2007</td>
<td>Profit ACP ICP APP CCC and CR</td>
<td>Correlation and regression were employed.</td>
<td>The researcher found a strong negative relationship between profitability and ACP, APP, ICP, CCC, and CR</td>
</tr>
<tr>
<td>Shin and Soenen</td>
<td>In 1998 The researchers examined the relationship between cash conversion cycle and profitability of the firms listed in stock exchange of united states from 1975 to 1994.</td>
<td>Profit CCC</td>
<td>Data of 19 years were used. Correlation and regression were employed.</td>
<td>They found significant negative relationship between profitability and CCC.</td>
</tr>
<tr>
<td></td>
<td>In 2007 The authors in their study</td>
<td>Net operating ACP 94 listed</td>
<td></td>
<td>The researchers found a strong</td>
</tr>
<tr>
<td><strong>Abdul &amp; Mohamed</strong></td>
<td>investigated the effect of components of working capital on net operating profit of the firms in Pakistan from 1999 -2004</td>
<td>profit</td>
<td>APP</td>
<td>ICP</td>
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<tr>
<td><strong>Turuel and Solano</strong></td>
<td>In 2007 The researchers in their work investigated the impact of working capital on the profitability of the firms</td>
<td>GOP</td>
<td>ACP</td>
<td>APP</td>
</tr>
<tr>
<td><strong>Rahenman and Anjun</strong></td>
<td>In 2013 the researchers investigated the impact of working capital management on profitability. Using cement sector for in Pakistan</td>
<td>profitability</td>
<td>ACP</td>
<td>APP</td>
</tr>
<tr>
<td><strong>Soekhoe</strong></td>
<td>In year 2012 the researcher made an investigation to assess the relationship between working capital management and corporate profitability</td>
<td>profitability</td>
<td>ACP in days</td>
<td>APP in days</td>
</tr>
<tr>
<td>Arshad and Gondal</td>
<td>In year 2013 the authors made a study on impact of working capital management on profitability to companies in Pakistan</td>
<td>profitability</td>
<td>Current ratio</td>
<td>Net current ratio</td>
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</table>

Source: compiled findings from already done researches used in literature review.
2.4 Conceptual Frame Work.

Figure 2.1. Conceptual frame work on how variables depend on each other.

**INDEPENDENT VARIABLES**
- Average Collection Period (ACP)
- Average Payment Period (APP)
- Inventory Conversion Period (ICP)
- Cash Conversion Cycle (CCC)

**CONTROLL VARIABLES**
- CURRENT RATIO (CR)
- Debt to equity ratio (DER)

**DEPENDENT VARIABLE**
- GROSS OPERATING PROFIT (GOP)
2.5 Research hypotheses

The objective of the study being to examine the impact of working capital management on profitability of the listed brewery companies in DSE, thus the study presents set of hypothesis to be tested which are Null Hypothesis Ho and the alternative one H1

**Hypothesis one.**
Ho: there is no significant relationship between average collection period and profitability of the company
H1: there is significance relationship between average collection period and profitability of the company.

**Hypothesis two**
Ho: there is no significant relationship between inventory conversion period and profitability of the company
H1: there is significant relationship between inventory conversion period and profitability of the company.

**Hypothesis three**
Ho: there is no significant relationship between average payables period and profitability of the company
H1: there is significant relationship between average payables period and profitability of the company.

**Hypothesis four.**
Ho: there is no significant relationship between cash conversion cycle and profitability of the company.
H1: there is significant relationship between cash conversion cycle and profitability of the company.
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction
Research Methodology is a systematic and scientific processes and procedures necessary to conduct research (Mlowe and Diyamett, 2012). This chapter puts down all systematic planning, action and methods which are used for accomplishing this research work. The research methodology provides a description of research area, technique, variables and their instruments, sources of data, data collection methods, and instruments to be used, type of data that will be collected, and methods of data analysis as applied in this research.
This chapter deals with research design, study population, sample size and sampling techniques, types and sources of data, data collection method, research variables, data analysis method.

3.2 Research design
Research design is the blueprint through which the researcher use and plan in order to get the answers of the research questions in respect of the study. Burns and Grove (2001) defined research design as a study that helps a researcher to direct the research in a manner that help the smooth attainment of the expected required results.
In this study the researcher will use quantitative approach. Quantitative research questions are designed to find out the degree of association amongst the variables that the researchers intend to find out, these variables are working capital components (Average Payment Period (APP), Average Receivables Period (ARP), Inventory Conversion Period (ICP) and Cash Conversion Cycle (CCC) as independent variables and gross profit as dependent variable and these are utilized mainly to interpret the results.
3.3 Study area.
The research is conducted to the Dar es salaam Stock of Exchange (DSE) selecting the listed brewery companies starting year 2005 to 2014.

3.4 Study Population.
Population is the total collection of elements of which a researcher wish to make some inferences. In this study, the population used is of all listed brewery companies in Dar es Salaam Stock of Exchange (DSE), these companies are Tanzania Breweries Limited (TBL) and East Africa Breweries limited.

3.4.1 Sample size and Sampling technique
Sample size refers to the number of items to be selected from the universe to constitute a sample, it consist of some elements in a population a researcher wish to make conclusion about the entire population, the sample size should not be extremely large or too small rather, it is should be optimal. From these few items selected as sample conclusion of the study will be drawn.

All the listed brewery companies are taken for this and they include two companies.

3.5 Types of data
Types of data used in this study are Secondary data, these data are found in annual financial statements of these two brewery companies employed in the study. The audited financial statements being reliable in nature that’s why are chose

3.6 Sources of data
The financial data will be taken from the annual reports of the Brewery Companies listed at the Dar es Salaam Stock Exchange (DSE). As the audited financial statements are reliable in nature, they have been chosen in this research. Now, why publicly traded companies are chosen instead of the non listed companies? Publicly traded companies
have a statutory requirement to have their financial statements audited by an independent auditor in an accounting year.

3.7 Data collection method
The audited financial statements for the period of 10 years covered by the study were found from both Dar es Salaam (DSE) website and the website of the selected two brewery companies used in the study.

3.8 Research Variables and their measurement.
Variable means an aspect of the theory which differs or altered as being part of the interaction within the theory. In such a way, they are as well defined as anything that can influence the change of the results of the study. Each research undertaken must be carried with the inclusion of these variables as they help to understand the difference. In order to be a variable, a variable must vary (e.g. not be a constant), that is, it must take on different values, levels, intensities, or states. Example, Gender (male & Female), self esteem (low, high), managerial style (authoritative, demographic), Education (primary, secondary, college). Variables are distinguished in two categories including the dependent and the independent variables as can be explained below;

3.8.1 Dependant variable
Dependant variables are defined as factors whose variations are thought to be influenced by the movements in the independent variables. They are the outcome due to the occurrence of other factors, in this study to measure the company profitability gross profit is used as dependent variable.

3.8.1.2 Gross operating profit
Equals to total revenue minus cost of goods sold. Generally, profit refers to the gain or benefit from the business activity. Gross operating profit is calculated by taking the sales revenue obtained from the business activities minus the cost of goods sold (Ildiko and Tamas, 2009) gross operating profit = sales revenue- cost of goods sold
3.8.2 Independent variable and its measurement
Independent variable is a stimulus, input, or predictor variable that influences the outcome. In this study the components of working capital such as average collection period (ACP), inventory conversion period (ICP), average payment period (APP), and cash conversion Cycle (CCC) are used as the independent variable as result Cash Conversion Cycle is measured the source of three parts, number of days receivable, inventory Conversion Period and number of days payable.

3.8.2.1 Inventory Conversion Period
Inventory Conversion Period is being defined as the time duration involved from ordering the raw materials, production of the product and finally selling of the product (Hillier et al, 2010). Inventory period accounts for the time that stocks are stored by the company before they are sold out. Inclusively, period of day’s time inventory goes through over the production process and selling process. Time involved in the production process shall depend basically on the product nature, smooth automation and the technology involved in the manufacturing of such product.

The company obtains advantages when it reduces the inventories such as reducing obsolete inventory, lowering depreciation, decreasing warehouse space, etc. in calculations inventory period is computed by dividing inventories by the average daily cost of goods sold of the company. The rationale of this formula is that when raw materials are bought, they are correspondently booked into the account of costs for inventories, and when the products to be produced are finished and sold, the cost for selling these goods are transferred into the account of cost of goods sold. (Melicher & Leach, 2009). The formula for inventory period is as follows;

Inventory Conversion Period = average inventory/ cost of goods sold * 365
3.8.2.2 Average Collection Period.

This variable is defined as the number of the days which is needed to collect cash receipts, that, the average period for which collections are outstanding. (Hillier et al, 2010) defined Average collection Period as time duration involved in the collection of cash. Accordingly, early cash receiving will largely reduce the time lag between the inflow of sales and outflow of the product’s raw materials and cost for labor already incurred. Practically there arise obstacles for the entities in accomplishing all sales in cash basis because of a number of reasons like, its trade policy or pressure from competitors. Reducing average collection have impact to the company’s earnings since bad debts are reduced through accelerated collections.

Average collection period= \( \text{Average collection} \times 365 \)

\[
\text{Net sales}
\]

3.8.2.3 Accounts payable period

This variable refers to the time period of days a company takes to pay off the accounts payable. In measuring average payment period of the company, the average of beginning and ending accounts payables are taken into consideration (Deloof, 2003). It can also be defined as the time period that a firm making late payments to the suppliers on the purchase of raw materials for production purpose, it involves the range of time between a time when raw materials are purchased and when the real cash payment made to those who supplied raw materials to the firm, sometimes when a firm delay to make payment to the suppliers is seen and considered as one of the internal financing which in turn tend to help the firm to save expenses which might be incurred when the external financing such as bank loan are used. The accounts payables period can be formulated as follows;

\[
\text{Accounts Payable Periods} = \frac{\text{Average trade payables} \times 365}{\text{Cost of goods sold}}
\]
3.8.2.4 Cash conversion cycle

Cash Conversion Cycle (CCC) refers to time in days taken by the company or firm to pay its payables and to receive receivables. CCC shows the duration or period of time a company can take for cash movements, this cycle of cash is initiated by cash outflow made by a company through payments to the suppliers of the raw materials used by the company in production process and the cycle ends the inflow of money to the company through making sales of products such as goods and services to the customers. Shortly it can be said that, the cycle the time period taken by the company to convert all operating activities of the company that requires cash into cash return. Shortening of CCC accelerates the availability of cash within the company thus presence of cash surplus within the firm which can be invested in infrastructures and equipments related to the day to day operation of the company, while at a time when cash conversion cycle is lengthen, more cash will be found tied up in the firms day to day operation thus leaving a little chance for the firm to make other investments from this cash flow

Cash Conversion Cycle = Operating Cycle – Accounts Payable Period

Or

Cash Conversion Cycle = (inventory period + Accounts Receivable Period) – Accounts Payable period

3.8.3 Control variables and their measurements

For the analysis to be reliable on the impact of working capital management on profitability to the listed brewery companies in DSE. In order to account for factors that may influence profitability of the firm, it is inevitable to make use of control variables. (Deelof, 2003; Eljelly, 2004; Padachi, 2006;). Generally, in this study the above working capital variables and some control variables below as whole were taken into consideration.
Short term liquidity
Profitability of the firm is affected by its liquidity, in order to keep the effect liquidity neutral the researcher will be using current ratio as a control variable

3.8.3.1 Current ratio is a financial ratio which shows amount or quantity of current asset over current liabilities of the company. Shortly it can be said the proportion or ratio of current asset to current liabilities, this ratio is mostly used in financial analysis and interpretation as the indicator of liquidity position of the company. When at a time in the company it happens that the amount of current asset is higher than the amount of current liabilities available with in the firm shows that the company is in good position to meet its obligations as they fall due because the resources are more than the liabilities to be paid out. Current ratio is both liquidity and working capital ratio, current assets are those assets which can be realized with in 12 months and current liabilities are liabilities which with in the 12 months have to be settled, in financial analysis and interpretation the higher the ratio of current ratio the favorable is the situation, which means when having a current ratio of 2 shows the firm has sufficient or adequate current assets to cover for twice the required amount of short term liabilities of the company.

\[
\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}
\]

3.8.3.2 Debt to equity ratio.

For the sake of keeping constant the effect debt utilization , debt to equity ratio is used as a control variable, mathematically it is obtained by dividing total debt to equity ratio. When the debt to equity ratio is found to be high, it stipulates that the company may not be in a good position to make more cash to meet its debts obligations as they fall due. While in turn low debt to equity ratio point out that the firm is not in a good position to
take an advantage of the increased profit brought up by financial leverage. Most of the capital industries always are used to have higher debt to equity ratios because these capital intensive industries tend to make purchase of more plants, property and equipments for operation than low capital industries

Debt to Equity ratio =total debts / total equity

3.9 Data analysis method
The data to be used in this study are collected and analyzed quantitatively by using computer software which is statistical package for social sciences (SPSS) V.16.0. M to get the desired results from the study. With the aim of examining the relationship that exist between dependent and independent variables of the listed brewery companies in DSE, the researcher made use of correlation and regression analysis in the study to present and interpret the results obtained. Overall the model used for the regression analysis is expressed as follows;

\[ \text{GOPLn} = \beta_0 + \beta_1(ACP \text{ it}) + 2\beta(ICP \text{ it}) + 3\beta(\text{APP it}) + 4\beta(\text{CCC it}) + 5\beta(\text{CR it}) + 6\beta(\text{DER it}) + e \]

Where,
GOPLn : log of Gross operating profit
ACP: Average Collection Period
ICP: Inventory Conversion Period
APP: Average Payables Period
CCC: Cash Conversion Cycle
CR: Current Ratio
DER: Debt Equity Ratio
e: The error term
In order to verify the research questions models were developed to explain the hypothesis, these models are as follows;

**Model one.**
This model is developed to test the relationship between ACP and GOP
\[ Y_{it} = \alpha + \beta_{1}ACP_{it} + \beta_{2}CR_{it} + \beta_{3}DER_{it} + e \]

**Model two**
The second model is used to test the relationship between ICP and GOP
\[ Y_{it} = \beta_{1}ICP_{it} + \beta_{2}CR_{it} + \beta_{3}DER_{it} + e \]

**Model three**
This third model is used to test the relationship between APP and GOP.
\[ Y_{it} = \alpha + \beta_{1}APP_{it} + \beta_{2}CR_{it} + \beta_{3}CR_{it} + \beta_{3}CR_{it} + e \]

**Model four**
This model is going to test the relationship between CCC and GOP
\[ Y_{it} = \alpha + \beta_{1}CCC_{it} + \beta_{2}CR_{it} + \beta_{3}DER_{it} + e \]
3.10 Relationship between variables used in the study

Table 3.1 shown the relationship between variables used in the study

<table>
<thead>
<tr>
<th>Variables</th>
<th>Variable type</th>
<th>Expected coefficient sign</th>
<th>Relationship between variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average collection period (ACP)</td>
<td>Independent variable</td>
<td>Negative</td>
<td>ACP↑  ⇔  GOP↓</td>
</tr>
<tr>
<td>Inventory conversion period (ICP)</td>
<td>Independent variable</td>
<td>Negative</td>
<td>ICP↓  ⇔  GOP↑</td>
</tr>
<tr>
<td>Average payables period (APP)</td>
<td>Independent variable</td>
<td>Positive</td>
<td>APP↑  ⇔  GOP↑</td>
</tr>
<tr>
<td>Cash conversion cycle (CCC)</td>
<td>Independent variable</td>
<td>Negative</td>
<td>CCC↑  ⇔  GOP↓</td>
</tr>
<tr>
<td>Current ratio (CR)</td>
<td>Control variable</td>
<td>Positive</td>
<td>CR↑  ⇔  GOP↑</td>
</tr>
<tr>
<td>Debt to equity ratio (DER)</td>
<td>Control variable</td>
<td>Positive</td>
<td>DER↑  ⇔  GOP↑</td>
</tr>
</tbody>
</table>


CHAPTER FOUR

PRESENTATION OF FINDINGS

4.1 Introduction.
This chapter presents data analysis and interpretation of the findings found in the research. This chapter examines, categorizes, and tabulates the evidence with the aim of presenting the objective of the study as it was thought to be. In assessing the relationship between working capital management and GOP for the brewery companies listed in DSE, the variable which are used in assessment of this study are Average Collection Period in days (ACP), Inventory Conversion Period in days (ICP), Average Payables Period in days, Cash Conversion Cycle (CCC), Gross Operating Profit (GOP), Current Ratio (CR), and Debt to Equity ratio whereby all these independent, dependant and control variables are obtained from the published annual financial reports of the given companies for the period from 2005 to 2014. This chapter includes descriptive analysis correlation analysis and analysis of regression results.

4.2 Descriptive analysis.
Descriptive analysis provides summary descriptive statistics of TBL and EABL for all independent and dependent variables of these 2 companies listed on the Dar es Salaam Stock of Exchange for the period of 10 years from 2005 to 2014. It shows the average, range, minimum, maximum, mean and standard deviation values of variables used within the study.

4.2.1 Descriptive statistic results for TBL.
Table 4.1 below presents a summary of descriptive statistics of the dependent and independent variables of TBL for a period of 10 years from 2005 to 2014.
Table 4.1 Descriptive Statistics for TBL

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Range</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACP</td>
<td>10</td>
<td>10.87</td>
<td>2.30</td>
<td>13.17</td>
<td>6.895</td>
<td>3.25841</td>
<td>10.617</td>
</tr>
<tr>
<td>ICP</td>
<td>10</td>
<td>37.23</td>
<td>20.02</td>
<td>57.25</td>
<td>34.257</td>
<td>13.54599</td>
<td>183.494</td>
</tr>
<tr>
<td>APP</td>
<td>10</td>
<td>40.60</td>
<td>.60</td>
<td>41.20</td>
<td>17.949</td>
<td>12.50371</td>
<td>156.343</td>
</tr>
<tr>
<td>CCC</td>
<td>10</td>
<td>57.93</td>
<td>-8.25</td>
<td>49.68</td>
<td>23.204</td>
<td>20.19379</td>
<td>407.789</td>
</tr>
<tr>
<td>CR</td>
<td>10</td>
<td>.88</td>
<td>.60</td>
<td>1.48</td>
<td>1.045</td>
<td>.35722</td>
<td>.128</td>
</tr>
<tr>
<td>DER</td>
<td>10</td>
<td>.85</td>
<td>.40</td>
<td>1.25</td>
<td>.7590</td>
<td>.32566</td>
<td>.106</td>
</tr>
<tr>
<td>GOPLN</td>
<td>10</td>
<td>1.54</td>
<td>11.59</td>
<td>13.13</td>
<td>12.365</td>
<td>.54504</td>
<td>.297</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: complied on the basis of annual financial reports of the companies from 2005 to 2014 information run on SPSS.

From the above table no. 4.1 the following observation can be made basing on the period covered.

ACP ranges between 2.30 and 13.17 days with the average of 6.8950 days and standard deviation of 3.25841 which indicates low volatility. This shows that TBL receives payment against sales after an average of 7 days, the minimum time taken by the TBL to collect cash from the receivables is 2 days while the maximum time for this purpose is 13 days.

ICP ranges between 20.02 and 57.25 days with the average of 34.2570 days and standard deviation of 13.54599. This mean that, it takes an average of 34 days for TBL to convert inventory. The maximum time taken by the company to convert its’ inventory 57. The standard deviation lower than average thus there is low volatility.

APP ranges between 0.60 and 41.20 days with the average of 18 days and standard deviation of 12.5037. This mean that the company waits an average of 18 days to pay their purchases, the maximum time taken for the company to pay its purchases is 41 days. The standard deviation is less than mean indicating not high volatility.
The mean of cash conversion cycle (CCC) which is used as comprehensive measurement of managing working capital is 23 days and standard deviation is 20 days while the minimum value of CCC is -8 days and the maximum value of CCC is 50 day. The standard deviation is nearer to average.

The average current ratio for TBL is 1.0450 with the standard deviation of 0.3572. The minimum value of current ratio (CR) for the period is 0.60 and the maximum value of CR is 1.48.

The average Debt to Equity ratio (DER) is 0.7590 with the standard deviation of 0.3257. The maximum value of DER is 1.25 and the minimum value of DER is 0.40.

The average gross operating profit 11ln , and standard deviation is 54ln. The maximum and minimum of gross operating profit were 13.13ln and 11.59ln respectively. Since standard deviation is higher than the average the volatility appears to be higher.

### 4.2.2 Descriptive statistic results of EABL.

The descriptive statistics in terms of average, standard deviation, maximum and minimum are presented to the table below.
Table 4.2  Descriptive Statistics of EABL

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Range</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACP</td>
<td>10</td>
<td>8.68</td>
<td>9.24</td>
<td>17.92</td>
<td>14.7070</td>
<td>2.6449</td>
<td>6.995</td>
</tr>
<tr>
<td>ICP</td>
<td>10</td>
<td>635.35</td>
<td>33.60</td>
<td>668.95</td>
<td>1.6204E2</td>
<td>227.36621</td>
<td>5.170E4</td>
</tr>
<tr>
<td>APP</td>
<td>10</td>
<td>498.21</td>
<td>14.97</td>
<td>513.18</td>
<td>1.3359E2</td>
<td>155.98207</td>
<td>2.433E4</td>
</tr>
<tr>
<td>CCC</td>
<td>10</td>
<td>421.30</td>
<td>-46.41</td>
<td>374.89</td>
<td>43.1490</td>
<td>123.85086</td>
<td>1.534E4</td>
</tr>
<tr>
<td>CR</td>
<td>10</td>
<td>16.10</td>
<td>.70</td>
<td>16.80</td>
<td>3.0580</td>
<td>4.89010</td>
<td>23.913</td>
</tr>
<tr>
<td>DER</td>
<td>10</td>
<td>3.78</td>
<td>.23</td>
<td>4.01</td>
<td>1.4820</td>
<td>1.45378</td>
<td>2.113</td>
</tr>
<tr>
<td>GOPLN</td>
<td>10</td>
<td>.86</td>
<td>9.46</td>
<td>10.32</td>
<td>9.8590</td>
<td>.31614</td>
<td>.100</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: complied on the basis of annual financial reports of the companies from 2005 to 2014 information run on SPSS.

The following are observation from the table no.4.2 which are made basing on the period covered by the study.

The ACP of EABL ranges between 9.24 and 17.92 days with the mean of 14.7070 and standard deviation of 2.6449. This shows that EABL receives payment against sales after an average of 15 days, the minimum time taken by the EABL to collect cash from the receivables is 9 days while the maximum time for this purpose is 18 days.

ICP ranges between 33.6 and 668.95 days with the average of 1.6204E2 days and standard deviation of 227.3662. The maximum time taken by the company to convert its’ inventory 669 days and the minimum time taken is 34 days

APP ranges between 14 and 513.18 days with the average of 1.3359E2 days and standard deviation of 155.9820. This mean that the company waits an average of 1.3359E2 days to pay their purchases, the maximum time taken for the company to pay its purchases is 513 days.
The mean of cash conversion cycle (CCC) which is used as comprehensive measurement of managing working capital is 43 days and standard deviation is 124 while the minimum value of CCC is -46.41 days and the maximum value of CCC is 375 days.

The average current ratio for EABL is 3.0580 with the standard deviation of 4.8901. The minimum value of current ratio (CR) for the period is 0.70 and the maximum value of CR is 16.80.

The average Debt to Equity ratio (DER) is 1.4820 with the standard deviation of 1.45378. The maximum value of DER is 4.01 and the minimum value of DER is 0.23.

The average gross operating profit ln, and standard deviation is 0.31614 ln. The maximum and minimum of gross operating profit were 10.32 ln and 9.46 ln respectively. Since standard deviation is lower than the average the volatility appears to be lower.

4.2.3 Descriptive statistic for the industry.

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

Table no. 4.3 Descriptive Statistics of the industry

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Range</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACP IN DAYS</td>
<td>20</td>
<td>26.63</td>
<td>6.74</td>
<td>33.37</td>
<td>18.9622</td>
<td>9.28610</td>
<td>86.232</td>
</tr>
<tr>
<td>ICP IN DAYS</td>
<td>20</td>
<td>1134.65</td>
<td>32.21</td>
<td>1166.87</td>
<td>1.7581E2</td>
<td>306.71921</td>
<td>9.408E4</td>
</tr>
<tr>
<td>APP IN DAYS</td>
<td>20</td>
<td>512.57</td>
<td>.60</td>
<td>513.18</td>
<td>75.7703</td>
<td>122.95572</td>
<td>1.512E4</td>
</tr>
<tr>
<td>CCC</td>
<td>20</td>
<td>869.74</td>
<td>10.53</td>
<td>880.27</td>
<td>1.1900E2</td>
<td>204.12119</td>
<td>4.167E4</td>
</tr>
<tr>
<td>DER</td>
<td>20</td>
<td>3.78</td>
<td>.23</td>
<td>4.01</td>
<td>1.1210</td>
<td>1.09043</td>
<td>1.189</td>
</tr>
<tr>
<td>CR</td>
<td>20</td>
<td>16.20</td>
<td>.60</td>
<td>16.80</td>
<td>2.0516</td>
<td>3.52992</td>
<td>12.460</td>
</tr>
<tr>
<td>GOPLN</td>
<td>20</td>
<td>3.66</td>
<td>9.46</td>
<td>13.13</td>
<td>11.1115</td>
<td>1.35553</td>
<td>1.837</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source; complied on the basis of annual financial reports of the companies from 2005 to 2014 information run on SPSS
From table no. 4.3 above the following information is observed;
ACP ranges between 6.74 and 33.37 days with the average of 18.96 days and standard deviation of 9.286 which indicates low volatility. This shows that the industry receives payment against sales after an average of 18.96 days, the minimum time taken by the TBL to collect cash from the credit sales is 6.74 days while the maximum time for this purpose is 33.37 days.

ICP ranges between 32.21 and 1166.87 days with the average of 1.7581E2 days and standard deviation of 306.7192. This means that it takes an average of 34 days for the industry to convert its inventory. The maximum time taken by the company to convert its inventory is 1167 days.

APP ranges between 0.60 and 513.18 days with the average of 75.77 days and standard deviation of 12.95572. This means that the industry waits an average of 76 days to pay their purchases, the maximum time taken for the industry to pay its purchases is 513.18 days.

The mean of cash conversion cycle (CCC) which is used as a comprehensive measurement of managing working capital is 1.1900E2 days and standard deviation is 204.12119 days while the minimum value of CCC is 10.53 days and the maximum value of CCC is 880.27 day. The minimum value of 10.53 days shows that the industry records large inventory turnover or cash collections from credit sales before making a single payment for credit purchase, it means that the average collection period or inventory holding period are very short and the accounts payable period of the industry is very long.

The average current ratio for the industry is 2.0516 with the standard deviation of 3.52992., the minimum value of current ratio (CR) for the period is 0.60 and the maximum value of CR is 16.80
The average Debt to Equity ratio (DER) is 1.1210 with the standard deviation of 1.09043.
The average gross operating profit is 11.11ln, and standard deviation is 1.36ln. The maximum and minimum of gross operating profit were 13.13ln and 9.46ln respectively. Since standard deviation is lower than the average the volatility appears to be lower.

### 4.3 Correlation analysis.

Prior to regression result it is important to check the correlation between different variables on which the analysis is done. Pearson’s correlation analysis is applied for data to identify the relationship between variables of working capital management and profitability of brewery companies.

#### 4.3.1 Correlation results of TBL.

The table no.4.4 below presents the Pearson correlation of TCCL for variables that are used in the regression model. Pearson’s correlation analysis is used to find the relationship between working capital management and gross operating profit.

<table>
<thead>
<tr>
<th></th>
<th>GOPLN</th>
<th>ACP</th>
<th>ICP</th>
<th>APP</th>
<th>CCC</th>
<th>CR</th>
<th>DER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1.000</td>
<td>.376</td>
<td>-.028</td>
<td>.762</td>
<td>-.430</td>
<td>.631</td>
<td>-.136</td>
</tr>
<tr>
<td>ACP</td>
<td>.376</td>
<td>1.000</td>
<td>-.489</td>
<td>.665</td>
<td>-.578</td>
<td>.342</td>
<td>-.499</td>
</tr>
<tr>
<td>ICP</td>
<td>-.028</td>
<td>-.489</td>
<td>1.000</td>
<td>-.456</td>
<td>.874</td>
<td>.330</td>
<td>-.051</td>
</tr>
<tr>
<td>APP</td>
<td>.762</td>
<td>.665</td>
<td>-.456</td>
<td>1.000</td>
<td>-.818</td>
<td>.336</td>
<td>-.203</td>
</tr>
<tr>
<td>CCC</td>
<td>-.430</td>
<td>-.578</td>
<td>.874</td>
<td>-.818</td>
<td>1.000</td>
<td>.069</td>
<td>.011</td>
</tr>
<tr>
<td>CR</td>
<td>.631</td>
<td>.342</td>
<td>.330</td>
<td>.336</td>
<td>.069</td>
<td>1.000</td>
<td>-.766</td>
</tr>
<tr>
<td>DER</td>
<td>-.136</td>
<td>-.499</td>
<td>-.051</td>
<td>-.203</td>
<td>.011</td>
<td>-.766</td>
<td>1.000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>GOPLN</th>
<th>ACP</th>
<th>ICP</th>
<th>APP</th>
<th>CCC</th>
<th>CR</th>
<th>DER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sig. (1-tailed)</td>
<td>.</td>
<td>.142</td>
<td>.469</td>
<td>.005</td>
<td>.107</td>
<td>.025</td>
<td>.354</td>
</tr>
<tr>
<td>ACP</td>
<td>.142</td>
<td>.</td>
<td>.076</td>
<td>.018</td>
<td>.040</td>
<td>.167</td>
<td>.071</td>
</tr>
<tr>
<td>ICP</td>
<td>.469</td>
<td>.076</td>
<td>.</td>
<td>.093</td>
<td>.000</td>
<td>.176</td>
<td>.444</td>
</tr>
<tr>
<td>APP</td>
<td>.005</td>
<td>.018</td>
<td>.093</td>
<td>.</td>
<td>.002</td>
<td>.171</td>
<td>.287</td>
</tr>
<tr>
<td>CCC</td>
<td>.107</td>
<td>.040</td>
<td>.000</td>
<td>.002</td>
<td>.</td>
<td>.425</td>
<td>.488</td>
</tr>
<tr>
<td>CR</td>
<td>.025</td>
<td>.167</td>
<td>.176</td>
<td>.171</td>
<td>.425</td>
<td>.</td>
<td>.005</td>
</tr>
<tr>
<td>DER</td>
<td>.354</td>
<td>.071</td>
<td>.444</td>
<td>.287</td>
<td>.488</td>
<td>.005</td>
<td>.</td>
</tr>
</tbody>
</table>

Source. Complied information run using SPSS.
From the table no.4.4 above the following can be observed as follows;

The correlation between ACP and GOPln of TBL is positive not as expected (0.376) and is not significant at 5% level (0.142). This may be due to loading higher margin which needs confirmation. The correlation between ICP and GOPln of TBL is (-0.028) is negative as expected. But not significant at 5% level (0.469). The correlation between APP and GOPln of TBL is (0.762) showing a positive coefficient as expected and it is significant at 5% level (0.05). The correlation between CCC and GOPln of TBL is – 0.430 showing negative coefficients as expected and is not significant at 5% level (0.107). The correlation between current ratio (CR) and GOPln of TBL is showing positive coefficient as expected (0.631) and is not significant at 5% level (0.025).

4.3.2 Correlation analysis of EABL

The table no. 4.5 below presents the Pearson correlation of EABL for variables that are used in the regression model.

Table 4.5 Correlations results of EABL

<table>
<thead>
<tr>
<th>Pearson Correlation</th>
<th>GOPLN</th>
<th>ACP</th>
<th>ICP</th>
<th>APP</th>
<th>CCC</th>
<th>CR</th>
<th>DER</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOPLN</td>
<td>1.000</td>
<td>.576</td>
<td>-.400</td>
<td>-.244</td>
<td>-.416</td>
<td>-.563</td>
<td>.885</td>
</tr>
<tr>
<td>ACP</td>
<td>.576</td>
<td>1.000</td>
<td>.115</td>
<td>.226</td>
<td>-.053</td>
<td>-.770</td>
<td>.498</td>
</tr>
<tr>
<td>ICP</td>
<td>-.400</td>
<td>.115</td>
<td>1.000</td>
<td>.855</td>
<td>.761</td>
<td>-.034</td>
<td>-.332</td>
</tr>
<tr>
<td>APP</td>
<td>-.244</td>
<td>.226</td>
<td>.855</td>
<td>1.000</td>
<td>.315</td>
<td>-.118</td>
<td>-.346</td>
</tr>
<tr>
<td>CCC</td>
<td>-.416</td>
<td>-.053</td>
<td>.761</td>
<td>.315</td>
<td>1.000</td>
<td>.070</td>
<td>-.163</td>
</tr>
<tr>
<td>CR</td>
<td>-.563</td>
<td>-.770</td>
<td>.034</td>
<td>-.118</td>
<td>.070</td>
<td>1.000</td>
<td>.411</td>
</tr>
<tr>
<td>DER</td>
<td>.885</td>
<td>.498</td>
<td>-.332</td>
<td>-.346</td>
<td>-.163</td>
<td>-.411</td>
<td>1.000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sig. (1-tailed)</th>
<th>GOPLN</th>
<th>ACP</th>
<th>ICP</th>
<th>APP</th>
<th>CCC</th>
<th>CR</th>
<th>DER</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOPLN</td>
<td>.</td>
<td>.041</td>
<td>.126</td>
<td>.249</td>
<td>.116</td>
<td>.045</td>
<td>.000</td>
</tr>
<tr>
<td>ACP</td>
<td>.041</td>
<td>.</td>
<td>.376</td>
<td>.265</td>
<td>.442</td>
<td>.005</td>
<td>.072</td>
</tr>
<tr>
<td>ICP</td>
<td>.126</td>
<td>.376</td>
<td>.</td>
<td>.001</td>
<td>.005</td>
<td>.463</td>
<td>.174</td>
</tr>
<tr>
<td>APP</td>
<td>.249</td>
<td>.265</td>
<td>.001</td>
<td>.</td>
<td>.188</td>
<td>.373</td>
<td>.164</td>
</tr>
<tr>
<td>CCC</td>
<td>.116</td>
<td>.442</td>
<td>.005</td>
<td>.188</td>
<td>.</td>
<td>.424</td>
<td>.326</td>
</tr>
<tr>
<td>CR</td>
<td>.045</td>
<td>.005</td>
<td>.463</td>
<td>.373</td>
<td>.424</td>
<td>.</td>
<td>.119</td>
</tr>
<tr>
<td>DER</td>
<td>.000</td>
<td>.072</td>
<td>.174</td>
<td>.164</td>
<td>.326</td>
<td>.119</td>
<td>.</td>
</tr>
</tbody>
</table>
Source; complied on the basis of annual financial reports of the companies from 2005 to 2014 information run on SPSS.

From the above table no. 4.5 the following can be observed ;

The correlation between ACP and GOPLn is positive against expectation (0.576) and the relationship is significant (0.41). The correlation between ICP and GOPLn is -0.400 which is negative as expected and the relation is not significant at 5% level (0.126). The correlation between APP and GOPLn is -0.244 which is negative against expectation and the relationship is not significant at 5% level (0.249). The correlation between CCC and GOPLn is negative coefficients as expected (-0.416) and the relationship is not significant at 5% level (0.116). The correlation between CR and GOPln is showing negative coefficients not as expected (-0.563) and the relationship is significant at 5% level (0.45). The correlation between DER and GOPln is showing a positive coefficient (0.885) and the relationship is significant at 5% level.
4.3.3 Correlation of EABL and TBL (INDUSTRY)
The table no.4.6 below represents results for correlation of brewery industry (TBL & EABL).

Table 4.6 Correlations results for the industry

<table>
<thead>
<tr>
<th></th>
<th>GOPLN</th>
<th>ACP</th>
<th>ICP</th>
<th>APP</th>
<th>CCC</th>
<th>DER</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GOPLN</td>
<td>1.000</td>
<td>-.662</td>
<td>-.413</td>
<td>-.477</td>
<td>-.364</td>
<td>-.200</td>
<td>-.351</td>
</tr>
<tr>
<td>ACP</td>
<td>-.662</td>
<td>1.000</td>
<td>.259</td>
<td>.449</td>
<td>.164</td>
<td>.455</td>
<td>.052</td>
</tr>
<tr>
<td>ICP</td>
<td>-.413</td>
<td>.259</td>
<td>1.000</td>
<td>.902</td>
<td>.971</td>
<td>.150</td>
<td>.080</td>
</tr>
<tr>
<td>APP</td>
<td>-.477</td>
<td>.449</td>
<td>.902</td>
<td>1.000</td>
<td>.774</td>
<td>.117</td>
<td>.044</td>
</tr>
<tr>
<td>CCC</td>
<td>-.364</td>
<td>.164</td>
<td>.971</td>
<td>.774</td>
<td>1.000</td>
<td>-.134</td>
<td>.095</td>
</tr>
<tr>
<td>DER</td>
<td>-.200</td>
<td>.455</td>
<td>-.150</td>
<td>-.117</td>
<td>-.134</td>
<td>1.000</td>
<td>-.270</td>
</tr>
<tr>
<td>CR</td>
<td>-.351</td>
<td>.052</td>
<td>.080</td>
<td>.044</td>
<td>.095</td>
<td>.270</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Sig. (1-tailed)

<table>
<thead>
<tr>
<th></th>
<th>GOPLN</th>
<th>ACP</th>
<th>ICP</th>
<th>APP</th>
<th>CCC</th>
<th>DER</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOPLN</td>
<td>.</td>
<td>.001</td>
<td>.035</td>
<td>.017</td>
<td>.057</td>
<td>.199</td>
<td>.065</td>
</tr>
<tr>
<td>ACP</td>
<td>.001</td>
<td>.</td>
<td>.135</td>
<td>.023</td>
<td>.245</td>
<td>.022</td>
<td>.414</td>
</tr>
<tr>
<td>ICP</td>
<td>.035</td>
<td>.135</td>
<td>.</td>
<td>.000</td>
<td>.000</td>
<td>.264</td>
<td>.369</td>
</tr>
<tr>
<td>APP</td>
<td>.017</td>
<td>.023</td>
<td>.000</td>
<td>.</td>
<td>.000</td>
<td>.312</td>
<td>.427</td>
</tr>
<tr>
<td>CCC</td>
<td>.057</td>
<td>.245</td>
<td>.000</td>
<td>.000</td>
<td>.</td>
<td>.287</td>
<td>.345</td>
</tr>
<tr>
<td>DER</td>
<td>.199</td>
<td>.022</td>
<td>.264</td>
<td>.312</td>
<td>.287</td>
<td>.</td>
<td>.124</td>
</tr>
</tbody>
</table>

Source; complied on the basis of annual financial reports of the companies from 2005 to 2014 information run on SPSS.

The following are observations obtained from the correlation table no.4.6 above;

The correlation between ACP and GOPln of the industry (TBL & EABL) is negative coefficient as expected (-0.662) and the relationship is significant at 5% level (0.001).The correlation between ICP and GOPln of the industry (TBL &EABL) is negative coefficient as expected (-0.413) and the relationship is significant at 5% level (0.035).The correlation between APP and GOPln of the industry is negative not as expected (-0.447), but the relationship is significant at 5% level(0.017) The correlation between CCC and GOPln of the industry has negative coefficient as expected (-0.364) and the relationship is significant at 5% level (0.05).The correlation between CR and
GOPln of the industry is showing negative coefficient not as expected (-0.351), but the relationship is not significant at level 5% (0.065). The correlation between DER and GOPln of the industry is showing a negative coefficient of -0.200 and the relationship is not significant at 5% level (0.199).

4.4 Regression analysis
This shows the extent on how working capital variables affect the profitability of the companies. Multiple regression analysis is done for ACP, ICP, APP, CCC, CR DER with GOPln. In this model ACP, ICP, APP, and CCC are used as independent variables, GOPln is taken as dependant variable and CR and DER are taken as control variables. Regression is done for each independent variable with GOPln in order to assess the impact of each component of working capital on profitability of the company.

4.4.1 Regression results of TBL.
The regression analysis has been done to assess the impact of each component of working capital viz; ACP, ICP, APP and CCC on profitability of TBL taking DER and CR as control variables. The following aspects discuss the same.

4.4.1.1 The Impact of ACP on GOP
The review of literature revealed that there is negative association between ACP and profitability indicating increase in ACP decreases profitability and vice versa. In order to test whether it holds well, in the present study regression is calculated taking GOP as dependent variable and ACP as independent variable. In addition DER and CR are taken as control variables. The worked out regression result are presented in table no. 4.7 and table no.4.8 below.
Table 4.7 The model summary of impact of ACP on GOP

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>.929a</td>
<td>.864</td>
<td>.796</td>
<td>.24632</td>
<td>.864</td>
<td>12.679</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Predictors: (Constant), DER, ACP, CR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Dependent Variable: GOPln</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: complied on the basis of annual financial reports of TBL from 2005 to 2014 information run on SPSS.

Table 4.8: The Coefficients of Regression showing impact of ACP on GOP

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>8.262</td>
<td>.732</td>
</tr>
<tr>
<td></td>
<td>ACP</td>
<td>.082</td>
<td>.029</td>
</tr>
<tr>
<td></td>
<td>CR</td>
<td>2.021</td>
<td>.359</td>
</tr>
<tr>
<td></td>
<td>DER</td>
<td>1.873</td>
<td>.427</td>
</tr>
</tbody>
</table>

Source: complied on the basis of annual financial reports of the companies from 2005 to 2014 information run on SPSS.
From the above tables the following can be observed;

The adjusted $R^2$ of the model is 79.6% and the value for the $R^2$ in this model is 86% which explains that 86% of the variation in the dependent variable (gross operating profit) is explained by the independent and control variables. The Durbin Watson test 2.585 which is the within the limits set i.e 0 and 4. It is neither above 4 nor below 0. The tolerance statistics were 0.746 and the Variance Inflation Factor (VIF) 1.341 for ACP. It is indicating that there were no multi-collinearity problems among the independent variables in the data. The F test significance value is 0.005 which is below 0.05. In view of this, the model is considered as significant.

Based on regression coefficients shown in table 4.7 there is positive association between ACP and profitability (0.82) which is not as expected and its significance level is 0.031 which is below 0.05. This may be due to higher cash discounts, loading of higher margins compared to time value of money. However it needs confirmation with separate study.

The coefficient of current ratio (CR) is positive with GOP (2.021) as expected and highly significant at 0.001, showing that increase of CR leads to the significant increase of GOP or decrease in this ratio results to the significant decrease of GOP. The coefficient of debt to equity ratio (DER) is positive with GOP (1.873) and the relationship is highly significant at 0.005.

Thus it can be inferred that the coefficient of ACP is positive which is not as expected and is statistically significant. This explains that the increase or decrease of average collection period significantly positively affects the gross operating profit of the company.
4.4.1.2 The impact of ICP on GOP

The review of literature revealed that there is negative association between ICP and profitability indicating increase in ICP leads to the decrease of profitability of the firm and vice versa. In order to test whether it holds good in the present study regression is calculated taking GOP as dependent variable and ICP as independent variable. In addition DER and CR are taken as control variables. The worked out regression result are presented in table no. 4.9 and table no.4.10

Table 4.9 The Model Summary\textsuperscript{b} results showing impact of ICP on GOP

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.946\textsuperscript{a}</td>
<td>.895</td>
<td>.842</td>
<td>.21646</td>
<td>.895</td>
<td>17.008</td>
</tr>
</tbody>
</table>

\textsuperscript{a} Predictors: (Constant), ICP, DER, CR

\textsuperscript{b} Dependent Variable: GOPLN

Table 4.10 the Coefficients of regression showing impact of ICP on GOP

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>95% Confidence Interval for B</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td>T</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>9.077</td>
<td>.562</td>
<td>16.140</td>
</tr>
<tr>
<td></td>
<td>CR</td>
<td>2.502</td>
<td>.354</td>
<td>1.639</td>
</tr>
<tr>
<td></td>
<td>DER</td>
<td>1.824</td>
<td>.366</td>
<td>1.093</td>
</tr>
<tr>
<td></td>
<td>ICP</td>
<td>-.021</td>
<td>.006</td>
<td>-.518</td>
</tr>
</tbody>
</table>

\textsuperscript{a} Dependent Variable: GOPLN

Source; complied on the basis of annual financial reports of the companies from 2005 to 2014 information run on SPSS.

From the above tables the following information is observed;
The adjusted $R^2$ of the model is 84.2% and the value of $R^2$ which is also called the coefficient of multiple determinations which is percentage of variance in the dependant variable explained by independent variables in this model is 89.5%, which shows that 89.5% of the variation in the dependant variable (gross operating profit) is explained by independent and control variables, which means that only 10% of GOP is not explained by inventory conversion period (ICP) and control variables. The Tolerance statistics were 0.787 and the Variance Inflation Factor (VIF) is 1.270, it is indicating that there were no multi-co linearity problems among the independent variables in the data. The Durbin-Watson (DW) results displays the value of 1.420 which is within the limits set i.e between 0 and 4, form these results it can be concluded that there is no autocorrelation among independent variables in the data. The F test significance value is 0.002 which is below 0.05, due to these information the model is good thus it can be used for regression analysis.

Based on regression coefficients shown in table 4.10, there is negative association between ICP and profitability as expected and its significance level is 0.013 which is below 0.05. It indicate the influence of ICP on profitability is negative meaning that the decrease in ICP leads to the increase in profitability of the company and vice versa and the relationship is significant.

The coefficient of current ratio (CR) is positive with GOP (2.502) as expected and highly significant at 0.000, showing that increase of CR leads to the significant increase of GOP or decrease in this ratio results to the significant decrease of GOP. The coefficient of debt to equity ratio (DER) is positive with GOP (1.824) and the relationship is highly significant at 0.002.

4.4.1.3 Impact of APP on GOP.

The review of literature revealed that there is positive association between APP and profitability, indicating increase in APP increases profitability and vice versa. In order to test whether it holds good, in the present study regression is calculated taking GOP as dependent variable and APP as independent variable. In addition DER and CR are taken
as control variables. The worked out regression result are presented in table no. 4.11 and table no.4.12

Table 4.11 Model Summary result showing impact of APP on GOP

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>.990</td>
<td>.981</td>
<td>.972</td>
<td>.09178</td>
<td>.981</td>
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<td>.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.071</td>
</tr>
</tbody>
</table>

a. Predict1rs: (Constant), APP, DER, CR

b. Dependent Variable:

GOPLN

Table 4.12 Coefficient regression showing impact of APP on GOP

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td>Tolerance</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>9.302</td>
<td>.237</td>
<td>39.216</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>CR</td>
<td>1.566</td>
<td>.139</td>
<td>1.026</td>
<td>11.275</td>
</tr>
<tr>
<td></td>
<td>DER</td>
<td>1.280</td>
<td>.146</td>
<td>.767</td>
<td>8.748</td>
</tr>
<tr>
<td></td>
<td>APP</td>
<td>.025</td>
<td>.003</td>
<td>.580</td>
<td>9.710</td>
</tr>
</tbody>
</table>

a. Dependent Variable: GOPLN

Source; complied on the basis of annual financial reports of the companies from 2005 to 2014 information run on SPSS.

From the tables above the following information is observed, 

The adjusted $R^2$ of the model is 97.2% and the value of $R^2$ is 98.2%, which is also called the coefficient of multiple determinations which is percentage of variance in the dependant variable explained by independent and control variables in this model, which
shows that 98% of the variation in GOP as dependant variable is explained by independent and control variables. The Tolerance statistics is 0.885 and the Variance Inflation Factor (VIF) is 1.130, since the values of Tolerance statistic and VIF are within the limit it is indicating that there is no multi-collinearity problems among the independent variables in the data. The Durbin-Watson (DW) value is 2.071, Whereby Durbin Watson ranges in value from 0 to 4. A value near 2 indicates non-autocorrelation, a value towards 0 indicates positive autocorrelation and a value towards 4 indicates negative autocorrelation, thus the Durbin Watson value it can be said that there is non-autocorrelation among variables in the data and F test is highly significant at 0.000. Hence the model is considered as significant.

Based on regression coefficients shown in table no.4.12, the coefficients of APP is positive as expected (0.025), which means there is positive association between APP and profitability and the relationship is highly significant at level 0.000 which is below 0.05, it implies that increase in APP will result into significant increase in GOP and vice versa, which is to say that the more the firm delays its payment to creditors the more level of working capital is reserved and used in daily operation of the firm hence increase of profitability.

The coefficient of current ratio (CR) is positive with GOP (1.566) as expected and highly significant at 0.000, showing that increase of CR leads to the significant increase of GOP or decrease in this ratio results to the significant decrease of GOP. The coefficient of debt to equity ratio (DER) is positive with GOP (1.280) and the relationship is highly significant at 0.000.

4.5.1.4 Impact of CCC on GOP

The review of literature revealed that there is negative association between CCC and profitability indicating increase in CCC decreases profitability and vice versa. In order to test whether it holds good in the present study regression is calculated taking GOP as dependent variable and CCC as independent variable. In addition DER and CR are taken as control variables. The worked out regression result are presented in table no. 4.13 and table no.4.14
Table 4.13 the Model Summary results showing impact of CCC on GOP

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>R Square Change</td>
<td>F Change</td>
</tr>
<tr>
<td>1</td>
<td>.986*</td>
<td>.972</td>
<td>.957</td>
<td>.11251</td>
<td>.972</td>
<td>68.357</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), CCC, DER, CR
b. Dependent Variable: GOPLN

Table 4.14 the coefficients of regression showing impact of CCC on GOP

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>9.331</td>
<td>.291</td>
</tr>
<tr>
<td></td>
<td>CR</td>
<td>2.104</td>
<td>.165</td>
</tr>
<tr>
<td></td>
<td>DER</td>
<td>1.544</td>
<td>.180</td>
</tr>
<tr>
<td></td>
<td>CCC</td>
<td>-.015</td>
<td>.002</td>
</tr>
</tbody>
</table>

a. Dependent Variable: GOPLN

Source; complied on the basis of annual financial reports of the companies from 2005 to 2014 information run on SPSS.
From the above table the following information is observed;

The adjusted $R^2$ of the model is 97.2% and the value for the $R^2$ in this model is 95.7% which explains that 95.7% of the variation in the dependent variable (gross operating profit) is explained by the independent and control variables. The Durbin Watson test 2.557 which is within the limits set i.e 0 and 4. It is neither above 4 nor below 0. The tolerance statistics were 0.983 and the Variance Inflation Factor (VIF) 1.017. It is indicating that there were no multi-co linearity problems among the independent variables in the data. The F test significance value is 0.000 which is below 0.05 and highly significant. In view of this, the model is considered as significant.

The coefficient of cash conversion cycle (CCC) is negative with GOP as expected (-0.015) and is highly significant at 0.000, which implies that when cash conversion cycle decreases (CCC) results to the significant increase of gross operating profit or when CCC increases leads to the significant decrease in GOP.

The coefficient of current ratio (CR) is positive with GOP (2.104) as expected and highly significant at 0.000, showing that increase of CR leads to the significant increase of GOP or decrease in this ratio results to the significant decrease of GOP. The coefficient of debt to equity ratio (DER) is positive with GOP (1.544) and the relationship is highly significant at 0.000.

4.4.2 Regression results of EABL.

The regression analysis has been done to assess the impact of each component of working capital viz; ACP, ICP, APP and CCC on profitability of EABL taking DER and CR as control variables. The following aspects discuss the same.

4.4.2.1 The impact of ACP on GOP.

The review of literature revealed that there is negative association between ACP and profitability indicating increase in ACP decreases profitability and vice versa. In order to test whether it holds well, in the present study regression is calculated taking GOP as dependent variable and ACP as independent variable. In addition DER and CR are taken
as control variables. The worked out regression result are presented in table no. 4.15 and table no.4.16

**Table 4.15 Model Summary** results showing impact of ACP on GOP

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.910</td>
<td>.828</td>
<td>.742</td>
<td>.16001</td>
<td>.828</td>
<td>9.611</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>df1</td>
<td>df2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.506</td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), DER, CR, ACP

b. Dependent Variable: GOPLN

**Table 4.16 regression Coefficients showing impact of ACP on GOP**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>2.315</td>
<td>3.862</td>
</tr>
<tr>
<td></td>
<td>CR</td>
<td>.055</td>
<td>.128</td>
</tr>
<tr>
<td></td>
<td>DER</td>
<td>-.331</td>
<td>.317</td>
</tr>
<tr>
<td></td>
<td>ACP IN DAYS</td>
<td>.166</td>
<td>.249</td>
</tr>
</tbody>
</table>

a. Dependent Variable: GOPLN

Source; complied on the basis of annual financial reports of the EABL from 2005 to 2014 information run on SPSS.

From the above tables the following information is observed;
The adjusted $R^2$ of the model is 74% and the value for the $R^2$ in this model is 82.8% which explains that 82.8% of the variation in the dependent variable (gross operating profit) is explained by the independent and control variables. The Durbin Watson test 1.506 which is the within the limits set i.e 0 and 4. It is neither above 4 nor below 0. The tolerance statistics were 0.368 and the Variance Inflation Factor (VIF) 2.718. It is indicating that there were no multi-co linearity problems among the independent variables in the data. The F test significance value is 0.010 which is below 0.05 and highly significant. In view of this, the model is considered as significant.

The coefficient of average collection period (ACP) is positive with GOP not as expected (0.166) and is not significant at 0.529. The coefficient of current ratio (CR) is positive with GOP (0.055) as expected and the relation is not significant at 0.684, showing that increase of CR leads to the increase of GOP or dec. The coefficient of debt to equity ratio (DER) is negative with GOP (-0.331) and the relationship is insignificant at 0.337.

### 4.4.2.2 The impact of ICP on GOP.

The review of literature revealed that there is negative association between ICP and profitability indicating increase in ICP leads to the decrease of profitability of the firm and vice versa. In order to test whether it holds well, in the present study regression is calculated taking GOP as dependent variable and ICP as independent variable. In addition DER and CR are taken as control variables. The worked out regression result are presented in table no. 4.17 and table no 4.18.
Table 4.17  Model Summary\(^b\) results showing impact of ICP on GOP

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Std. Error of the R Square Change</th>
<th>F Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. F Change</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.925(^a)</td>
<td>.855</td>
<td>.783</td>
<td>.14676</td>
<td>.855</td>
<td>11.803</td>
<td>3</td>
<td>6</td>
<td>.006</td>
<td>1.576</td>
</tr>
</tbody>
</table>

\(^a\) Predictors: (Constant), ICP, CR, DER

\(^b\) Dependent Variable: GOPLN

Table 4.18  Regression coefficients showing impact of ICP on GOP

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>3.497</td>
<td>.210</td>
<td></td>
</tr>
<tr>
<td>CR</td>
<td>.038</td>
<td>.021</td>
<td>.174</td>
</tr>
<tr>
<td>DER</td>
<td>.041</td>
<td>.076</td>
<td>.055</td>
</tr>
<tr>
<td>ICP IN DAYS</td>
<td>.005</td>
<td>.000</td>
<td>.989</td>
</tr>
</tbody>
</table>

\(^a\) Dependent Variable: GOPLN

Source; complied on the basis of annual financial reports of the EABL from 2005 to 2014 information run on SPSS.

From the above tables the following information is observed;

The adjusted \( R^2 \) of the model is 78.3\% and the value of \( R^2 \) 85.5\% , which shows that 85.5\% of the variation in the dependant variable ( gross operating profit) is explained by independent and control variables, which means that only 14.5\% of GOP is not explained by inventory conversion period (ICP) and control variables. The Tolerance statistics were 0.855 and the Variance Inflation Factor (VIF) is 1.170, it is indicating that there were no multi-co linearity problems among the independent variables in the data. The Durbin-Watson (DW) results displays the value of 1.576 which is within the limits set i.e between 0 and 4, form these results it can be concluded that there is no
autocorrelation among independent variables in the data. The F test significance value is 0.006 which is below 0.05, due to these information the model is good thus it can be used for regression analysis.

Based on regression coefficients shown in table no.4.18 there is positive association between ICP and profitability not as expected and it is highly significant at 0.000. it indicate the influence of ICP on profitability is positive meaning that the increase in inventory leads to the increase in profitability of the company and vice versa.

The coefficient of current ratio (CR) is positive with GOP (0.038) as expected and is not significant at 0.121, showing that increase of CR leads to the significant increase of GOP or decrease in this ratio results to the significant decrease of GOP. The coefficient of debt to equity ratio (DER) is positive with GOP (0.041) and the relationship is not significant at 0.609

4.4.2.3 The impact of APP on GOP.
The review of literature revealed that there is positive association between APP and profitability, indicating increase in APP increases profitability and the decrease of APP results to the decrease of GOP. In order to test whether it holds good, in the present study regression is calculated taking GOP as dependent variable and APP as independent variable. In addition DER and CR are taken as control variables. The worked out regression result are presented in table no.4.19 and table no.4.20

Table .4.19 Model Summaryb results showing impact of APP on GOP

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>R Square Change</td>
<td>F Change</td>
</tr>
<tr>
<td>1</td>
<td>.910</td>
<td>.828</td>
<td>.742</td>
<td>.16001</td>
<td>.828</td>
<td>9.611</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), APP, CR, DER
b. Dependent Variable: GOPLN
Table 4.20 Regression coefficients showing impact of APP on GOP

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>3.363</td>
<td>.350</td>
<td>9.597</td>
</tr>
<tr>
<td>CR</td>
<td>.058</td>
<td>.034</td>
<td>.262</td>
</tr>
<tr>
<td>DER</td>
<td>.069</td>
<td>.122</td>
<td>.093</td>
</tr>
<tr>
<td>APP IN DAYS</td>
<td>.005</td>
<td>.001</td>
<td>.974</td>
</tr>
</tbody>
</table>

a. Dependent Variable: GOPLN

Source; complied information using SPSS

From the above tables the following information is observed;

The adjusted $R^2$ of the model is 74.2% and the value for the $R^2$ in this model is 82.8% which shows that 84.8% of the variation in the dependent variable (gross operating profit) is explained by the independent and control variables. The Durbin Watson test 1.511 which is the within the limits set i.e 0 and 4. It is neither above 4 nor below 0. The tolerance statistics were 0.811 and the Variance Inflation Factor (VIF) 1.233. It is indicating that there were no multi-collinearity problems among the independent variables in the data. The F test significance value is 0.010. In view of this, the model is considered as significant.

Based on the coefficient regression shown in the table no.4.20 shows that APP associates positively with GOP (0.005) which is as expected and the relationship is significant at 0.001. which means as APP increases the gross operating profit of the company also increases.

The coefficient of current ratio (CR) is positive with GOP (0.058) as expected and is not significant at 0.143, showing that increase of CR leads to the significant increase of GOP or decrease in this ratio results to the significant decrease of GOP. The coefficient of debt to equity ratio (DER) is positive with GOP (0.069) and the relationship is not significant at 0.593.
4.4.2.4 The impact of CCC on GOP

The review of literature revealed that there is negative association between CCC and profitability indicating increase in CCC decreases profitability and vice versa. In order to test whether it holds good in the present study regression is calculated taking GOP as dependent variable and CCC as independent variable. In addition DER and CR are taken as control variables. The worked out regression result are presented in table no.4.21 and 4.22

Table 4.21 Model Summary\(^a\) results showing impact of CCC on GOP

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>R Square</td>
</tr>
<tr>
<td>1</td>
<td>.952(^a)</td>
<td>.907</td>
<td>.861</td>
<td>.11747</td>
</tr>
</tbody>
</table>

\(^a\) Predictors: (Constant), CCC, CR, DER

b. Dependent Variable: GOPLN

Table 4.22 Regression coefficients showing impact of CCC on GOP

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>4.922</td>
<td>.758</td>
</tr>
<tr>
<td>CR</td>
<td>-.019</td>
<td>.097</td>
<td>-.084</td>
</tr>
<tr>
<td>DER</td>
<td>-.291</td>
<td>.315</td>
<td>-.391</td>
</tr>
<tr>
<td>CCC</td>
<td>.003</td>
<td>.007</td>
<td>.160</td>
</tr>
</tbody>
</table>

\(^a\) Dependent Variable: GOPLN

Source: compiled information using SPSS
From the above tables the following information is observed;

The adjusted R\(^2\) of the model is 86.1% and the value for the R\(^2\) in this model is 90.7%. The Durbin Watson test 1.379 which is in the within the limits thus indicating non-autocorrelation among the data. The tolerance statistics were 0.895 and the Variance Inflation Factor (VIF) is 1.117. It is indicating that there are no multi-collinearity problems among the independent variables in the data. The F test significance value is 0.002. In view of this, the model is considered as significant.

The coefficient of CCC is positive with GOP (0.003) and the relationship is not significant at 0.702. It implies that increase of CCC results to the increase of GOP, and the decrease of CCC results to the decrease of GOP.

The coefficient of current ratio (CR) is negative with GOP (-0.019) not as expected and is not significant at 0.854, showing that decrease of CR leads to the significant increase of GOP or decrease in this ratio results to the significant increase of GOP. The coefficient of debt to equity ratio (DER) is negative with GOP (-0.291) and the relationship is not significant at 0.391.

4.4.2.5 Comparison between coefficients of EABL and TBL with the industry

Table 4.23 summary showing regression coefficient of EABL, TBL and the industry.

<table>
<thead>
<tr>
<th>RATIOS</th>
<th>COMPANY</th>
<th>COEFFICIENT</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACP</td>
<td>TBL</td>
<td>0.82</td>
<td>0.031</td>
</tr>
<tr>
<td></td>
<td>EABL</td>
<td>0.166</td>
<td>0.529</td>
</tr>
<tr>
<td></td>
<td>INDUSTRY</td>
<td>-0.080</td>
<td>0.050</td>
</tr>
<tr>
<td>ICP</td>
<td>TBL</td>
<td>-0.021</td>
<td>0.031</td>
</tr>
<tr>
<td></td>
<td>EABL</td>
<td>0.005</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>INDUSTRY</td>
<td>0.005</td>
<td>0.000</td>
</tr>
<tr>
<td>APP</td>
<td>TBL</td>
<td>0.025</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>EABL</td>
<td>0.005</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>INDUSTRY</td>
<td>0.005</td>
<td>0.000</td>
</tr>
<tr>
<td>CCC</td>
<td>TBL</td>
<td>-0.015</td>
<td>0.702</td>
</tr>
<tr>
<td></td>
<td>EABL</td>
<td>0.003</td>
<td>0.996</td>
</tr>
<tr>
<td></td>
<td>INDUSTRY</td>
<td>0.001</td>
<td>0.506</td>
</tr>
</tbody>
</table>
From the above table no.4.23 the following information is observed;  

The coefficient of ACP for TBL and EABL are positive not as expected (0.82) and (0.166) respectively, but significant in case of TBL (0.031) only. The coefficient of the industry is negative as expected (-0.080) and the relationship is significant at 0.050. In relation to ACP, industry is found to have influence on profitability compared to the TBL and EABL.  

The coefficients of ICP for EABL is (0.005) positive not as expected for TBL is negative as expected (-0.021) but all are significant at 0.031 and 0.001 respectively. While in case of the industry the coefficient is positive not as expected but significant at 0.000. The observation shows that for TBL inventory management have influence on profitability compared to EABL and the industry as whole.  

The coefficient of APP for EABL and TBL is positive as expected in case of both companies TBL (0.025) and 0.005 for EABL, and significant to all companies where TBL at 0.000 and EABL at 0.001. The coefficient of the industry is positive as expected and it is significant. Indicating that the increase of APP results to the increase of GOP.  

The coefficient of CCC for TBL is -0.015 which is negative as expected and significant at 0.000 and EABL positive not as expected (0.003) and not significant at 0.702. While for the industry the coefficient of CCC is negative as expected (-0.001) and not significant at 0.506.  

From the above it can be observed that, except APP other independent variable have positive influence on profitability in some or other company. It may be due to loading of higher margins in sale price to compensate time value of money, which needs establishment by separate study.
CHAPTER FIVE
DISCUSSION OF THE FINDINGS

5.1 Introduction
The main aim of this chapter is to present the findings observed, discussed and presented in chapter four relating to the impact of working capital on profitability of the brewery companies listed in Dar es salaam Stock of Exchange (DSE). The researcher discuss rational and logic for drawing inferences and establishing proper linkage with either the data analyzed in the chapter four or with other researchers findings.

5.2 Discussion on correlation results of TBL
The following is the discussion on correlation between components of working capital management of TBL which are considered as independent variables and gross operating profit (GOP) which is considered as dependent variable.

The observations from the study show that the correlation between ACP and GOP is positive not as expected and the relationship is not significant. With these results it can be said that, in TBL the increase in number of days in collecting receivables results to the increase in profitability of the company. The finding is not corresponding with the working capital management practice which suggests the firm to collect their cash quickly from their debtors, thus it needs another study to establish the reason for the unexpected results.

The correlation between ICP and GOP is negative as expected and the relationship is not significant. Which mean that the decrease in ICP leads to the increase in gross operating profit (GOP) of the company, With these results means that as the time taken to convert raw material into finished goods decreases and time to sell them decreases results to the increase of profitability of the company, the manager have to strive to convert the raw material quickly and sell the goods in short period of time in order to make profit. These
results correspond with Mansoor and Muhammad (2012) who in their research found strong negative relationship between ICP and profitability.

The correlation between APP and GOP is positive as expected and the relationship is significant as per observation from the study, meaning that the more TBL delays to pay its debts to its creditors the more the profit for the company increases, this holds with the working capital management practice which emphasizes firms to extend their payments to their creditors as much they can but ensuring not destroying the image of the company. These results are the same with Gill, Biger and Mathur (2012) who in their study obtained the positive relationship between average payment period and profitability of the company.

Basing on the correlation results for TBL, it is found that there is negative relationship between Cash Conversion Cycle (CCC) and gross operating profit (GOP) of the company as expected but the relationship is not significant. This implies that the decrease in cash conversion cycle leads to the increase in profitability of the firm. These findings are similar with Niresh, (2012) and Sighar ,Hashmi and Hussein, (2011) who found a negative relationship between Cash Conversion Cycle (CCC) and profitability of the company and contradict with Biger and Mathur , (2012) who found a positive relationship between CCC and profitability.

5.3 Discussion on correlation results of EABL

Basing on the results after Pearson’s correlation analysis applied for data to identify the relationship between variables of working capital management and profitability of brewery companies listed on Dar es Salaam Stock of Exchange (DSE), the following is the discussion on correlation between components of working capital management of EABL which are considered as independent variables and gross operating profit (GOP) which is considered as dependent variable.
The correlation between ACP and GOP is positive not as expected and the relationship is significant. This means that an increase of number of days that a firm collects its debts from sales to debtors is affecting the profitability of the company positively. The unexpected results may be due to bad debts, credit policy of the company.

On other hand the observation from the study indicates the correlation between ICP and GOP is negative as expected and the relation is not significant. This mean that as the ICP decreases the GOP of the company increases. The results are consistent with Falope and Alijore (2009) who in their study found there is negative correlation between ICP and profitability of the company. The results shows that EABL takes few days in converting its inventory into cash thus affecting positively the profitability of the company which means that as the days to convert inventory decreases the profitability of the company increases and vice versa.

The correlation between APP and GOP of EABL is negative not as expected and the relationship is not significant. The finding shows the decrease in average payment period (APP) leads to the increase in gross operating profit (GOP) of the company. This may be due to loading of higher margins in purchase price. Therefore the management of the company has to find measures in order to bring the relationship between APP and GOP as expected.

The correlation between CCC and GOP is negative which is as expected and the relationship is not significant. The findings imply that, the decrease of cash conversion cycle (CCC) results to the increase in gross operating profit (GOP) of the company and vice versa. This warrants attention of the management to improve the situation till significance level.

Generally, based on the correlation results, shows there are significant relationship between independent variables and GOP of TBL expect ACP which shows that it has no significant relationship with GOP. While the correlation results of EABL show that
many independent variable are not significant and their coefficients are found to be not expected. Thus the management of EABL and TBL have to make look on the components of working capital so that may have significant relationship with the gross operating profit of the company as expected.

5.4 Discussion on results of multiple regressions of the study.

In attempting to find if ACP, ICP, APP and CCC sufficiently explain the variation in the GOP of brewery companies multiple regression was employed. The following are results as per observation for each company.

5.4.1 Discussion on impact of components of working capital results on GOP for TBL.

Assessment is done to find if the ACP, ICP, APP and CCC have impact on GOP of the company, the following is the discussion on the results of regression as observed.

5.4.1.1 The relationship between Average Collection Period and Gross Operating profit.

From the observation, the relationship between ACP and GOP is positive and significant. Meaning that the increase in ACP causes significant increase in gross operating profit of the company. The results are against the working capital management practice which suggests the negative relationship between ACP and GOP, meaning that the firm must ensure that the collection of debts from debtors is done in a short period of time. Deloof (2003) in his study stated that, managers can increase corporate profitability by reducing the average collection period, meaning that the longer the number of days accounts collection outstanding , the greater the chance a company decrease its profitability. When the company don’t make proper control of debtors might experience increase rate of bad debts. But in this case the result is not as expected.
5.4.1.2 The relationship between Inventory Conversion Period and Gross Operating Profit.

The relationship of ICP and GOP is negative and significant as per observation, implying that the decrease in ICP leads to the increase in GOP. These results are consistent with Dong (2010) and Ruichao (2013) who also found a strong relationship between ICP and profitability. Thus in this case the results are as expected.

5.4.1.3 The relationship between Average Payables Period and Gross Operating Profit.

The coefficient between APP and GOP is positive as expected and the relationship is significant. This implies that increase in number of days of accounts payables by one day results to the significant increase of profitability of the company, this may be due to increase of working capital after the delayed amount being reserved and used in day to day operation of the firm hence affect positively the profitability of the company. But the results are contrary with makonnen (2011) and Reheman et al. (2010) who in their study found the negative relationship between APP and GOP. In this case the findings are as expected.

5.4.1.4 The relationship between Cash Conversion Cycle and Gross Operating Profit.

As per observation, the relationship between CCC and GOP is negative as expected. The results can be interpreted that when cash conversion cycle is reduced the profitability of the company increases, which implies that the company maintains low investment on inventories due to high production and sales thus avoiding the costs of overstocking and their related expenses. The results are in line with the working capital management rule which suggest the firm not to take more time to convert and sell its products or goods. The findings are similar with makonnen (2011) and Reheman et al. (2010) who in their studies found that there is negative relationship between Cash Conversion Cycle and profitability of the company.
5.4.2 Discussion on influence of components of working capital on GOP for EABL
An attempt is done to find if ACP, ICP, APP AND CCC of EABL have impact on the GOP. The following is the discussion as per observation from the analysis of regression coefficient table of EABL.

5.4.2.1 The relationship between Average Collection Period and GOP.
The relationship between ACP and GOP is positive not as expected and insignificant. The findings implies that as the number of days for the firm to receive payment from credit sales increases the profitability increases, the results are contrary with the working capital practice which suggest the firm to take few days to collect the payments from debtors in order to facilitate the profitability of the company. This study is contrary to Raheman and Nasr (2007) who in their research found a negative relationship between ACP and GOP.

5.4.2.2 The relationship between Inventory Conversion Period and GOP.
The relationship between ICP and GOP is positive not as expected and insignificant. The findings imply that as the inventory conversion period (ICP) increases the gross operating profit of the company also increases. These results are similar with Mathuva (2010) who also found a positive relationship between ICP and profitability of the company. The working capital management practice suggests that when the firm decrease the average time to convert the raw materials into finished goods and sell those goods in short period of time affects the profitability of the company positively.

5.4.2.3 The relationship between Average Payment Period and GOP.
The regression coefficients show that there exist a positive relationship between APP and GOP which is as expected and highly significant. This implies that as the company increases the average period for making payment to the creditors the profitability of the company increases, the results show that the company take more days to make payment to its creditors. These results are similar with the working capital management practice which suggests firms to strive to lag their payments to their creditors as much as it is
possible but making sure the business relationship is not destroyed. Rehman and Nasr (2007) in their study found a positive relationship between accounts payment period and profitability of the company which is similar with the findings obtained in this study.

5.4.2.4 The relationship between Cash Conversion Cycle and GOP.

The relationship between CCC and GOP as per regression coefficients table is positive which is not as expected. The findings show that as the cash conversion cycle increases, the gross operating profit increases. CCC depends on ICP, ACP and APP. This result may be due the overstocking of inventory, and purchasing in bulk in the period when the prices are very low. The results are not similar with Gill, Biger and Mathur (2012) who in their study found a negative relationship between CCC and GOP.

Generally, based on the regression output of these two brewery companies, some other components of working capital have expected relation with gross operating profit while some other components of working capital have unexpected, therefore the management have to make more efforts in managing its working capital in order to improve the relation between components of working capital and gross operating profit to be as expected thus increase the profitability of the company.
CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATION

6.1 Introduction.
This chapter presents briefly the summary of the research undertaken, conclusion and recommendations based on the study by pinning out the remaining gap related to the knowledge on this topic of impact of working capital management on profitability of the brewery companies opening a way for further studies to be undertaken on this topic. Thus this chapter includes summary of the study, conclusion, recommendations and suggestions of further studies.

6.2 Summary.
The main objective of the study was to assess and investigate the impact of working capital management on profitability of brewery companies listed in Dar es Salaam Stock of Exchange (DSE). In extracting answers for this main objective of the study the published and audited annual financial reports of these brewery companies were used to obtain data which are used in the study. The data banks of Dar es Salaam Stock of Exchange were used to obtain the audited annual financial report of TBL and EABL which are used in this study. The examination covered the period of 10 years for each company from 2005 to 2014, thus secondary data was employed. In making analysis SPSS was used whereby Descriptive statistic, correlation analysis and multiple regression analysis were employed to make evaluation of independent and dependant variables if they have core relationship. In this study independent variables are ratios of components of working capital which are ACP, ICP, APP, and CCC. The dependent variable is GOP and control variable being current ratio (CR) and debt to equity ratio (DER).
6.3 Conclusion.

The influence of ACP on GOP of TBL and EABL is positive and for the industry is negative. So the relationship is not as expected in case of TBL and EABL. This may be due to loading of additional margins in selling price not only to compensate time value of money but also to increase the profit. So it needs further studies to establish causes of positive relationship.

The influence of ICP on EABL and industry is positive while in case of TBL is negative. This shows that EABL and the industry results are against expectation of decrease in ICP will cause increase in profitability, this may be due to purchasing of inventory in bulk when prices are very low and keeping for a longer period. Subsequently abnormal price increase may happen not only the covering of time value of money but also resulting to additional profit to the company. This needs separate study to establish causes of positive relationship.

The influence of CCC on GOP in case of EABL, TBL and the industry is positive which is against expectation. CCC depends on ACP, ICP and APP. This may be happening due to loading of additional margins in selling price and also overstocking inventory, purchasing in bulk during low price period. This needs further studies to establish the causes of positive relationship.

The influence of APP on GOP is positive on EABL and the industry and negative on TBL. This relationship relating to TBL is against expectation. This may be due to loading higher margins in purchase prices and not availing cash discounting. This also needs further studies to establish the causes.
6.4 Recommendation.
Basing on the analysis made by the researcher and the discussion presented from the results of the study, the relationship between many components of working capital and gross operating profit is not as expected and insignificant. Therefore the management of these brewery companies has to survey on these components of working capital in order to ensure that the components of working management relate to gross operating profit of the company as expected.

The firms should formulate incentives schemes for their management to make effective and efficiency management of working capital components for the sake of facilitating the profitability of the company.

6.5 Suggestions for other further studies
The further studies on this study to be made by future researchers have to make look on the following aspects;

The influence of external factors that affect working capital like interest rate risk, business risk, competitors risk, political risk, foreign exchange risk and their relative impact to the profitability of the firms.

The scope of further studies should be extended when conducting research on the similar topic with different companies from different industries by increasing the years of the sample of the study.

The study should be done also to other brewery companies which are not registered in Dar es Salaam Stock of Exchange (DSE). The further research should extend the scope by extending the coverage number of years for investigation in order to make reasonable comparison between previous time efficiency and effectiveness of working capital management and present time on profitability of the company.

The future researches have to perform their investigation to other companies and business which are not registered in DSE. Means the coming research should concentrate in investigating on how working capital affect the profitability of the
companies which are not listed to the Dar es Stock of Exchange (DSE) like private business and parastatals which were beyond our limit.
REFERENCES


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## APPENDICES.

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