

LEVERAGE AND FIRM VALUE OF CEMENT MANUFACTURING FIRMS IN KENYA

BY

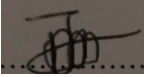
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**A RESEARCH PROJECT PRESENTED IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE
A (FINANCE), SCHOOL OF BUSINESS, THE UNIVERSITY OF NAIROBI**

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DECLARATION

This research project is my original work and has not been presented for a degree in any other university.

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This research project has been submitted for examination with my approval as the university supervisor.

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I wish to appreciate my supervisor, Dr. Herick Ondigo, for his assistance and sharing knowledge with me in my project. God bless him. I also appreciate my lecturers at the university of Nairobi. Thanks to my family for their support.

DEDICATION

I dedicate this paper to my family.

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LIST OF ABBREVIATIONS

ACP	Average Receivables Period
APP	Average Payables Period
EBIT	Earnings Before Interest and Tax
ICP	Inventory Conversion Period
ICR	Interest Coverage Ratio
NSE	Nigerian Stock Exchange
OLS	Ordinary Least Square
ROA	Return on Assets
SPSS	Statistical Package for Social Sciences

ABSTRACT

The study sought to determine the relationship around financial leverage and firm value of cement manufacturing firms in Kenya. The study was based on correlational form of design. The study targeted six cement manufacturing firms in Kenya between 2011 and 2020. Secondary data was mined from individual publicly available audited financial statements from the company websites. Data collection schedule containing annual total debt, total equity, total assets, total liabilities, current assets and current liabilities was used. SPSS was used to analyze the data through descriptive, correlation and regression statistics. Between 2011 and 2020, firm value as measured by Tobin Q averaged at 0.8094; financial leverage as measured by leverage ratio at 0.991; Firm size at 10.5382; and liquidity at 1.2930. From the correlation analysis, financial leverage showed a weak significant negative correlation; firm size showed a weak positive correlation coefficient; while liquidity showed a significant strong negative correlation coefficient with firm value. The model summary showed an R square of 0.718. This indicated that 71.8% of the change in firm value of cement manufacturing firms in Kenya between 2011 and 2020 was explained by financial leverage, firm size and liquidity. From the regression analysis, increase in financial leverage reduced the firm value; increase in firm size would increase the firm value while increase in liquidity would reduce firm value. The study concludes that financial leverage relates negatively with firm value of cement manufacturing firms in Kenya; firm size of cement manufacturing firms in Kenya has a positive relationship with their firm value; and that liquidity relates negatively with firm value of cement manufacturing firms in Kenya. The study recommends that cement manufacturing firms in Kenya reduce the level of debt used in their firms; increase their levels of assets; and reduce the level of current liabilities while increasing the current assets in their portfolios.

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Because of the increasing rates of company loans profiles and the issuance of corporate debt securities, it is critical to comprehend the primary factors of a geared capital structure, and also the ramifications for financial performance and value of these companies. According to Noghondari and Noghondari (2017), financial leverage is among the most complex challenges that a finance manager faces when making decisions. This is because an increment in borrowed funds could significantly boost financial losses and increment in capital costs.

This study will be based on pecking order, market power and trade off theories. According to Myers and Majluf's (1984) Pecking Order Theory, management teams have more info regarding their companies than investors. It discusses the role of information asymmetry in defining how much debt and equity a company will issue. According to Bain (1951), an increasing trend in market power causes an increment in price levels. It holds that firms with significant market power can easily earn monopoly revenues and prosper or outplay competitors. According to Myers' (2001) trade off theory, debt provides firms with a tax armour, so firms seek advanced amounts of debt in maximising the tax incentive and, as a result, boost profits and firm value.

The cement manufacturing sector operates in a competitive atmosphere at both the domestic and global stages (Al-Slehat et al, 2020). As a result, this sector requires much technological density compared to others. The notion that compels financial management to be prolific in balancing financial leverage in a way that matches the accomplishments of its future goals and firm value. Financial leverage is critical in the cement manufacturing industry for financing assets and increasing value for shareholders and the firm (Bhayani, 2009). The primary goal of this research is to investigate the nature and direction of the connection around financial leverage and firm value.

The cement manufacturing firms in Kenya have been experiencing financial leverage issues in the recent years (KAM, 2020). They have been working hard to balance their capital structure in their urge to increase their firm value. Further, the firms have been experiencing falling profits or increasing losses in the recent years which has reduced the value of their firms. They also experienced the challenge of having a high fixed asset coverage ratio which led to them having unproductive assets.

1.1.1 Financial Leverage

A financing from borrowed fund utilized by a firm to finance its operations is referred to as leverage (Alkhatib, 2012). It related to the utilization of borrowed funds in an enterprise's capital structure. Capital structure in management refers to the way a firm funds its resources by incorporating shareholders capital, borrowed funds, but also both. The adoption of borrowed funds in a company's capital structure is referred to as financial leverage. Horne (2002) defines financial leverage as alteration in capital structure triggered by increment or decline in borrowed funds. When a firm encompasses debt as a proportion of the funds used in financing a project, leverage is generated. Financial leverage is a business technique that involves the purchase of a portion of a company's assets using fixed-interest financing with the intention of boosting the end results for common stockholders (Oloyede, 2000).

According to Kanini (2016), one of the least costly way of financing a firm is via debt; nevertheless, enterprises frequently face financial difficulties as a result of the interest payments irrespective of the company's cash inflows. If the company's business operations are disrupted, might have difficulty to pay its bondholders, financiers, and perhaps other lenders. Companies experiencing a business downturn struggle to fulfil the anticipations of their creditors. Leverage could have a direct impact on the value that a firm has if the enterprise has an elevated operating cashflows, an elevated corporate rate, or inflationary pressures and is able to capitalize on the resulting opportunities. Financial leverage is gauged via debt-to-equity ratio for this survey.

1.1.2 Firm Value

Firm Value (FV) measures a company's overall worth (Chan & Li, 2008). It considers the full market value instead of simply the equity value. The effective cost of purchasing a firm, or the theoretical price of a target company, can be conceived of as firm value (Ricketts, 2002). Firm value is the value that a business is worth at a certain moment in time. In theory, it is the sum of money required to purchase or take over a commercial firm. A firm's value, like that of an asset, can be evaluated by either book value or market value. However, it often refers to a company's market worth. Firm value is a more thorough equivalent for market capitalization and can be calculated using multiple methods.

The level of prosperity of the owners represents the high firm value. Investors' primary focus has shifted to the valuation of companies (Gamayuni, 2015). The company's value reflects the level

of prosperity of its owners and investors. It signifies that the firm value has become a performance measure for the company's financial manager (Al-Slehat et al, 2020). Various techniques can be utilized in the valuation of a particular firm. They encompass both the market valuation and book value. The market value is a measure of defining a firm's value is most dependable and concise method of ascertaining a company's value; it is referred to as market capitalization, which would be the aggregate amount of all shareholders' equity. The market valuation of a business is calculated by incorporating the valuation of its loans, capital, and ownership interest. Other measures include Tobin Q and Price-to-book value. This study will use Tobin Q to measure the firm value.

1.1.3 Financial Leverage and Firm Value

Financial leverage has shown a relationship with firm value both theoretically and empirically. De Wet (2006) notes that proves firms experience a rise in value by moving closer to the optimal level of gearing. Franks and Pringle (1982), believe that value of a business is defined not only by its debt level, but by its debt capital. A few theoretical models, like Modigliani and Miller (1969), have simply prescribed a rising trend in leverage ratio as long as the company's total cost of financing debts (which incorporates debt-issuing expenses, financial distress costs, and agency problems) is lesser compared to cumulative business benefits like tax benefits. Nevertheless, the classical view of capital structure paradigm depicts the connection around leverage and firm value as bowl-shaped with an ideal capital structure just at point in which the function's slope is zero.

Empirically, financial leverage and firm value have produced mixed results. Firm sized has a positive relationship to firm value as shown by Hirdinis (2019); Bestariningrum (2015); and Zuhroh (2019). Firm size has also shown negative relationship with firm value (D'Amato & Falivena, 2020). It is not clear how financial leverage and firm value relate. This is because the empirical research done on the two show mixed results with some showing positive and others negative relationship. This creates the need to establish the cause-effect relationship between financial leverage and firm value.

1.1.4 Cement Manufacturing Firms in Kenya

Cement historical record in Kenya traced back to the ancient early 1900s, when East Africa Portland Cement started to import cement. The firm was founded by Blue Circle Industries of the U.k.. The plant's initial potential was 60,000 metric tonne annually, even though it has a capacity

of 700,000 metric tonnes annually. Currently, Kenya is a leader in both cement producers and consumers in East Africa. Kenya has approximately eight cement firms (KAM, 2020). Three of these firms are publicly traded. These include Bamburi Cement, ARM Cement Limited, and East Africa Portland Cement Company. Private firms include Mombasa Cement, National Cement, and Savannah Cement. The companies have experienced reduction in their productive assets while at the same time experiencing high levels of debts in their portfolio.

From 2005 to 2021, Kenyan cement production averaged 401704.82 metric tonnes, with a high of 768898 metric tonnes in October 2020 and a low of 154781 metric tonnes in January 2005. Per the Dyer and Blair Study (2020), the cement industry currently has 5 rotating furnaces capable of producing 3.3 million tonnes of clinker per year and 14 cement grinding mills capable of milling 4 billion metric tons per year. In terms of cement production and sales, Bamburi Cement Company is ahead of the pack. The cement manufacturing firms in Kenya have showed increasing levels of debt. For example, ARM Cement, filed for bankruptcy with a debt of more than approximately usd140 million. This had crippled the firm to the extent of not being able to meet its operational expenses. In 2019, East African Portland Cement Company sold property in order to repay KCB Group for a KSh 5.4 billion borrowed funds. The value of the cement manufacturers in Kenya. For example, Bamburi cement experienced a reduction in the price to book value in 2020 (KAM, 2020). The firm also experienced reduction earning per share within the period. This shows that financial leverage and firm value are key challenges among the cement manufacturing firms in Kenya.

1.2 Research Problem

If financial leverage adds value, the risk connected with it does not have a negative impact. A firm's return on equity rises at an appropriate level of financial leverage since leverage raises stock volatility, that increases risk and, in turn, returns (Ibrahim & Isiaka, 2020). Per the Modigliani and Miller theory (1958), getting into debt inside a company's equity is advantageous since a company with borrowed funds in its capitalization structuring enjoys tax relief as interests are charged before taxation is subtracted from company's revenue. Theoretically, financial leverage increases firm value but can also reduce firm value if the cost of debt supersedes the benefits accrued to debt. Theoretical literature indicates that financial leverage influences firm value with empirical literature indicating the same.

Cement manufacturing firms in Kenya have been experiencing reduction in firm value. For example, Bamburi cement experienced a reduction in the price to book value from 1.07 to 0.44. Capitalization of the manufacturer also reduced from 288 billion to 126 billion Kenya shillings in 2020 (CMA, 2020). The manufacturer, experienced improved leverage from 0.2 in 2019 to 0.87 in 2020. Another firm that has experienced problems in firm value is Athi River Mining. The firm experienced a reduced book value per share of 274 in 2018 to 171 in 2021. This shows that cement manufacturers in Kenya are facing issues in firm value with majority experiencing reduction in firm value in the recent years.

A series of researches have shown that financial leverage produces meaningful association with company value. No concise notion of connection around leverage and firm value, according to the academics, who discovered varying findings. A few researches discovered a favourable relationship around leverage and firm value, whereas others discovered an inverse relationship. Globally, Farooq and Masood (2016), in their Pakistani study, found that financial leverage relates directly with company value. Nwanna and Ivie (2017) also found a significant affiliation. Adenugba, Ige and Kesinro (2016) found inverse association around the two parameters. Locally, Wanguu and Kipkirui (2015) inspected impact of working capital management on the profit levels of Kenyan cement manufacturers while determinant factors of the value of publicly trading commercial banks were studied by Ayako and Wamalwa (2015). On the other hand, Kale (2014) investigated the influence of financial leverage on non-financial firm performance in Kenya; Kenyanya and Ombok (2018) considered the bearing of financial leverage on Kenyan listed companies' value; while Kithinji and Simiyu (2021) conducted research on the financial indicators around publicly traded non-financial business's market value addition.

The studies have showed that there is a mixed relationship between financial leverage and firm value. Some have found a positive relationship with others finding a negative relationship. This shows that knowledge gaps exist. Research gaps also exist in this area of research. For example, conceptual gaps exist where researchers have focused on different concepts. For example, despite Makau (2019) using leverage as one of the independent variables, the researcher used profitability (ROA) other than firm value (Tobin Q) as the dependent variable. Contextual gaps exist in the research area of financial leverage and firm value. This is shown by the researchers focusing on different sectors. The studies reviewed were done in different sectors. For example, Ayako and Wamalwa (2015) looked at the factors of company value based on banks. Methodological gaps

also existed where researchers adopted different research methods. Wanguu and Kipkirui (2015), for example, used Karl Correlation coefficient other than Pearson correlation adopted in the current study. The main question was; does financial leverage of cement manufacturing firms show a relation around firm value?

1.3 Research Objective

To determine the relationship around financial leverage and firm value of cement manufacturing firms in Kenya

1.4 Value of The Study

Research might be utilized by various parties. The policy makers like ministry of trade would find this paper as a source of insights which would be used in policy formulation. This paper may form the basis for policy formulation in regards to firm value on the basis of financial leverage of the manufacturing firms in Kenya especially cement manufacturers.

The paper will contribute to the body of knowledge on firm value and financial leverage. The addition to the literature would be a smile on the faces of the researchers and scholars. This would be because the scholars would have more literature for their assignments in the area of firm value and financial leverage. It will enable them to handle their assignments or projects with ease. The researchers, on the other side, would be smiling as they would find this paper as a basis for their future studies.

The management of the cement manufacturers in Kenya would find this paper a good one. The recommendations given in the paper would provide insights on how to enhance firm value through financial leverage. An understanding of the way leveraged firm connects with its value, management would be able to come up with strategies that would improve the value of their firms.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Paper's publications and information were examined. This was determined by the study's variables. Throughout this part, the research would be conceptualized. Theories and concepts were also evaluated objectively.

2.2 Theoretical Review

The section examines this paper's theoretical basis.

2.2.1 Pecking Order Theory

Myers and Majluf (1984) came up with this hypothesis. It is the most relevant theory for articulating the business's optimised capital situation. Myers and Majluf (1984) state that. It holds that management teams have more info regarding their companies than venture capitalists. It discusses the role of information asymmetries in establishing how much debt financing and equity a company will raise. To lessen the negative impulses which may be generated, companies must fully fund investment opportunities first with internal financing, then with secure borrowing, then with risky debt, and eventually including equity. The Pecking Order Theory assumes that companies don't really possess a desired debt-equity ratio because they select their debt level premised on one 's funding needs. According to this hypothesis, companies don't even have target cash holdings, but rather use cash as a cushion around retained profits and investment goals (Chen, 2010). This also implies whenever a company boosts its internally generated funds, its leverage decreases.

Cement manufacturing firms would prefer use of their own cash flow to enhance their performance without leverage. The ability to avoid financial leverage for cement manufacturers indicates excellent financial performance and increased firm value. However, where this is not possible, cement manufacturers would result into leverage sparingly to avoid losing control of the firm. Therefore, decisions made by firm managers regarding financing of firms determines the level to which a firm is leveraged and the level the firm is self-financing (Shahdila, Shahar, Shahzinda, Shahar, & Bahari, 2015). In relation to this study, cement manufacturers exist in a financial system that conforms the pecking order. Said hypothesis is appropriate to the present study. If the companies should seek external finance, preference equity should be utilized for successive control

of origin of capital including convertible bonds, borrowings, and preference shares. To increase the firm's value, it must maintain a proper balance of borrowed funds and shareholders capital.

2.2.2 Market Power Theory

Bain developed market power theory (1951). According to this hypothesis, a rise in the market strength leads to an increasing trend in price levels (Athanasoglou, Brissimis & Delis, 2005). The hypothesis is founded on the notion that market share is the greatest indicator of market power because more condensed markets demonstrate dominant market imperfections, allowing various enterprises to set prices for their product lines and offerings with less beneficial levels to their customers. The hypothesis also asserts that enterprises with significant market power and well-differentiated products and services could indeed easily generate monopoly earnings and prosper or outplay their competing companies (Tangut, 2017).

The market power model assumes that larger market density causes companies to conspire and obtain supernormal profitability of the company's holdings of differentiated products, that also tends to increase the company's value and market power in establishing pricing (Fama, 2007). The hypothesis also asserts that market dominance is one of the significant elements that cause value of the company to shift, and that intensive marketplaces often include market imperfections caused by colluding, that is enabled by industry concentration, and by various statutory entry barriers as well as exit (Kuroda, 2017). Per the Ayad Shaker (2015), this hypothesis holds that a company's value is determined by external factors such as leverage.

In relevance to this study, the market power hypothesis has been used in the manufacturing sector to illustrate how well a company's profit growth impacts its value. Because the majority of manufacturing assets which can assist cut production costs are expensive, manufacturers can obtain them via leverage as long as the expenses relating to debt is lower than its rate of return. This will result in elevated market dominance because profits will rise and the company will be apt to reach the point at which marginal cost equals marginal revenue.

2.2.3 Trade off theory

According to Myers (2001), debt provides firms with a tax armour, so companies seek elevated amounts of borrowed funds in order to optimize the tax incentive and, as a result, boost profits. High levels of debt, on the other hand, increase the likelihood of insolvency. The benefits of this

strategy would include ability to subtract interest charges from corporate taxation (Modigliani & Miller, 1963). According to Kim (1978), drawbacks of borrowed funds is the probable costs relating to bankruptcy and agency relation. According to Myers (1984), the trade-off concept assumes that a company's leverage will eventually return to a target or optimal level.

In relevance to this paper, manufacturing firms, in their attempt to increase their firm value, will have to understand that optimal level of financial leverage would improve firm value. This theory will guide this study in establishing the relationship between financial leverage and firm value based on the trade-off between the benefits and costs of debt. Manufacturing cement firms need to create an optimal level of financial leverage in order to get the benefits of improved firm value.

2.3 Determinants of Firm Value

2.3.1 Financial leverage

Total loans as a ratio of cumulative assets are used to calculate financial leverage. As the ratio rises, so does the volume of financial leverage. Financial leverage is advantageous whenever returns relating to debt are larger than interest payment affiliated with borrowed funds. Farooq and Masood (2016); and Nwanna and Ivie (2017) found that a direct association on financial leverage and firm value. However, Adenugba, Ige and Kesinro (2016) found a negative association.

2.3.2 Firm Size

In business research, firm size is defined in terms of number of customers, level of assets, and market share. Sales turnover, profitability (EBIT), customer base; number of stores; number of workers and sales per worker are also used to determine firm size. Other measures include total sales, market value of equity, and natural logarithm of total assets. This study will be measured in terms of natural logarithm of assets. Firm sized has a positive relationship to firm value (Hirdinis, 2019; Bestariningrum, 2015; Chen & Chen, 2011; Zuhroh, 2019). Firm size has also shown negative relationship with firm value (D'Amato & Falivena, 2020).

2.3.3 Firm Liquidity

Liquidity is measured in terms quick ratio and current ratio. Other measures include net working capital ratio and cash ratio. Graham (2010) states that liquidity denotes ease of firm's assets conversion to cash. Liquidity has been identified as a factor influencing a company's financial performance (Almajali et al 2012). Sari and Sedana (2020) found a positive association around

liquidity and firm value. This stood supported by Batten and Vo (2019) who instituted a positive connection around liquidity and firm value.

2.4 Empirical Studies

2.4.1 Global Studies

Farooq and Masood (2016) considered influence of financial leverage on business valuation with proof from Cement manufacturers of Pakistan. The connection of all cement businesses around 2008 and 2012 was examined using the adequate panel econometric model with fixed effects as well as random effects. The scientific findings display that financial leverage does have a favourable and statically substantial relation around company value, as symbolized by Tobin's Q. Those same outcomes indicate that cement companies in Pakistan could boost their worth by incorporating an appropriate blend of equity and debt into their capital structure. Firm size is inversely and inconsequentially linked to Tobin's Q among covariate. Tobin's Q has an opposite and substantial connection with asset tangibility. The liquidity is discovered to have a favourable and significant relationship with the worth of cement firms, demonstrating that effective working capital management results in enhanced company value.

Adenugba, Ige, and Kesinro (2016) inspected financial leverage of preferred Nigerian companies together with firm value. From 2007 to 2012, a population of 5 businesses quoted in Nigeria was utilized. Information was obtained from preferred companies' financial statements. For data analysis and hypothesis testing, the Ordinary Least Squares (OLS) statistical method was utilized. The research found a substantial and noticeable connection around financial leverage and firm value. Whenever it comes to financing long-term initiatives, the survey concludes that financial leverage has proven to be a superior funding in comparison to equity. But even so, numerous financial variables may have an adverse influence on the profit margins of Nigerian companies, and thus utilization borrowed funds in these kinds of firms could result in negative outcomes such as insolvency and minimal firm value.

Nwanna and Ivie (2017) investigated impact of financial leverage of Nigerian bank performance from 2006 and 2015. Profit growth, size, liquidity, efficiency, and market cap valuation were all studied and evaluated utilising pertinent ratios. To scrutinize the consequence of financial leverage ratio analysis on performance ratios, information could be collected from published statements of companies and analyzed using the OLS. For every theory, frameworks were developed and

evaluated. Financial leverage has a favourable impact on profit margins and efficiency, according to the research evidences. There were no significant impacts on liquidity, size, or capitalization valuation. The results imply that using debt enhances management efficiency because management teams must ensure that more income is made to pay interest while remaining profitable. Tax-deductible interest was also discovered to reduce taxes and boost profits.

Ivo and Anyanwaokoro (2019) examined the connection around financial leverage and company performance of cement manufacturing companies in Nigeria from 2006 to 2017. In Nigeria, four (4) cement production companies were researched from eight (8) cement production companies. The four (4) companies were chosen using a purposive sampling method from among the eight (8) cement companies targeted. The research's main goal is to look into the bearing of financial leverage around a business's performance. Ordinary least squares (OLS) were used as the analysis method. The outcomes of this examination revealed that debt ratios displayed an adverse but inconsequential impact on ROA. On the other hand, the Interest Coverage Ratio (ICR) does have a favourable but inconsequential impact on ROA.

Al-Slehat, Zaher, Fattah and Box (2020) considered the influence of leverage, size, and asset quality on business value in Jordan's manufacturing industry. The analytical technique strategy was used by the research scientist for a data set of 13 companies from mining and extraction industries that stood publicly traded on the Amman stock exchange between 2010 and 2018. To ensure data consistency and no correlation, the framework of linear regress utilised for evaluating report's assumptions and vif value. The survey deduced that financial leverage had no influence on company value as well as that the correlation around leverage around magnitude of Tobin's Q seemed to be inverse. Nevertheless, size and asset quality had an effect on business value as it displayed favourable connection around Tobin's q.

Yousaf (2017) considered influence of capital structure around performance of Pakistan's manufacturing industries. For this research, 23 cement producing companies operating from these 18 were indeed merged in the evaluation, and six years of annual data from 2010 to 2015 with regard to financial leverage impact on company performance for the above industry were considered. For a long period of time, the sample indicator for 18 companies consisted of 106 preconceptions. To construct a causation association around the variables, a Traditional Teeniest

Square model is linked to the data. The overview concludes that leveraged firms experienced reduction in their performance.

2.4.2 Local Studies

Wanguu and Kipkirui (2015) inspected impact of working capital management on the profit levels of Kenyan cement manufacturers. The research looked at three cement manufacturers that were publicly traded on the Nairobi Securities Exchange. The secondary info was got from examined accounts of cement manufacturers on 15-year span-2000 to 2014. The Karl Correlation coefficient and regression were used for examination. The survey revealed that the inventory conversion period (ICP) has a direct together with significant bearing influence on profit levels, whereas the average receivables period (ACP) shows direct which's insignificant impact. The average payables period (APP) had a substantial adverse connection with profitability, according to the report's results. Furthermore, the research discovered a direct significant connection around leverage and profit levels.

Determinant factors of the value of publicly trading commercial banks were studied by Ayako and Wamalwa (2015). The research was conducted using secondary panel data from 2002 to 2012. The random effects regression model's prediction results revealed that, while statistically relevant ($p < 0.05$), the joint effects of the report's predictors were small, taking account for around 30% of variability in firm value. The estimated coefficients at the specific determinant level seem to have been varied. They rebuffed the null hypothesis and deduced that capitalization had statistically meaningful effect of independent variables on the firm value.

Kale (2014) investigated the influence of financial leverage on non-financial firm performance in Kenya. The info from 3 models had been analyzed using random effect model after Hausman testing results demonstrated that info was static, and the Levin Lin Chu testing results for cointegration demonstrated that info was static. The analysis indicated that leverage and return on assets have a considerable negative connection. The findings also support the hypothesis that profitable companies utilize pecking order theory in their funding: the much more financially viable a company is, the more probable it is to decrease its debts, so internal funds are favoured. According to the Tobin's Q model, big companies get a positive but insignificant connection with financial leverage as well as firm performance, whilst also older companies' market value increased.

Kenyanya and Ombok (2018) considered the bearing of financial leverage on Kenyan listed companies' value. Causal research was used with a targeted audience of 64 businesses. Purposive sampling garnered 456 annual observations for 38 businesses spanning 2003 through 2014. Secondary sources were evaluated using a fixed - effect paneled equation. The implications of financial leverage on value-addition-performance is inversely proportional (-0.4502; $p = 0.000$). According to the findings, financial leverage amounts in the mean list have increased.

Kithinji and Simiyu (2021) conducted research on the financial indicators around publicly traded non-financial business's market value addition. A descriptive research design was used in the examination. Target populace consisted of 36 non-financial companies that were publicly traded on the NSE. It was decided to use paneled analysis. Outcomes showed that performance tax rates displayed inverse and substantial impact on non-financial corporate entities' markets value.

2.5 Summary of Literature Review

The part provided an insight into the literature relating to financial leverage and firm value. This chapter has also explained in detail the theories pertaining to financial leverage and firm value. The article is based on pecking order, market power and tradeoff theories. The determinants of firm value discussed in this research include financial leverage, firm size and firm liquidity. The empirical literature, both international and local, is reviewed in this chapter. The reviewed empirical literature shows that the findings have showed different results. For example, Farooq and Masood (2016); and Nwanna and Ivie (2017) found that financial leverage relates directly with company value. also found a significant affiliation. On the other hand, Adenugba, Ige and Kesinro (2016) found inverse association around the two parameters. This shows that knowledge gap exists.

On the other hand, the empirical studies show that various research gaps exist. For example, conceptual gaps exist where researchers have focused on different concepts. For example, despite Makau (2019) using leverage as one of the independent variables, the researcher used profitability (ROA) other than firm value (Tobin Q) as the dependent variable. Contextual gaps exist in the research area of financial leverage and firm value. This is shown by the researchers focusing on different sectors. The studies reviewed were done in different sectors. For example, Ayako and Wamalwa (2015) looked at the factors of company value based on banks. Methodological gaps also existed where researchers adopted different research methods. Wanguu and Kipkirui (2015),

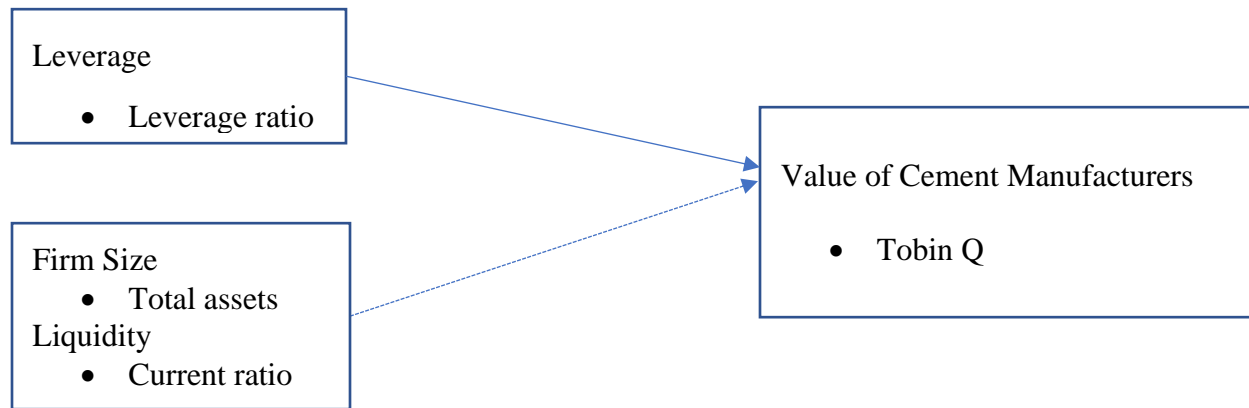
for example, used Karl Correlation coefficient other than Pearson correlation adopted in the current study. This study sought to fill the gaps by undertaking this research.

2.6 Conceptual Framework

The research was based on financial leverage as predictor variables with firm value utilized as dependent variable. The relationship was controlled by firm size and liquidity.

Independent Variable

Dependent Variable



Control Variables

Figure 2.1: Conceptual Framework

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

In this part of the paper, the research methodologies were utilized. It involved the designs, populations, gathering methods and analytical methods.

3.2 Research Design

In the paper correlational form of design was utilized. A research scientist can use correlational design to determine the connection around multiple variables. The above architecture is appropriate for this study because it aimed to examine the connection around financial leverage and firm value in cement manufacturers.

3.3 Population

The study targeted cement manufacturing firms in Kenya. According to Kenya Association of Manufacturers (KAM), there were six cement manufacturers in Kenya as at December 2020. Study involved the cement manufacturing firms in Kenya between 2011 and 2020. Based on the records of KAM, there were six cement manufacturing firms in Kenya that existed between 2011 and 2020.

3.4 Data Collection

This examination was based upon secondary sources. Secondary data was used in this study. From 2011 to 2020, secondary statistics was gathered from specific cement manufacturing companies' publicly available audited financial statements in Kenya. The period also gave the research a sufficient sample for analysis. The annual reports were sourced from the company websites.

The period was preferred as it gave the most recent data to overcome the historical nature of data. Data collection sheet was used for data collection. The data collection sheet contained data relating to total debt, total equity, total assets, total liabilities, current assets and current liabilities. Annual data was used for analysis. Panel data was used in this study. This is because it involved both cross-sectional (many cement manufacturers) and time series (many years between 2011 and 2020).

3.5 Data Analysis

Data was cleaned for analysis. After cleaning, the data was coded and entered into SPSS software for analysis. SPSS was preferred for its ability to handle a large volume of data and generate statistics with ease. The data was analyzed through descriptive, correlation and regression statistics. Descriptive statistics enabled the researcher to describe the data using measures of central tendencies. Correlation analysis was done to establish the relationship between the variables. Regression was done to define the effect of financial leverage on firm value. A panel regression model was adopted. The data was presented in tabular form.

3.5.1 Analytical model

The panel regression took the form of:

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \varepsilon$$

Where:

Y_{it} is firm value as gauged by Tobin Q of firm, i at time t;

α is constant term;

β_1 - β_4 are regression coefficients;

X_{1it} is financial leverage as gauged by leverage ratio of firm, i at time t;

X_{2it} firm size as gauged by logarithm of assets of firm, i at time t;

X_{3it} is liquidity as gauged by firm i's current ratio at time t;

3.5.2 Diagnostic Tests

The researcher undertook various diagnostic tests to check on the assumptions of regression. Multicollinearity was done to test the linearity of the predictor variables. This was done using variance inflation factors. The null hypothesis is that there was no linearity among predictor variables in a regression model. If VIF is 10 and more, the data shows multicollinearity. Where the VIF is less than 10, the null hypothesis is not rejected and it's assumed that there are no multicollinearity issues in the data.

Heteroskedasticity test was also done to test the constant nature of errors. This was done using Breusch-Pagan test. Data with the constant error term over time is said to be homoscedastic. The test was run to see how much variation there is in the residuals of the regression model was used

in this same survey. The error term must change with time, according to one of basic assumptions of research. The null hypothesis is that the error term's variation remains constant over time in homoscedasticity.

Normality testing is performed to detect if data is spread normally. To see if the data is normal, a Shapiro Wilk Test was applied. Under the null hypothesis, the data pool is presumed to have a normal distribution. Researcher reject the hypothesis that the data is normally distributed and reach the conclusion that the data does not have a normal distribution if significant value is less than the suggested alpha value (0.05). The assumption isn't really rejected whenever the significant score exceeds the alpha values

3.5.3 Significance Tests

The researcher used F-statistics for model significance. F-statistics was preferred as they are recommended for a sample above 30. The researcher used t-statistics for individual variables.

3.5.4 Measurement of Operational Variables

Table 3.1: Measurement of Operational Variables

Variable Type	Variable	Indicators	Measures
Dependent	Firm Value	Tobin Q	(Total debt + Equity)/Assets
Independent	Financial Leverage	Leverage ratio	Total liabilities/total equity
Control	Firm Size	Total assets	Logarithm of assets
Control	Liquidity	Current ratio	Current assets/current liabilities

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

The chapter discusses the analysis of the data, interpretations and presentation. The data was analyzed using descriptive and inferential Data was presented in tabular form for ease of understanding and interpreting of the findings.

4.2 Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Firm Value	30	.54	.94	.8094	.08875
Financial Leverage	30	.37	2.92	.9910	.70793
Firm Size	30	9.51	11.96	10.5382	.62722
Liquidity	30	.36	6.73	1.2930	1.45070
Valid N (listwise)	30				

From the descriptive statistics, firm value as measured by Tobin Q averaged at 0.8094. This shows that cement manufacturing firms in Kenya had an average Tobin Q of 80.94% between 2011 and 2020. The firm value showed a standard deviation of 0.08875 ranging from 0.54 and 0.94. In addition, financial leverage as measured by leverage ratio had a mean value of 0.991. This shows that financial leverage among cement manufacturing firms averaged at 99.1% between 2011 and 2020. The standard deviation of leverage ratio was 0.708 for the cement manufacturing firms. In the period, the leverage ratio ranged from 0.37 and 2.92. Firm size averaged at 10.5382 with a standard deviation of 0.62722 between 2011 and 2020. Firm Size showed a minimum log of 9.51 with a maximum of 11.96. Finally, in 2011 and 2020, liquidity showed a mean of 1.2930 with a standard deviation of 1.45070. In the same period, liquidity existed between 0.36 and 6.73.

4.3 Correlation Analysis

		Firm Value	Financial Leverage	Firm Size	Liquidity

Firm Value	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	30			
Financial Leverage	Pearson Correlation	-.252*	1		
	Sig. (2-tailed)	.018			
	N	30	30		
Firm Size	Pearson Correlation	.339*	-.334	1	
	Sig. (2-tailed)	.047	.071		
	N	30	30	30	
Liquidity	Pearson Correlation	-.784**	-.036	-.126	1
	Sig. (2-tailed)	.000	.848	.507	
	N	30	30	30	30
**. Correlation is significant at the 0.01 level (2-tailed).					

From the correlation analysis, financial leverage showed a correlation coefficient of -0.252 against firm value. The correlation coefficient showed a p value of 0.018 indicating that financial leverage had a negative and significant relationship with firm value. Firm size showed a correlation coefficient of 0.339 against firm value. The correlation coefficient showed a p value of 0.047 indicating that firm size had a weak positive and significant relationship with firm value. Liquidity showed a correlation coefficient of -0.784 against firm value. The correlation coefficient showed a p value of 0.000 indicating that liquidity had a strong negative and significant relationship with firm value.

4.4 Diagnostic Tests

Table 4.2: Multicollinearity

	Tolerance	VIF
Financial Leverage	.882	1.134
Firm Size	.869	1.151
Liquidity	.977	1.023

Multicollinearity was tested for the data used in the research. This was done using the variance inflation factor (VIF) which quantifies how much the variance is inflated. The findings

indicate that the VIF values were less than 2 with the tolerance values close to 0.95. This is an indication that the variance of the variables was inflated at a very low level. Hence, there were no multicollinearity issues in the model data as the variance of the variables was inflated to very low levels.

Table 4.3: Heteroskedasticity

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----- ANOVA TABLE -----
              SS          df          MS          F          Sig
Model          9.241         3.000         3.080         1.814         .000
Residual       44.154        26.000         1.698        -999.000       -999.000

----- Breusch-Pagan and Koenker test statistics and sig-values -----
              LM          Sig
BP           4.621         .202
Koenker      5.192         .158

Null hypothesis: heteroskedasticity not present (homoskedasticity)

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From the findings on the heteroskedasticity test, Breusch–Pagan statistics (4.621) had p value of 0.202. This means that the regression model had not violated the assumption of homoscedasticity (the error term is constant over time). Hence, we presume that heteroskedasticity is not present in our data.

Table 4.4: Test of Normality

	Statistic	df	Sig.
Firm Value	.855	30	.001
Financial Leverage	.815	30	.000
Firm Size	.928	30	.044
Liquidity	.651	30	.000

The study sought to test for normality of the data used in the research. Shapiro Wilk statistics were used to test the normality of the data. From the Shapiro statistics, the research showed that the Shapiro statistics of firm value, financial leverage, firm size and liquidity had significant values of less than 0.05. Hence, we presume that the data values for the variables were not normally distributed.

4.5 Regression Analysis

Table 4.5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.847 ^a	.718	.685	.04977
a. Predictors: (Constant), Liquidity, Financial Leverage, Firm Size				

The study used coefficient of determination to evaluate the model fit. The R² also called the coefficient of determination, is the percent of the variance in the dependent explained uniquely or jointly by the independent variables. The model had a coefficient of determination (R²) of 0.718 and which implied that 71.8% of the variations on firm value of cement manufacturing firms in Kenya are explained by financial leverage, firm size and liquidity.

Table 4.6: ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.164	3	.055	22.065	.000 ^a
	Residual	.064	26	.002		
	Total	.228	29			

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

b. Dependent Variable: Firm Value

From the ANOVA statics, the study established the regression model had a significance level of 0.00% which is an indication that the data was ideal for making a conclusion on the population parameters as the value of significance (p-value) was less than 5%. The calculated value was greater than the critical value (22.065 > 2.975). This is an indication that financial leverage, firm size and liquidity all have a significant effect on firm value of cement manufacturing firms in Kenya. The significance value was less than 0.05 indicating that the model was significant.

Table 4.7: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.651	.173		3.752	.001
	Financial Leverage	-.282	.114	-.225	-2.477	.019
	Firm Size	.235	.108	.166	2.173	.038
	Liquidity	-.047	.006	-.771	-7.322	.000
a. Dependent Variable: Firm Value						

Based on the regression model

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \varepsilon$$

The model was fitted into

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \varepsilon$$

From the fitted equation, a unit increase in financial leverage would reduce the firm value by 0.282. This shows that financial leverage has a negative effect on firm value of cement manufacturing firms in Kenya. On the other hand, a unit increase in firm size would increase the firm value by 0.235. This indicates that firm size has a positive effect on firm value of cement manufacturing firms in Kenya. Finally, unit increase in liquidity would reduce firm value by 0.047. This indicates that liquidity has a negative effect on firm value of cement manufacturing firms in Kenya. The predictor variables showed p values of less than 0.05. This indicates that they had significant effects on firm value of cement manufacturing firms in Kenya.

4.6 Discussions

The study sought to determine the relationship around financial leverage and firm value of cement manufacturing firms in Kenya between 2011 and 2020. From the correlation analysis, financial leverage showed a weak correlation coefficient against firm value. This shows that financial leverage had a weak negative relationship with firm value of cement manufacturing firms between 2011 and 2020. The findings concurred with those of Adenugba, Ige and Kesinro (2016) who found a negative association between financial leverage and firm value. The findings differed with those of Farooq and Masood (2016) and Nwanna and Ivie (2017) who found a positive association on financial leverage and firm value.

Firm size showed a weak, positive and significant correlation coefficient against firm value. This indicates that firm size had a weak positive and significant relationship with firm value of commercial banks between 2011 and 2020. The findings concur with researchers who found that firm sized had a positive relationship to firm value (Hirdinis, 2019; Zuhroh, 2019). The findings, however, differ with findings of D'Amato and Falivena (2020) who found that firm size had a negative relationship with firm value.

Liquidity showed a weak and significant correlation coefficient against firm value. This indicates that liquidity had a strong negative relationship with firm value of commercial banks between 2011 and 2020. The findings differ with those of Sari and Sedana (2020) found a positive association around liquidity and firm value. They also differed with those of Batten and Vo (2019) who instituted a positive connection around liquidity and firm value.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter was based on the objective of the study. The conclusions and recommendation together with a summary of the findings were given. The summary is based on the descriptive and regression statistical findings. The limitations to the study are also described in this chapter. In this chapter, the recommendations for further research are given.

5.2 Summary of Findings

From the descriptive statistics, firm value as measured by Tobin Q averaged at 0.8094 between 2011 and 2020. In addition, financial leverage as measured by leverage ratio had a mean value of 0.991 between 2011 and 2020. Firm size averaged at 10.5382 between 2011 and 2020. Within the same period, liquidity showed a mean of 1.2930. From the correlation analysis, financial leverage showed a weak significant negative correlation against firm value. This shows that financial leverage relates negatively with firm value of cement manufacturing firms. On the other hand, firm size showed a weak positive correlation coefficient on firm value. This shows that firm size of cement manufacturing firms relates positively with the firm value. Liquidity showed a significant strong negative correlation coefficient on firm value. This indicates that liquidity related negatively with firm value of cement manufacturing firms.

From the model summary, R square was 0.718 indicating that 71.8% of the change in firm value of cement manufacturing firms in Kenya between 2011 and 2020 was explained by financial leverage, firm size and liquidity. From the regression analysis, increase in financial leverage would reduce the firm value. This shows that financial leverage has a negative effect on firm value of cement manufacturing firms in Kenya. On the other hand, increase in firm size would increase the firm value. This indicates that firm size has a positive effect on firm value of cement manufacturing firms in Kenya. Finally, unit increase in liquidity would reduce firm value. This indicates that liquidity has a negative effect on firm value of cement manufacturing firms in Kenya.

5.3 Conclusions

From the correlation analysis, the findings showed that financial leverage showed a weak significant negative correlation against firm value. This indicated that the increase in firm size

increase firm value of firms and vice versa. This leads to the conclusion that financial leverage relates negatively with firm value of cement manufacturing firms in Kenya. This means that the higher the leverage in the cement manufacturing firms in Kenya, the lower the firm value.

The findings also showed firm size showed a weak positive correlation coefficient on firm value. This is an indication that when firm size increases, the firm value goes up and vice versa. Hence, this research concludes that firm size of cement manufacturing firms in Kenya has a positive relationship with their firm value. This shows that the cement manufacturing firms in Kenya with a high level of assets have a high firm value.

Liquidity showed a negative correlation coefficient with firm value. When the firms have a high liquidity ratio, they have a low Tobin Q as a measure of firm value. This leads to the conclusion that liquidity relates negatively with firm value of cement manufacturing firms in Kenya. This indicates that the cement manufacturing firms in Kenya with high liquidity levels experience low levels of firm value.

5.4 Policy Recommendations

From the findings, financial leverage has a negative relationship with firm value of cement manufacturing firms in Kenya. This shows that when cement manufacturing firms increase their leverage levels, they experience reduction in their firm value. In order to increase their firm value, management of cement manufacturing firms in Kenya should reduce the level of debt used in their firms. This would reduce the leverage ratio which then would enhance their firm value. The management also need to increase their levels of assets which would in turn reduce the leverage ratio for increased Tobin Q among the firms.

The study found that firm size has a positive relationship with firm value of cement manufacturing firms in Kenya. This stipulates that when the firm size of cement manufacturing firms in Kenya increases in terms of assets, the commercial banks experience increased firm value in terms of Tobin Q. There is need for the management of cement manufacturing firms in Kenya to increase the asset value in their firms. This would increase the Tobin Q of their firms which would reflect an increased firm value.

Liquidity showed a strong negative relationship with firm value of cement manufacturing firms in Kenya. This indicates that when the cement manufacturing firms in Kenya have a high level of

liquidity, their value is low. This creates the need for the cement manufacturing firms in Kenya to reduce their liquidity levels. This can be done by reducing the level of current liabilities while increasing the current assets in their portfolios. This would increase the Tobin Q of the firms as a reflection of an increased firm value.

5.5 Limitations of the Study

This research was limited by the unavailability of published data in the websites of some individual cement manufacturing firms. This is due to the research methodology adopted which involved the use of secondary data from the published financial statements. The study was also limited to financial leverage as the predictor variable of firm value. From the model summary, there are other factors that influence firm value of cement manufacturing firms in Kenya. The study was also limited by the focus which was cement manufacturing firms. This limits the generalizability of the research findings. The study was limited by the period of research. The study was based on data collected within the period between 2011 and 2020. This means that the data may experience a hiccup in terms of the historical element in the data which may not give the true picture on the relationship between financial leverage and firm value.

5.6 Recommendations for Future Studies

This research was limited by the unavailability of published data in the websites of some individual cement manufacturing firms. This is due to the research methodology adopted which involved the use of secondary data from the published financial statements. Other researchers need to focus on firms whose financial reports are published with authentic bodies like Nairobi Securities Exchange, Central Bank of Kenya, Insurance regulatory Authority and SASRA. The study was limited to financial leverage as the predictor variable of firm value. Other researchers should undertake a research based on other variables influencing firm value of cement manufacturing firms in Kenya. The study was limited by the focus on cement manufacturing firms. This research recommends a similar research based on other manufacturing firms to check whether the relationship is similar. The study was limited by the period between 2011 and 2020. Similar research needs to be done based on a different period to compare findings.

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APPENDICES

Appendix I: Data Collection Sheet

	Total Assets	Current assets	Total Debt	Total Equity	Total liabilities	Current liabilities
Year	Kshs. 000	Kshs. 000	Kshs. 000	Kshs. 000	Kshs. 000	Kshs. 000
2011						
2012						
2013						
2014						
2015						
2016						
2017						
2018						
2019						
2020						