INFLUENCE OF FINANCIAL LEVERAGE ON FINANCIAL PERFORMANCE OF FIRMS LISTED UNDER CONSTRUCTION AND ALLIED SECTOR AT THE NAIROBI SECURITIES EXCHANGE, KENYA

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION (MBA), FACULTY OF BUSINESS AND MANAGEMENT SCIENCES, UNIVERSITY OF NAIROBI

2021

DECLARATION

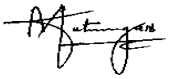
I hereby affirm that this research project is my own effort which has never been submitted to any college or university for presentation.

Sign. …  …. Date…30/11/2021……

Daniel Owino Ogolla

D61/10045/2018

This project has been presented with my consent as the University Supervisor.

Signature….....  ..... Date…30/11/2021……

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ACKNOWLEDGEMENT

I thank the Almighty God for the good health and strength He granted me all through my post graduate studies. Special thanks go to my sister Margaret and brothers James and Aloice for the purpose of their full support both morally and financially. I also extend appreciation to my supervisor Dr. Mutunga for his direction and inspiration towards my timely and successful conclusion of this project.

DEDICATION

I dedicate this project to my late parents Patrick Ogolla and Jane Ogolla for taking me to school and helping me understand the value of education.

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LIST OF ABBREVIATIONS

ANOVA - Analysis of Variance

CAK - Competition Authority of Kenya

CMA - Capital Markets Authority

DTA - Debt to Asset Ratio

DTE - Debt to Equity Ratio

GDP - Gross Domestic Product

NCA – National Construction Authority

NSE - Nairobi Securities Exchange

ROA - Return on Assets

ROCE - Return on Capital Employed

ROE - Return on Equity

SMEs - Small and Medium Enterprises

SPSS - Statistical Package for Social Sciences

VIF - Variance Inflation Factor

ABSTRACT

The incorporation of borrowed funds in a firm's capital mix has been observed to have a substantial consequence on the firm which can either be a success or failure. An optimal capital structure consisting of equity and debt impacts corporate value along with stock prices in the securities exchange market. The research project aims to ascertain the influence of financial leverage on financial performance of construction and allied enterprises registered at the Nairobi Securities Exchange. A descriptive approach was chosen for the research. The focus of this study was on the five construction companies licensed by the Capital Market Authority and currently trading their shares at the NSE. Secondary data was collected from the corporates' published audited financial statements from the year 2011 to 2020. Descriptive statistics, multiple regression and correlation analysis methods were utilized to analyze the collected data. The results established that, financial leverage significantly and positively influences financial performance of construction corporates registered at the NSE. It was also determined by the study that, the registered construction and allied enterprises' financial performance was positively and significantly influenced by their sizes. Sales growth was further determined by the findings to significantly and positively have influence on the quoted construction and allied companies' financial performance. Financial performance of the quoted construction enterprises was finally found to be significantly and positively impacted by the firms' liquidity.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Decisions relating to management of organization monetary and non-monetary resources is the most fundamental function of a corporate since it helps the managers in finance department to decide on when, where and how to raise funds to achieve the company's investment commitments (Zhao & Wijewardana, 2012). As illustrated by Nyamita (2014) in his study, any decision regarding financing of every organization is termed pivotal. The incorporation of borrowed funds in a firm's capital mix has been observed to have a substantial consequence on the firm which can either be a success or failure. An optimal capital structure consisting of equity and debt impacts corporate value along with stock prices in the securities exchange market. Financial leverage, according to Moghadam and Jafari (2015) influences macroeconomic factors such as pricing levels, economic growth, interest rates and securities market development. Thus, this reveals how the going concern of any given organization significantly relies on its financing decisions.

Firms often finance their investments using a blend of equity and debt. The use of leverage to fund companies' investments is anchored on various theories. This study relies on trade-off theory, agency theory and pecking order theory. The first theory, the pecking order theory was initiated by Myers and Majluf (1984) which advocates preference for debt to equity in case borrowed capital is to be used. Kraus and Litzernberger (1973) proposed trade-off theory and suggest that an entity borrows to the equilibrium level where the borrowing advantages exactly equals the borrowing related costs. The agency theory championed by Jensen and meckling (1976) maintains that a greater level of external funding multiplies owners' value due to its disciplinary effect on the management decision. Further, the theory suggest that optimal capital structure is attained by firms at the level where total agency costs are reduced to the lowest.

The construction and allied sector deals with maintenance, repair and construction of ports, roads, new homes, apartments, bridges, railroads, factories, sewers, tunnels among others (CAK, 2017). According to Maina and Omwenga (2017), the construction and allied sector in the last decade has immensely contributed to economic growth and development in Kenya. Under the Vision 2030 blue-print the government has set up mega projects that are believed to be a game changer and catapult the country to a middle-income country. The big four agenda,

an economic blueprint was also launched by the government in 2018 with a focus on universal health coverage, food security and nutrition, affordable housing and enhancing manufacturing. The sector's enterprises trading at the Nairobi Securities Exchange are majorly funded by equity and external funds (Muge, 2018). Incorporating borrowed funds in a corporate's capital structure is of great benefit given that interest payments are tax deductible hence may stimulate an increase in firm value and performance. Firms are likely to be more profitable if they use debt to fund their activities and new investments prudently and responsibly.

1.1.1 Financial Leverage

This is a terminology which refers to the debt extent utilized over equity by a company in its capital structure (Rayan, 2010). It describes the relation between borrowed funds and the owners' funds that constitute an entity's capital structure. Financial leverage can also be defined as a financial technique that incorporates the use of funds borrowed with the objective of maximizing the possible returns of a company (Al-Otaibi, 2015). It is more of the borrowed funds incorporated by a firm for funding it's investments which consequently leads to a fixed financial expense to the firm.

Firms employ financial leverage in their capital structure so that they can maximize their returns on investment. However, a higher utilization of debt if not well managed can be a risk to a firm. Maximizing the possible returns of companies' resources is the main objective of the companies employing financial leverage (Kimanthi, Galo & Mellisa, 2015). Several measures are used in measuring financial leverage namely debt to equity ratio and debt to asset ratio based on market values and book values (Vengesai & Kwenda, 2017). The study will apply DTA to measure financial leverage because the ratio is crucial in determining the financial risk of a firm.

1.1.2 Financial Performance

Financial performance is termed by Yahaya and Lamidi (2015) as the magnitude at which a firm has achieved or will achieve its financial objectives. Financial performance provides an indication of how efficient firms use their available resources to generate revenues. It provides a direction that shows the way for future decisions relating to assets acquisition, business developments and managerial control. Kajirwa (2015) asserted that financial performance of a firm subject to how prudently it employs its resources in its primary business activity and its consequent generation of revenues.

Financial performance provides an avenue for assessing a corporate's monetary performance of over a specific time period. It provides comparison of a firm's performance of over specified periods of time, different firms in the same sector or the performance of different sectors. It pays more attention on items that directly affects the firm's reports and statements of financial nature. The financial performance analysis of a firm can look into components for instance; capital employed, sales turnover, asset base, dividend growth along with others (Omondi & Muturi, 2013). The main financial performance indicators are return on assets and return on equity. ROA will be applied for the study because it gives firms an idea of how effectively they are converting the money they invest into net income.

1.1.3 Financial Leverage and Financial Performance

Several theoretical and pragmatic descriptions exist which demonstrate the strength of the association existing between the leverage of the organization and the performance involved within it. The Baker and Wugler (2002) market timing theory insinuates that corporations with higher leverage levels raise funds when they have low market valuation whereas corporations with lower levels of leverage raise funds when they have high market valuation. Jibran, Wajid and Masood (2012) ascertained that using debt capital brings a tax shield to business enterprises hence the desire to more borrowing to gain maximum tax benefit which translates to increased profits. However, uncontrolled debt levels could plunge a company into bankruptcy.

When incorporating debt into capital structure, risk factors should be addressed keenly by the managers. A high debt equity ratio for a firm, for instance indicates that its bankruptcy risk is high. (Nwaolisa & Chijindu, 2016) found that business enterprises with great proportion of borrowed capital are likely to earn more profits. This enables the enterprise to accomplish the target of maximizing the shareholders' wealth. Rehman (2013) sought to ascertain the impact realized when financial performance is leveraged. He concluded that ROA, sales growth and DTE has a positive correlation between them while DTE and ROE possesses an inverse relationship between them.

Moghhadam and Jafari (2015) conducted a research on the role played by leverage on performance of companies. The research revealed that the firm's leverage and its performance have a clear positive significant relationship between them. The study resolved that

organizations possessing high leverage are anticipated to be more profitable compared to those with low leverage.

1.1.4 Construction and Allied Firms Listed at the Nairobi Securities Exchange

According to Kioko (2015), in 1954 NSE was established as the primary securities exchange market in Kenya. The sector is also considered as an exchange market with the largest market spectrum in East and Central Africa. The central business activity of NSE is the facilitation of issuance and trading of debt securities. The Capital Markets Authority is the government agency mandated to control all the activities of securities trading and regulate the NSE.

Due to the magnitude of capital investments in this sector, economic outlook reports by the ministry of planning place this sector as a huge contributor to the gross domestic product in the country (Kamwara, Lyria & Mbogo, 2016). All the infrastructure needs of the country such as modern ports, affordable housing, the standard gauge railway, green terminals at airports, superhighways, express ways and floating bridges are products of contracts in the country that have transformed Kenya in the East African region. Strengthening of tendering systems by the national and county governments has led to involvement of small-scale contractors like the youth and women in the construction business, leading to creation of employment opportunities and improved livelihoods. The construction sector grew at 11.8% where its value stood at Kshs. 518.5 billion in 2020 compared to Kshs. 463.63 billion in 2019. The growth was boosted by increased government spending on public projects. Some of the projects include Kisumu port face lift, Lamu port construction, meter gauge railway rehabilitation and residential housing units (Business Daily, 2021).

1.2 Research Problem

The main purpose of an organization is the maximization of its returns. Either to use debt or equity is a dilemma faced by firms that require financing. With a wrong choice, amounts of returns realized would be affected. Aivaziana, Geb and Qiu (2005) described financial performance and financial leverage as critical concepts in corporate finance. Any debt incorporated in the company's capital structure; benefit of tax savings is realized since the interests' payments are tax allowable. However, the disadvantage comes at repayment of debt as it is given first priority (Chandrapala & Knápková, 2013). Financial leverage high preference by finance managers gives an indication the market signals that firms expect an enhanced cash

inflows and avenues of earning profits with an overall firm's performance improvement. However, when firms raise funds in the market by issue of equity, it is viewed negatively by the investors leading to the speculation that the prices of the stock are overvalued and the firm is employing its least suitable sources of capital suggesting inadequate availability of opportunities for business growth and performance improvement variables (Abdu, 2016). As the preference of leverage continues to rise, the concept of financial risk is not well explained in the debt and equity mix literature. The lack of attention on this aspect in literature point out to an inconclusive analysis of the significance of leverage in firms.

The construction and allied sector has pivotal roles in Kenya's economic and development growth by contributing a significant proportion to the country's GDP. Construction and allied firms' capital requirement are highly intensive and to realize gains for their investments, they must determine optimal capital mix. Since construction and allied firms have a higher and more frequent need of employing leverage, they must prudently use the borrowed funds. Financial performance determines the efficiency and effectiveness on how funds are spent, provide information on the flow of funds and also equip mangers with useful information needed to make best decisions (Almajali, Alamro & Al-Soub, 2012). The fall of numerous firms in Kenya has been as a result of financing issues which originates from financing plans to sourcing of funds (Mwangi, Makau & Kosimbei, 2014). Construction activities are capital intensive hence managers rely on huge amount of capital to ensure projects are successful, in so doing they borrow to finance their operations. Overtime it has been observed that high rates of loan defaults and non-completion of projects to affect their growth rates in the economy (Abdu, 2016).

Globally, several research works have been conducted to ascertain how financial leverage and performance of organizations relate. Raza (2013) performed a research to investigate the association of financial leverage on textile industry's performance in Pakistan. According to his findings, financial leverage had no positive association with performance. Enterprises with capital structure containing more debts in relation to equity, thus high DTE experience greater profitability, which enables firms maximize the owners' wealth (Nwaolisa & Chijindu, 2016). From the study done by Enekwe, Agu and Eziedo (2014), their findings disclosed that financial leverage is indirectly proportional to financial performance on the Nigerian pharmaceutical businesses.

In Kenya, several research works have also been done objectively to ascertain the association between leverage and performance. Oguna (2014) performed a study to ascertain the influence of borrowed funds on projects involving finances of real estate corporates quoted at the NSE. He concluded and showed financial leverage to positively correlate with financial performance. Chesang and Ayuma (2016) examined impact of funding composition of agricultural firms quoted at the NSE on their profitability. The findings affirmed that funding composition positively correlate with profitability. On the contrary, Kajirwa (2015) concluded that funding composition of a firm negatively impacts its performance when he investigated the influence of debt on commercial banks quoted at the NSE. The studies reviewed, have revealed diverse findings on scope, methodology and variables hence, findings cannot be generalized and deemed to represent the current study context because of distinctiveness of each study. This study seeks to fill these identified gaps by answering the following query; what is the influence of financial leverage on the financial performance of construction and allied enterprises registered at the NSE?

1.3 Research Objective

To determine the influence of financial leverage on financial performance of firms listed under construction and allied sector at the Nairobi Securities Exchange.

1.4 Value of the Study

The findings aim at benefiting the construction firms' managers at the NSE. This is achieved by demonstration of the financial leverage influence on performance and provision of advocacy and guidelines concerning the application of financial leverage on their companies. Existing and potential investors will also find them beneficial when deciding the level of capital investment to put in listed construction firms so as to lend effectively for the firms to finance their core activities.

Policy makers such as the National Construction Authority, government of Kenya will greatly get value in the findings of this study. They will be capable of deciding either to draft new policies or to amend existing ones with intention to improve growth and performance of quoted companies under construction at the NSE. The National Construction Authority and the government of Kenya will also be enabled to develop effective policy framework in regards to use of leverage by construction firms. The construction firms will consequently benefit from

the policies developed that warrant they maintain an optimal capital structure to mitigate their vulnerability to financial risks.

This study also benefits academicians and scholars by adding information to presently available on financial leverage in the context of Kenya and also suggests areas which may call for further investigations. The gaps in the study findings will inspire future scholars to conduct further studies on financial leverage and performance. Acting as a reference, further studies can also be carried out for comparison purposes with this study findings.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The chapter covers the theories adopted by the study and the financial performance determinants. Additionally, it reviews the conceptual framework, the summary and gap in the literature review.

2.2 Theoretical Literature Review

The section describes the three theories which the study relies on; Agency costs theory, Pecking order theory and Trade-off theory.

2.2.1 Trade-off Theory

The trade-off theory was championed by Kraus and Litzernberger (1973). It asserts that an organization attains optimal debt amount when costs arising from debt financing are exactly equal to the benefits to be obtained. The costs, in this case refer to interest cost, agency cost and the additional financial distress resulting from debt use. Whereas, the benefits refer to tax savings from the interest on debt. Abdu (2016) stated that an organization should borrow funds to an extent where an additional debt will affect the company's shareholders through share dilution. The trade-off theory focuses on the assumption that leverage is beneficial with capital structure employed by a firm until the firm attains an optimal capital structure. Firms make use of debt but have reservations of possible risks that could arise due to bankruptcy. Optimum capital structure is the level where the saving of tax from further use of debt equal to exactly the cost arising from financial distress probability. The theory assumes that issuing and repurchasing securities have no transaction costs (Dudley, 2007).

According to Baker and Martin (2011) shareholders benefit if a company effectively uses more debt than equity. The trade-off theory ascertains that companies only go for debt financing to a degree where tax savings from using debt offset the resulting cost of borrowing immediately (Itiri, 2014). Fama and French (2002) however noted that firms that are more profitable borrow less, this is a contrary proposition to this theory since it predicts that firms with higher earnings are the most likely to be engaged in more borrowing just to reduce tax liabilities. According to Serrasqueiro and Nunes (2010) in a study for the period from 1998 to 2006 of 39 companies, argued that the compensation gained from tax shield benefits in relation to financial distress

costs appear to show insignificant relevance in clarifying the capital structure of listed Portuguese corporations.

Trade-off theory is more relevance to this study taking into account that construction and allied corporates that prudently incorporate debt proportions in their financing mix are better placed to be highly profitable while those with high mismanagement of debt level in their financing mix are likely to be less profitable and possibly suffer financial distress costs. The firms should strive to achieve capital structure that is optimum with the highest tax savings and lowest financial distress costs.

2.2.2 Pecking Order Theory

The pecking order theory was described more by Myers and Majluf (1984) who explained that business entities prefer internal sources of funding since it's the most cost effective than debt then external equity. Retained earnings do not incur flotation costs, consequently they do not require further financial information to be disclosed (Kishore, 2009). The theory advocates for firms to use mostly internal finance that is retained earnings when financing their projects. The theory assumes managers are better informed on the firm's state of affairs compared to investors. Based on asymmetric information, pecking order theory underscores that raising external funding by issue of securities, signals out to investors a lower return than what they had expected. Firms are assumed to prefer using internal finances to exhaustion followed by debt and eventually equity sources for funding new projects (Al-Tally, 2014).

Pecking order theory ignores optimal capital structure existence, it only ranks retained earnings to come first, followed by debt and lastly external equity given a new investment to finance (Bontempi & Golinelli, 2001). Itiri (2014) also concluded that pecking order theory is not cognizant of a target leverage to exist since occurrence of debt ratio is a result of requirements of cumulative external funding.

Pecking order theory could be adopted by construction and allied enterprises since the financial environment they carry out their operations in fits the theory. This is attained by utilizing internal sources to finance their activities. After exhausting the internal sources, they can go for external debt and finally raise equity financing. An optimal debt to equity proportion must be maintained.

2.2.3 Agency Costs Theory

Agency costs theory is attributed to Jensen and Meckling (1976), it is based on the existence of a relation that links the owners (principals) and the managers (agents) to ensure maximization of shareholders' returns. The problem comes in when the agents do not act in the best way that satisfies the principals' interests (Okiro, Aduda & Omoro, 2015). It relied on the assumption that the owners' and managers' interests will never coincide. The problem arises given that managers' salaries remain fixed regardless of their contributions to increased returns but unfortunately suffer the full consequences for the failures of the company (Ryan, 2010). It's necessary for companies to regulate the relationships between agents and principals by coming up with restricting measures to ensure safeguarding and maximizing their wealth. Increasing leverage, is a preferable measure to using external equity sources to avoid company's ownership dilution. Consequently, company's managers become focused on profitable operations and projects to accomplish the debt repayments (Nwaolisa & Chijindu, 2016).

Agency theory has remained inadequately studied with empirical validation difficulties largely due to agency costs which are difficult to measure (Grigore & Stefan-Duicu, 2013). According to (Zhang & Li, 2008) in their study of 323 quoted United Kingdom companies, found a significantly not positive leverage effect on agency costs and their relationship does not hold in very high levels. In practice however, misappropriation of funds by managers still occurs regardless of debt obligation. This negates the argument put forward by the theory.

In the context of this study, construction and allied corporates employ greater degree of financial leverage. Use of debt as stated by agency costs theory, serves the purpose of a disciplinary instrument for managers which consequently restrain them from undertaking investments which would lead to lose of capital committed in them.

2.3 Determinants of Financial Performance

The research delves more into firm's financial leverage, liquidity, size, sales growth and asset structure as being the most significant determinants of financial performance of the targeted entities.

2.3.1 Financial Leverage

This is a financial terminology which explains the financial ratios between debt and equity in organizations. Al-Otaibi (2015) described it as a financing strategy that incorporates borrowed

funds in a firm's funding structure to maximize investment returns. The merit of using debt capital is the deductibility of interest charges for tax purposes and consequently increases the ROA and firm's value (Lambe, 2014). Therefore, companies that incorporate more debt in their financing mix are better placed to fiscally perform better. Recent research studies conducted which concentrated on the firms' leverage and correlation with financial performance have reached a conclusion that leverage reduces conflict between mangers and owner resulting into enhanced performance and ultimately a positive relation establishes.

2.3.2 Firm Size

Firms vary in sizes which can be categorized as small, medium or large. Rayan (2010) argued that firms that are large in size have higher chance of making more profits and also have a competitive advantage over small firms due to mass production and economies of scale they enjoy. Large firms are favorably placed in the event of need to raise external funds from the capital markets (Al-Tally, 2014). Besides generating higher revenues, larger firms are also capable of diversifying their potential risks and respond faster to changes in their environment compared to smaller firms. According to Chandrapala and Knápková (2013) a firm's size can be seen from different perspectives such as of employees' number in the firm, level of revenue and profitability, assets structure or market structure.

2.3.3 Liquidity

Liquidity of a company reveals how fast it converts its assets into cash. It indicates firm's capability to meet its recurring financial expenditures. Firm's liquidity protects it from defaulting on fulfilling its financial obligations and from suffering financial crisis (Dufera, 2010). Liquidity is important for the success and survival of any organization to enable it settle its financial obligations as they arise. Gamlath and Rathiranee (2013) described liquidity as a pointer of a firm's readiness and capability to meet its expected and unexpected financial obligations. Firms ought to apply efficiently working capital strategies to remain liquid. Liquidity ratio of a company is decided by comparing its current assets to current liabilities. When an organization cannot access external sources of funds, liquid assets can be used to fund its operations and investments. Larger amounts of liquidity enable firms to transact with unforeseen possibilities and carry out its core activities during periods of reduced earnings (Omondi & Muturi, 2013).

2.3.4 Sales Growth

Sales growth of an organization refers to improvement of sales percentage of a particular period compared to previous periods. It helps in determining the performance of a company and compare the performance of different companies. Changes in sales revenue heavily influence a company's reported earnings and is regarded as an indicator of managers' performance. Sales growth indicates a company's capability to cope-up with the current aggressive market competition (Moghadam & Jafari, 2015). According to Chandrapala and Knápková (2013) sales growth among large firms greatly translate to high returns and contribute to increased market share.

2.3.5 Assets Structure

Assets owned by a firm determines its capability to secure external capital for funding its operations and investments. A firm with a wider assets structure stands a higher chance of accessing funds while a firm with a narrow assets structure stands a slimmer chance of accessing funds (Abdu, 2016). According to Zheng Sheng, Nuo and Zhi (2013) assets structures of a firm are of universal significance by enabling risks avoidance and being the main source of creating organization's value.

2.4 Empirical Literature Review

Pradhan and Khadka (2017) studied the external finance effects on profitability of banks in Nepal. The study adopted 22 commercial banks for data collection. The approach adopted by the study was descriptive in nature aimed at describing the characteristics of the banks. For accurate data analysis, multiple regression was employed and the association between independent variables (short and long terms debts, bank size and interest coverage) and return on assets. It was established that short-term debt, interest coverage and bank size with banks' profitability had a significant positive relationship. However, the influence of long-term debts on profitability was not positive. The study recommended for considerable attention by management when constituting corporates' financing structures as they influence varying impact on performances of an organization.

Shibanda and Damianus (2015) did a research to establish the relationship between ROA of corporates trading at the NSE and their capital structures. A sample of 42 corporates from the 61 corporates trading at the NSE was used by the research. The research took a duration of 6

years from 2007 to 2012 while regression analysis and secondary data were employed to find out correlation. At the end, the results highlighted a direct relationship between ROA and borrowed funds. The study recommended for the management of corporates registered at Nairobi Securities Exchange to incorporate borrowed funds in their capita mix to improve performance. Also recommended the need for managers to pay attention on other financing sources in their capital mix.

A study was conducted by Darush and Peter (2015) to reveal how debt level and performance of SMEs in Sweden relate. Cross-section research design was employed and a sample of 15,879 SMEs got selected for the study. The study relied on accounting reports maintained by SMEs for the past 5 years. Least squares regression was employed by the study to help in prediction of responsive variable. The predictor variables were both short and long terms debts and the responsive variable was firm performance. The study results found that SMEs' debt level played a significant influence on their performance. The study recommended for the need to reduce information asymmetry and moral hazard between small scale and medium enterprises and financial institutions and owners of small businesses should also be aware of the importance of transparency measures, which can improve their relationship with financial institutions in the business environment.

Banafa, Muturi and Ngugi (2015) did a research determining the impacts leverage had on financial performance of commercial enterprises registered at the NSE. Casual research design was used to investigate leverage effects on the 42 commercial corporates registered at the NSE. The financial statements of the firms from 2009 to 2013 provided secondary data required for a 5-year period. The data retrieved from financial statements were analyzed using regression model. Leverage and financial performance were revealed by the study findings to have a significant and not positive effects on the 42 commercial enterprises registered at the NSE. This study made a recommendation that management to decide on the level of liquidity they hold and the forms in which they hold it.

Singh and Bansal (2016) studied on how financial leverage influences both firm's financial performance and valuation. Data was obtained from a sample of 60 listed Bombay Stock Exchange companies dealing in fast moving consumer goods. The study covered 10 years which began in the year 2007 and ended in 2016. Panel data regression helped analyze the data

obtained. A negative impact of leverages on firms' performance and valuation were revealed by the findings. The study recommended for focus on non-financial outcomes as a result of financial leverage in firm financial decisions.

Afolabi, Olabisi, Kajola and Asaolu (2019) studied on how firms' leverage imparted on their firms' financial performance in Nigeria. The study duration was 10 years running from the year 2007 to 2016. The approach adopted for the research was Ex-post facto for retrieving and studying data. Regression analysis was used for data analysis with (DTA and DTE) as measurers of independent variable while only (ROCE) as a measure of responsive variable. The research findings established that (ROCE) is positively and significantly influenced by leverage (DTA and DTE). However, the study only used firms categorized under food and beverages in the business environment in Nigeria. The study recommended that leverage to be employed by corporate managers in a prudent manner that the cost of borrowing does not exceed the return for their corporates.

At stock market of Vietnam, Hung and Cuong (2020) investigated impacts of funding mix on the pharmaceutical enterprises' financial performance. ROE was used by the study as dependent variable while long-term asset, DTA, financial leverage and self-financing as independent variables. Data was retrieved from a population of all the listed 30 pharmaceutical enterprises from the period 2015 to 2019. The research used the least square regression method. The findings revealed that financial leverage impacts positively on firms' performance but negatively on self-financing. The study recommended for small businesses to improve their use of borrowed funds at optimum levels. A recommendation was also made for small businesses to form joint ventures and to partner with both domestic and foreign partners to access more assets particularly long-term assets with modern technology.

2.5 Summary of Literature Review and Knowledge Gaps

The reviewed literature in this study is heavily from international markets and firms trading at security markets not necessary in the construction sector. For example; Pradhan and Khadka (2017) on external finance effects on profitability of banks in Nepal and Darush and Peter (2015) reviewed the relationship debt level had with performance of SMEs in Sweden. Both studies were done outside Kenya and address different sector as compared to the construction and allied sector. Studies done locally by Shibanda and Damianus (2015) on the relationship

between ROA of corporates trading at the NSE with their capital structures and Banafa, Muturi and Ngugi (2015) did a research determining the impacts leverage had on financial performance of commercial enterprises registered at the NSE. Both the studies were done in 2015 and do not address the current situation in the construction and allied industry.

The studies have also revealed various gaps such as Darush and Peter (2015) reviewed the relationship debt level had with performance of SMEs in Sweden. A contextual gap is presented by the research because it was done in Sweden and on SMEs. Shibanda and Damianus (2015) did a research to establish the relationship between ROA of corporates trading at the NSE and their capital structures. The study focus was on all listed corporates instead of only on construction firms.

Notable from the reviews, scholars have used varied methods in conducting their studies, there is need to find the best methodology that can yield reliable results in explaining how financial leverage and financial performance of construction and allied corporates relate. Besides, various studies have arrived at a direct correlation linking the two variables while others have deduced an indirect correlation between them. This lack of consensus on the nature of how financial leverage affects firm's performance creates a conceptual gap and therefore justify further research to ascertain the influence that financial leverage has on performance in practice. Finally, from the reviews given, it is not clear whether firm size, liquidity, sales growth or asset structure collectively lead to poor or better financial performance. These indicators will be used in this study as they are more appropriate in measuring drop or improvement in financial performance of the construction firms.

2.6 Conceptual Framework

This study intends to investigate influence financial leverage has on financial performance of construction enterprises registered at the NSE. As presented in the diagram below, financial leverage is the predictor variable, financial performance is the response variable while firm size, liquidity and sales growth are the control variables shown below.

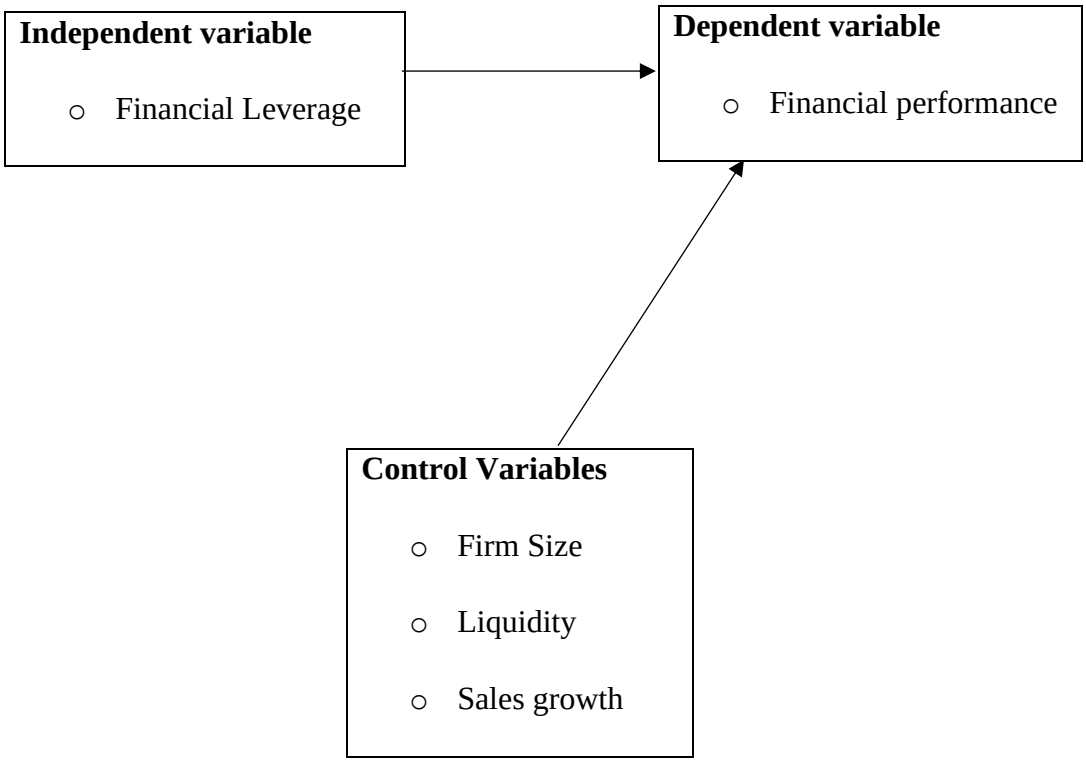

Figure 2.1: Conceptual Framework

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This part of the study brings an overview of the study methodology that was employed. The methodology comprised of the study research design, the population targeted, instruments and data collection procedure, tests for validity of research instruments and techniques for analyzation and interpretation of data.

3.2 Research Design

Given that the study intended to describe the situations in the targeted firms without altering much of what has been happening, this study chose a descriptive approach that clearly helped the researcher in achieving the intended goal. According to Mugenda (2008), this approach is useful as it will give room to the researcher to collect data that will be used in testing study hypotheses. Descriptive studies were useful in determining the how, where and what of a given phenomenon as well as to measure the relationships among variables. The approach was appropriate for the study because it aided depict the relationships among variables and allowed describing the variables' behavior.

3.3 Population of the Study

In research, this term population stands for cases or individuals sharing similar observable attributes (Flick, 2015). The focus of this study was on the five construction companies licensed by the Capital Market Authority and currently trading their shares at the NSE. Data was obtained from the five listed construction and allied firms and therefore a census study.

3.4 Data Collection

Secondary data was retrieved from the published audited financial statements. Data collection comprised the ten financial years of targeted listed firms from the year 2011 to 2020. The ten-year period was considered sufficient for determining the relationship between the study variables and data to be captured in this time frame was considered comprehensive enough to aid in coming up with a reflective conclusion on the influence of the phenomenon under investigation.

3.5 Data Analysis

After obtaining data from the financial statements, the researcher computed the required ratios for coding in to the statistical package for social sciences software (Mugenda, 2005). This was done with utmost care to ensure that only measurable data was keyed in so that accuracy was accomplished in the analysis of both descriptive and inferential statistics. The regression model employed in this study carried multiple variables, the choice was supported by the fact that each individual relationship of the independent variables would be assessed in addition to overall relationship between the key variables to determine the description and strength of the variables' relationships.

3.5.1 Diagnostic Tests

Autocorrelation, normality and multi-collinearity were utilized by the study. Autocorrelation was detected using Durbin-Watson statistic. Normality tests is judged from an angle where measures of central tendency and average means are predictable and dictate the expected outcome. It was determined by Kolmogorov-Smirnov test. Multicollinearity occurs when the independent variables inter-correlate among themselves. It was detected using Variance Inflation factors and Tolerance. Heteroscedasticity was measured using white test while homoscedasticity was measured through confirmation of residual values generated from regression analysis if they were equally distributed. Ordinary Least Square was used in this study to assess linearity of the model based on homoscedasticity assumptions.

3.5.2 Analytical Model

This research adopted a regression model as stated in the part that follows to determine the co-efficient of regression that was used in the study to ascertain the strength and nature of the variables relations. The model is illustrated as follows;

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + {}_4\, \beta X_4 + \varepsilon$$

Where

Y = Financial performance

α = y intercept / constant of the regression equation

$\beta_1 \beta_2 \beta_3 \beta_4$ = Regression coefficients of the respective predictor variables

X_1 = Financial leverage computed by debt ratio

X_2 = Firm size computed by natural log of total assets

X_3= Liquidity computed through current ratio

X_4= Sales growth computed by comparing sales of current year to previous year

ε= Error term

3.5.3 Operationalization of the Variables

Variable	Definition	Measure	Supporting Literature
Financial performance	The extent at which a firm has achieved or will achieve its financial objectives	ROA	Muge (2018), Kaara (2018)
Financial leverage	The extent of debt utilized over equity by a company in its capital structure	Debt ratio	Aziidah (2017)
Firm size	The scale of operation turned out by a business enterprise	Natural log of total assets	Muge (2018)
Liquidity	The availability of liquid assets to a business enterprise	Current ratio	Kaara (2018), Kithandi and Katua C, (2019)
Sales growth	The rate of increase in revenue	Sales of current year vs previous year	Ali (2020), Aziidah (2017)

3.5.4 Tests of Significance

T-test was utilized to ascertain the significance of this study for all the relationships that were exhibited by the independent variables. To be able to ascertain the fitness of the model, F-test and Analysis of Variance were adopted in this study to ensure that the model above gives values that could be relied upon by the researcher in arriving at the conclusions. The level of significance for the study was 5%.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND INTERPRETATION

4.1 Introduction

The chapter addressed the analysis of the collected data from the firms' financial statements. It consists of rate of response, analysis of descriptive and inferential statistics and the interpretations of findings.

4.2 Response Rate

This study intended to retrieve data from the five construction companies registered at the NSE for the period ended 31 December 2020. However, the study retrieved complete data from four corporates and incomplete data from one corporate since it had not published its audited financial statements for the period 2020. This constituted a 98% rate of response which was sufficient for determining the relationship between the study variables.

4.3 Data Validity

The study assessed normality through Kolmogorov-Smirnov. Tolerance and VIF were used to test for multicollinearity while autocorrelation assessed by Durbin-Watson test.

4.3.1 Normality Test

Normality test was performed with the help of Kolmogorov-Smirnov to find out whether data collected had a normal distribution.

Table 4.1: Normality Tests

	Kolmogorov-Smirnov Test		
	Statistic	df	Sig.
Financial Leverage	.077	46	.200[d]
Sales growth	.099	46	.200[d]
Firm Size	.103	46	.200
Liquidity	.115	46	.160

From the table above, data collected could be judged to be normally distributed since the Kolmogorov-Smirnova test showed the p values exceeded 0.05.

4.3.2 Multicollinearity Test

Multicollinearity was tested by Tolerance and VIF.

Table 4.2: Test for Multicollinearity

Model		Collinearity Statistics	
		Tolerance	VIF
1	Financial Leverage	.522	1.917
	Sales Growth	.744	1.344
	Firm Size	.346	2.888
	Liquidity	.353	2.830

The challenge of multicollinearity did not manifest among the independent variables since the Tolerance values exceeded 0.2 while the VIF values were below ten.

4.3.3 Autocorrelation

Durbin-Watson statistic was utilized for assessing autocorrelation to determine the similarity between the value of the same variables over time intervals with an aim to ascertain the changing patterns that are either repetitive or varying from what could be described as the norm.

Table 4.3: Test for Autocorrelation

Model	Durbin-Watson
1	1.926

There were no challenges of autocorrelation since the Durbin Watson statistics fell within the allowable scope from 1.75 to 2.25

4.4 Descriptive Statistics

This presents the mean, minimum and maximum as well as standard deviations, kurtosis and skewness values in this study.

Table 4.4 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Dev	Skewness	Kurtosis
ROA	46	-.1635	.3103	.047224	.0920457	.431	.837
Financial Leverage	46	.01400	.56460	.284882	.1564058	.093	-.777
Firm Size	46	4.5251	7.7345	6.71011	.9701811	-.283	.517
Liquidity	46	.1486	2.6813	.994270	.5856084	.990	1.487
Sales Growth	46	.1379	1.3935	.972835	.2262393	-1.080	2.988

The mean ROA of the five construction companies registered at the NSE was 0.047224 while the standard deviation was 0.0920457. Sales growth was indicated by the study to average 0.972835 whereas the standard deviation stood at 0.2262393. Financial leverage recorded a 0.2848817 mean while the standard deviation was 0.15640576. Liquidity resulted to an average of 0.994270 whereas the standard deviation was 0.5856084. Firm size averaged 6.710111 while its standard deviation was 0.9701811.

4.5 Correlation Analysis

The analysis was undertaken to decide whether the predictor variables significantly influences financial performance

.

Table 4.5: Correlation Analysis

		Financial Performance	Financial Leverage	Firm Size	Liquidity	Sales Growth
Financial Performance	Pearson Correlation	1	.553**	.598**	.524**	.468**
	Sig. (2tailed)		<.001	<.001	<.001	.001
Financial Leverage	Pearson Correlation	.553**	1	.652**	-.048	.091
	Sig. (2tailed)	<.001		<.001	.750	.549
Firm Size	Pearson Correlation	.598**	.652**	1	-.748**	-.138
	Sig. (2tailed)	<.001	<.001		<.001	.359
Liquidity	Pearson Correlation	.524**	-.048	-.748**	1	.373*
	Sig. (2tailed)	<.001	.750	<.001		.011
Sales Growth	Pearson Correlation	.468**	.091	-.138	.373	1
	Sig. (2tailed)	.001	.549	.359	.011	

The independent variables were established to have significant influence on financial performance since their p values were lower than 0.05

4.6 Regression Analysis

The analysis contains the summary of the model, the ANOVA outcome and the coeffects of regression.

4.6.1 Model Summary

Table 4.6: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.929[a]	.862	.849	.0162651

a. Predictors: (Constant), Liquidity, Financial Leverage, Firm Size, Sales Growth

The adjusted R-square is the co-efficient of determination which represents the changes in the predicted variable generated by the variation of predictor variables. Financial leverage, size of firm, sales growth and liquidity combined explain 84.9% of all the variations in ROA of the five construction enterprises registered at the NSE. Other variables not in the model accounts for 15.1% and therefore, the model is reliable at predicting the influence financial leverage has on financial performance.

4.6.2 Analysis of Variance

Table 4.7: Analysis of Variance (ANOVA)

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.068	4	.017	64.119	<.001[b]
	Residual	.011	41	.00027		
	Total	.079	45			

a. Dependent Variable: Financial Performance
b. Predictors: (Constant), Financial Leverage, Sales Growth, Firm Size, Liquidity

The ANOVA table reveals that at the minimum, one of the predictor variables has significant influence on financial performance. 0.001 is the p value and given that, it falls below 0.05 express the significance of the model whereas the F value of 64.119 means that the model gives values that are predictable when determining influence of leverage on financial performance.

4.6.3 Regression Coefficients

The regression co-efficients were further computed to ascertain the direction of the association linking the variables as follows.

Table 4.8: Regression Coefficients

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.042	.031		-1.325	.192
	Financial Leverage	.062	.021	.231	2.879	.006
	Firm Size	.045	.004	1.037	10.528	<.001
	Liquidity	.052	.007	.730	7.482	<.001
	Sales Growth	.059	.012	.318	4.733	<.001

a. Dependent Variable: ROA

Table 4.8 indicates that Financial Leverage, Firms Size, Liquidity and Sales Growth have positive t values, with p values recorded below 0.05. The results indicated that the predictor variables significantly and positively influence the ROA of the construction firms and allied.

The resulting regression equation is given as

$$Y = -0.042 + 0.059X_1 + 0.062X_2 + 0.052X_3 + 0.045X_4$$

Where

Y= Financial Performance

X1 = Financial Leverage

X2= Firm Size

X3= Liquidity

X4= Sales Growth

Financial performance grows by 0.059 for every single increment in financial leverage. Increase in firm size, liquidity and sales growth by a unit each would cause financial performance increment by 0.062, 0.052 and 0.045 respectively. The constant term represents other factors excluded in the model which has influence on financial performance. The study assumed the error term to be zero.

4.7 Discussion of Research Findings

The findings established that, financial leverage significantly and positively influences financial performance of construction corporates registered at the NSE. The results are in concurrence with Afolabi, Olabisi, Kajola and Asaolu (2019) who found that, leverage had a direct and significant influence on financial performance. Hung and Cuong (2020) also found, that financial leverage impacts positively on firms' performance. Shibanda and Damianus (2015) established a positive relation between ROA and borrowed funds. Lambe (2014) found debt capital use to increases the ROA and firm's value. Incorporating borrowed funds in a firm's capital mix brings the benefit of tax savings, hence increases the ROA and corporate's value due to the deductibility of interest expenses for tax purposes. Therefore, companies that incorporate more debt in their financing mix are fiscally placed to perform better.

It was also determined by the study that, the registered construction and allied enterprises' financial performance was positively and significantly influenced by their sizes. Rayan (2010) argued that, firms that are large in sizes have higher chance of making more profits and also have a competitive advantage over small firms due to mass production and economies of scale they enjoy. Al-Tally (2014) found that large firms are favorably placed in the event of need to raise external funds from the capital markets. Large firms have capabilities to diversify their products and services thereby minimizing losses while improving the chances of yielding higher returns.

Sales growth was further determined by the findings to significantly and positively have influence on the quoted construction and allied companies' financial performance. Chandrapala and Knápková (2013) revealed that, sales growth among large firms greatly translates to high returns and contributes to increased market share. Moghadam and Jafari (2015) argued that, sales growth indicates a company's capability to cope-up with the current aggressive market competition

Financial performance of the quoted construction enterprises was finally found to be significantly and positively influenced by the firms' liquidity. Gamlath and Rathiranee (2013) supported liquidity as a pointer of a firm's readiness and capability to meet its expected and unexpected financial obligations. It is essential for firms to be liquid to be capable of meeting their recurring financial expenditures. Dufera (2010) reaffirmed that, a firm's liquidity protects it from defaulting on fulfilling its financial obligations and from suffering financial crisis.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The section covers the research findings' summary, conclusions as well as recommendations. It also identifies the study's limitations and points out the areas which further studies could be carried on.

5.2 Summary of Findings

This research project intended to evaluate influence financial leverage hold on financial performance of construction corporates registered at the NSE. The study chose a descriptive approach while financial leverage, firm size, sales growth and liquidity were selected as the independent variables. SPSS software version 28 assisted in the analysis of the data retrieved from the 5 construction enterprises' financial statements registered at the NSE beginning from 2011 to 2020.

The findings of descriptive statistics disclosed that the mean financial performance of the construction corporates registered at the NSE was 0.047224 which translated to an average performance of 4.72% for the construction and allied firms. The results as well, established that firms' average debt stood at 0.2848817 while firms' average sizes determined by natural log was 6.710111. Besides, it was revealed by the findings that the sales growth average value was 0.972835 whereas the average liquidity was 0.994270. The correlation results found significant and positive influence of financial leverage, liquidity, firm size and sales growth on ROA of the construction and allied firms.

The adjusted R-square 0.849, which was the co-efficient of determination implied that the independent variables chosen for the study explained 84.9% of changes in ROA. Therefore, other determinants excluded in this model accounted for 15.1% of changes in ROA of the construction companies. The F-value was 64.119 therefore, the model is significant and thus fit for describing how the ROA of the construction companies registered at the NSE are influenced by the chosen predictor variables. Additionally, the ANOVA results found a significant influence of financial leverage, firm size, sales growth and liquidity on the ROA.

5.3 Conclusion

From the construction and allied firms considered, a conclusion was drawn that financial leverage, sales growth, liquidity and sizes of firms influence financial performance. The financial performance of the construction corporates was revealed to be positively and significantly influenced by financial leverage. Size of firm was noted to directly and significantly influence the ROA of the construction and allied firms. This therefore, led to the conclusion that size of firm does significantly improve the financial performance of the construction firms.

Sales growth was established by the study to possess a direct and significant influence on construction firms' financial performance. Sales growth therefore, was concluded to lead to a better financial performance of the construction companies. Financial performance of the quoted construction enterprises was found to be significantly and positively influenced by the firms' liquidity. This therefore leads to the conclusion that high liquidity levels impart better financial performance.

The study drew a conclusion that the ROA of construction enterprises registered at the NSE were greatly influenced by the selected predictor variables; financial leverage, firm size, liquidity and sales growth. A conclusion could therefore be made that financial performance is significantly influenced by financial leverage, liquidity, firm size and sales growth as illustrated by the value of p of the ANOVA summary. The four predictor variables account for 84.9% of changes in ROA, implying that the variables excluded in this model represent 15.1% of the same.

5.4 Recommendations

According to the findings of this research, financial leverage was discovered to significantly and positively influence the financial performance of the construction enterprises. The research therefore recommends that greater proportions of debt capital should be incorporated by firms when they are constituting their capital structure. A greater proportion of borrowed funds has been revealed to increase financial performance of listed construction enterprises and therefore firms' managers are advised to maintain higher debt proportions so as to positively influence financial performance as this will ensure the attainment of owners' wealth maximization objective.

This study established a direct influence of liquidity position on the financial performance of the construction enterprises. It made a recommendation for an in-depth investigation of the quoted construction corporates' liquidity position be continuously carried out with the aim of ensuring that, the firms operate at adequate levels of liquidity leading to their better financial performance. This is due to the fact that liquidity position determines a corporate's capabilities to meet its current financial obligations as they arise.

It was also determined by the study that, the registered construction and allied enterprises' financial performance was positively and significantly influenced by their sizes. This study makes a recommendation for the construction and allied firms' managers to acquire additional assets for their firms. A firm that is large in size in terms of assets it owns, enables it attain mass production and hence achieve its financial objectives.

The results of the research finally determined that, sales growth positively and significantly influences the financial performance of construction enterprises registered at the NSE. A recommendation is made for the construction enterprises to work on ways to improve their annual sales since sales growth increase leads to better financial performance of the firms. This would translate to increased wealth for the owners which is the main goal of any given organization.

5.5 Limitations of the Study

The focus of the project was on the five construction enterprises licensed by the Capital Markets Authority and currently trading their shares at the NSE, whose financial information are published to the public. Its findings are therefore limited to the construction firms and allied registered at the NSE and may not be generalized for private construction firms given that their ownership and control are by their individual owners and any information relating to their use of borrowed funds is not publicly available.

The model used for data analysis also presented another limitation by only being capable to capture quantitative data. Qualitative data was not captured by the model. Qualitative aspects are also critical since they significantly influence the ROA of the construction enterprises.

The data used for this research was retrieved from the ten financial years of the targeted quoted corporates from the year 2011 to 2020. The data from the firms' audited financial statements

were used to compute ratios. However, the firms' managers may manipulate the financial statements and the ratio analysis also presents information that is historical in nature.

The study did not consider all the determinants of financial performance during the analysis. Only four determinants were used for the analysis namely; financial leverage, firm size, sales growth and liquidity. The inclusion of all determinants could have yielded different results.

5.6 Suggestion for Further Research

The project intended to look into influence financial leverage has on financial performance of construction enterprises registered at the NSE. However, enterprises registered at the NSE under other sectors also employ leverage for financing their operations and new projects. A further study should be conducted in the future on the influence of incorporating borrowed funds in a corporate's financing mix on financial accomplishment of all enterprises registered at the NSE.

Not all independent variables that influence ROA of construction enterprises registered at the NSE were exhausted by the research. Future studies are suggested to incorporate additional variables such as age of the firm, management efficiency, industry practices, political stability, growth opportunities, interest rates among other variables. Investigating the influence of each of the variables on ROA of construction enterprises registered at the NSE will be of great benefit for management when determining the tool to employ for maximizing wealth for the shareholders.

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APPENDICES

Appendix I: List of Construction and Allied Firms at the NSE

COMPANY
1. ARTHI RIVER MINING CEMENT
2. BAMBURI CEMENT
3. CROWN PAINTS KENYA
4. EAST AFRICAN CABLES
5. EAST AFRICAN PORTLAND

Appendix II: Data Summary

SECTION A: SALES RATIO

COMPANY	ARTHI RIVER MINING CEMENT	BAMBURI CEMENT	CROWN PAINTS KENYA	EAST AFRICAN CABLES	EAST AFRICAN PORTLAND CEMENT
2011	1.3716	1.2781	1.2559	0.1379	1.0881
2012	1.3935	1.0448	1.1503	0.865	0.7931
2013	1.2437	0.905	1.1638	1.047	1.0827
2014	1.1638	1.0619	1.1322	1.1322	0.9833
2015	1.0722	1.088	1.1156	0.7305	0.9294
2016	0.8674	0.9703	1.0906	0.9802	1.0539
2017	0.6782	0.9397	1.0005	0.6424	0.781
2018	0.8363	1.0358	1.3112	0.6778	0.7481
2019	0.7546	1.0346	1.0346	0.9719	0.5493
2020		0.948	1.0683	0.8746	0.8692

SECTION B: LEVERAGE RATIO (TOTAL DEBT/TOTAL ASSETS)

COMPANY	ARTHI RIVER MINING CEMENT	BAMBURI CEMENT	CROWN PAINTS KENYA	EAST AFRICAN CABLES	EAST AFRICAN PORTLAND CEMENT
2011	0.5179	0.0415	0.1556	0.2444	0.3413
2012	0.5562	0.0201	0.1007	0.1881	0.4489
2013	0.5476	0.014	0.1795	0.2845	0.3366
2014	0.5646	0	0.3076	0.2963	0.222
2015	0.4694	0	0.2925	0.3273	0.2166
2016	0.2594	0	0.2681	0.5175	0.2044
2017	0.3381	0.0307	0.3095	0.4868	0.2157
2018	0.5473	0.0678	0.429	0.5383	0.163
2019	0.3533	0.095	0.3891	0.3947	0.184
2020		0.0548	0.2395	0.4236	0.2139

SECTION C: RETURN ON ASSETS RATIO

COMPANY	ARTHI RIVER MINING CEMENT	BAMBURI CEMENT	CROWN PAINTS KENYA	EAST AFRICAN CABLES	EAST AFRICAN PORTLAND CEMENT
2011	0.0598	0.1749	0.0811	0.0613	0.0415
2012	0.0462	0.2489	0.0632	0.1407	-0.0694
2013	0.0455	0.1065	0.0717	0.0585	0.1543
2014	0.0404	0.088	0.0059	0.0385	-0.0238
2015	0.1487	0.1235	0.0075	-0.0884	0.3103
2016	-0.0176	0.1199	0.0461	-0.0772	0.1486
2017	-0.1635	0.137	0.0391	-0.0646	-0.0386
2018	0.0348	0.0276	0.0319	-0.0103	0.2026

2019	-0.0135	0.0087	0.0575	0.1005	-0.09
2020		0.0452	0.1069	0.0356	-0.0787

SECTION D: NATURAL LOG OF TOTAL ASSETS

COMPANY	ARTHI RIVER MINING CEMENT	BAMBURI CEMENT	CROWN PAINTS KENYA	EAST AFRICAN CABLES	EAST AFRICAN PORTLAND CEMENT
2011	7.3121	4.5251	6.3454	6.6984	7.1313
2012	7.4306	4.6339	6.3538	6.7958	7.1454
2013	7.4728	4.6336	6.4691	6.833	7.2077
2014	7.5679	4.6127	6.5858	6.897	7.1964
2015	7.7155	4.6236	6.657	6.9235	7.3638
2016	7.7081	4.6108	6.7041	6.8779	7.4447
2017	7.6304	4.674	6.7688	6.847	7.4371
2018	7.5475	4.7021	6.7384	6.8198	7.5801
2019	7.6344	4.6053	6.7421	6.7976	7.5628
2020		4.6277	6.7506	6.8363	7.5463

SECTION E: CURRENT RATIO

COMPANY	ARTHI RIVER MINING CEMENT	BAMBURI CEMENT	CROWN PAINTS KENYA	EAST AFRICAN CABLES	EAST AFRICAN PORTLAND CEMENT
2011	0.8423	2.6204	1.4639	1.1606	1.5104
2012	1.2205	2.348	1.5359	1.1971	1.0237
2013	0.9451	2.6813	1.3815	1.3048	1.0851
2014	0.4709	2.2968	1.1464	1.1679	0.9464
2015	0.3834	2.3571	1.1065	0.9334	0.9421

2016	0.5852	2.6966	1.1635	0.5977	0.4262
2017	0.2166	1.7187	1.1905	0.4379	0.3146
2018	0.5467	1.3206	1.0129	0.2577	0.2484
2019	0.3536	1.2821	0.9992	0.6564	0.2624
2020		0.9188	1.1878	0.5649	0.1486