

# Effect of Financing Determinants on Capital Structure for Manufacturing and Value-Added Firms in Nairobi City County

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**Abstract:** The general objective of this study was to establish the effect of financing determinants on capital structure for manufacturing and value-added firms in Nairobi City County. The specific objectives were; to analyze the effect of profitability on capital structure for manufacturing and value-added firms, to identify how levels of liquidity of a firm determines capital structure, to investigate how corporate taxes contribute to capital structure for manufacturing and value-added firms and to establish how competitive parity among manufacturing and value-added companies influence capital structure. The study reviewed theories that are relevant to the study. These theories included Capital irrelevancy theory, pecking order theory, Modigliani and Miller (1958) without Corporate Taxes, Modigliani and Miller with Corporate Taxes (1963) and competitive advantage theory. The research design, the research population, sample and sampling, data collection methods, and the data presentation and analysis will be elaborated in this study. The study used descriptive research design and inferential research design. The study's target population was 256 manufacturing and value-addition firms in Nairobi from which a sample of 112 was used. Primary data used which was collected through self-administered questionnaires. Data analysis was done through Statistical Package for Social Science (SPSS) Version 25. Descriptive statistics included bar graphs, pie charts, means, standard deviations and percentages. Inferential statistics included Pearson Correlation and regression analysis. The study revealed that profitability had a positive significant effect on capital structure of manufacturing and value-addition firms in Nairobi County ( $\beta=0.462$ ,  $p=0.000$ ). Liquidity had a positive significant effect on capital structure of manufacturing and value-addition firms in Nairobi County ( $\beta=0.317$ ,  $p=0.000$ ). Competitive parity had a zero insignificant effect on capital structure of manufacturing and value-addition firms in Nairobi County ( $\beta=0.050$ ,  $p=0.401$ ). Corporate taxes registered a positive significant relationship with capital structure of manufacturing and value-addition firms in Nairobi County ( $\beta=0.513$ ,  $p=0.000$ ). The overall regression analysis revealed that financing determinants have a statistically significant effect on capital structure of manufacturing and value-addition firms in Nairobi County ( $R\text{-square}= 0.644$ ,  $p=0.000$ ). The study recommends for an increase in the scope for future studies to cover the Kenyan manufacturing and value-addition sector as a whole.

**Keywords:** Profitability, Liquidity, Valued-Added, Corporate Taxes, Capital Structure.

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## 1. INTRODUCTION

### 1.1 Background of the Study

A firm or any establishment need funds to run its daily operations, these funds are the capital and forms the basis of the operation of the firm. Funds can either be raised internally or sourced from outside. Funds sourced from outside are raised through the sale of shares, these types of funds are referred to as equity capital, and alternatively a firm may approach a financial institution for financial assistance where the funds so raised through this approach becomes debt capital.

Companies quoted in the stock market are eligible of selling shares to raise funds through the public placement, while those that have not been quoted in the stock markets can only raise funds either internally or through acquisition of debt. The combination of debt and equity for a particular entity to finance its operations and for investment is what we call capital structure. Debt is borrowed money in forms of bond issues or loans, on the other hand equity is what is raised from the public in form of common stock, preferred stock or retained earnings, Acaravci, (2015). To be more precise, the term capital structure, or financial structure, or financial plan of a company refers to the composition of the long-term sources of funds. The term leverage is also used to refer to the proportion of different long-term sources of funds to the total capitalization of the firm.

Modigliani and Miller (1958) stated that “in the absence of taxes, bankruptcy costs, agency costs, and asymmetric information, and in an efficient market, the value of a firm is unaffected by how that firm is financed”. Since the value of the firm depends neither on its dividend policy nor its decision to raise capital by issuing stock or selling debt, this theorem often called the capital structure as an irrelevance principle. Firms are mostly concerned with their financial performance, as performance serves as one of the objectives of business necessary for long-term survival. The commonly used measures to gauge financial performance in companies include return on assets (ROA), return on equity (ROE) and net margin on sales. Stakeholders are usually interested in the financial performance of companies they associate with. The stakeholders are not limited to shareholders only but also includes suppliers, employees and the government. Moreover, investors who participate in the capital markets expect that their investment will bring a high return in the future which will compensate for the related risks and expenses. Thus, to evaluate the investment; they calculate the benefits and the costs at the current time, which is the net present value calculation, Chang (2015).

In Sri Lanka, large manufacturing companies are willing to have higher debt ratio rather than the small Sri Lankan companies. This implies that the companies are willing to raise more debt as compared to the equity capital due to the size of the company. Further, profitable Sri Lankan companies prefer to have less debt in their capital structure, this is an implication that profitability plays a role in the capital structure of the Sri Lankan manufacturing companies. This therefore implies that more funds from the profits is retained to finance any available positive net present value investment. The Sri Lankan companies which have high growth may have high debt ratio in the sense that more funds are needed for the expansion of the company that deals with a unique product in the market, Tharmalingam and Banda (2016).

Taiwan Manufacturing companies have a view that the level of tangible assets, size and profitability are key determinants for listed companies in regard to their influence on capital structure. Profitability negatively affects the capital structure; as successful companies do not need to depend so much on external funding. Consistent with the predictions of the pecking order theory, it is observed that low profit firms use more debt to finance their investments and their operations. In addition, tangible assets ratio affects the capital structure, as firms holding more such assets will be less prone to asymmetric information. Firms with a higher tangible assets structure can borrow more debt and this is consistent with trade off theory. Firm size positively affects capital structure, which indicated that larger firms tend to be more diversified and have a lower probability of failure, and thus, can take on more debt, and this result is also consistent with trade off theory Shun Yu Chen and Li Ju Chen (2011).

American manufacturing companies have a view that capital structure of a firm has effects on profitability. This is so because interest on debt is tax deductible in United States. Profitable firms depend more on debt as their main financing option. Although interest on debt is tax deductible, a higher level of debt increases default risk, which in turn, increases the chance of bankruptcy for the firm. Therefore, the firm must consider using an optimal capital structure. The optimal capital structure requires certain levels of debt equity, but not 100% debt. This implies that, it is prudent to have a mix of debt and equity for a firm, in doing so minimization of the cost of capital is achieved. The cost of financing company's operations will be lowered in this mix of finances. In addition, it will reduce the chances of bankruptcy, Amorjit Gill (2011)

In the agricultural segment, two factors, that is, profitability and liquidity were found to be significantly correlated with leverage. The commercial and services segment had only the size of the firm significantly correlated with leverage. Profitability was the only factor in manufacturing segment that was found to be significantly correlated with leverage, Anthony Kithumbi Muema (2013). In the construction and allied segment, profitability, tangibility of assets and non-debt tax shields were found to be the key determinants of capital structure. Energy and petroleum segment had the greatest

number of factors that turned out to be statistically significantly correlated with leverage. Profitability, tangibility of assets, size of the firm and growth of the firm are the key determinants of capital structure among firms in energy and petroleum sector. Telecommunication, automobile and investment segments did not have factors that were significantly correlated with leverage. For all the segments combined, tangibility and non-debt tax shield turned out to be the only key determinants of capital structure (Nyamosi, & Omwenga, 2016)..

In respect to the above studies carried out in various sectors of different economies across the world, the aspects of profitability, liquidity, size of the company, types of assets owned by the companies have been outlined to be the leading in capital structure determination. The aspect of competitive parity and effect of corporate taxes have not been given enough emphasis. This study aimed at analyzing how these factors in combination with other factors affect the capital structure of manufacturing and value-added companies in Nairobi City County.

## 1.2 Statement of the Problem

Capital structure is essential for the survival, growth and performance of a firm. Every firm seeks to have an optimal capital structure which is best suited to a situation that concurrently minimizes the cost of capital and maximizes the firm value (Mburu, & Omwenga, 2017). However, a capital structure that is perfectly optimal is almost impossible to determine in practice because several variables some even conflicting influence the choice of capital structure. Literature suggests that debt requirements of a firm in one industry differ from the firm in another industry because various industries experience different business environments, Valta (2012)

Although several studies have been done on the determinants of capital structure of the companies listed in the Nairobi Securities Exchange, important questions remain on what determines the choice of capital structure for firms in specific industry. Anthony Kithumbi Muema (2012) carried out a study on the determinants of capital structures of firms listed under the various market segments in the Nairobi securities exchange. The study concluded that the industry in which a firm operates is likely to have a significant effect on its capital structure; hence capital structure of comparable companies in the industry should be considered because it might reflect the unique risks inherent in that industry. Kuria (2010) conducted a study on the determinants of capital structure of firms listed in the NSE and established that profitability and asset structure are the only determinants of capital structure, Bilafif & Ibrahim (2019) did a research on effect of capital structure decisions on firm value of listed manufacturing firms in Mombasa county and concluded that most manufacturing firms will take angel investors as the first option and that equity financing has positive relationship to firm value as it was found to reduce costs of financial distress. Ari Data (2019) conducted research on the effect of asset use activities on capital structure, business risk, financial performance and corporate value a study of manufacturing industry companies in the Indonesia stock exchange. The research concluded that asset usage activities can determine the capital structure, financial performance and corporate value.

Capital Structure and its determinants are an ongoing question mark for more than half a century and complicated combination of debt and equity for a firm is still a courted debate. Even though many studies have taken place on capital structure and firm characteristics in Kenya this study was different from the previous studies for the period studied and the firms covered. In addition, the researcher emphasized on factors that have essential impact on gearing and what variables that were eliminated while determining the capital structure of a firm. There was need therefore to assess determinants of capital structure for each sector separately basing emphasis on the manufacturing and value-added firms in Nairobi City County. This study tried to answer the following research question: Does competitive parity and corporate taxes affect the capital structure of the manufacturing and value-added companies in Nairobi City County?

## 1.3 Objectives of Study

### 1.3.1 General Objective

To analyze the effect of financing determinants on capital structure for manufacturing and value-added firms in Nairobi City County

### 1.3.2 Specific Objectives

- i. To determine the effect of profitability on capital structure for manufacturing and value-added firms in Nairobi City County.
- ii. To analyze effect of levels of liquidity on capital structure of manufacturing and value-added firms in Nairobi City County.

- iii. To examine effect of competitive parity on capital structure among manufacturing and value-added firms in Nairobi City County.
- iv. To evaluate the effect of corporate taxes on capital structure among manufacturing and value-added firms in Nairobi City County.

#### 1.4 Research Questions

- i. What is the effect of profitability on capital structure for manufacturing and value-added firms?
- ii. How do the levels of liquidity of manufacturing and value-added firms determine capital structure?
- iii. What is the effect of competitive parity on determining the capital structure of manufacturing and value-added companies?
- iv. To what extent do corporate taxes affect the capital structure of manufacturing and value-added firms?

#### 1.5 Significance of the study

The findings of this study provided help in establishing to what extent the corporate taxes, competitive parity, liquidity levels and profitability determines firm's capital structure especially to manufacturing and value-added companies in Nairobi City County. The management of manufacturing and value-added companies reading through this research gains knowledge on industry specific factors influencing capital structures and be able to make appropriate financing decisions. Government policy makers are to use the research findings to set up guidelines for firms in manufacturing and value-added companies in regards to capital structure decisions. Business advisers and finance consultants may be interested in knowing the factors that are considered in designing capital structures for manufacturing and value-added companies. Researchers and academicians benefit from this research study as a basis of advancing future research.

#### 1.6 Scope of Study

The study analyzed effect of financing determinants on capital structure for manufacturing and value-added firms in Nairobi City County. Nairobi City County was specifically chosen to be the study area for this research; this was so because 80% of Manufacturing and value-added firms are stationed in Nairobi City County. A sample of One hundred and fifty-three (153) manufacturing and value-added companies within the Nairobi City County were analyzed to come up with adequate comparisons for the effective and elaborative conclusions.

## 2. LITERATURE REVIEW

### 2.1 Theoretical review

This section reviewed the theoretical models relevant to this study. The primary focus of the study is capital structure. Theories of capital structure try to explain what happens to the overall cost of capital and value of the firm when the combinations of the funds that make up the capital are varied. They gave guide to the corporate finance managers in choosing the optimal proportion of debt and equity for their firm.

#### 2.1.1 The Irrelevance Theory

Modigliani and Miller (1958) demonstrated in their seminal paper 'The cost of capital, corporation finance, and the theory of investment' that in the absence of taxes, bankruptcy costs, transaction costs and asymmetric information and the same rate of interest of borrowing by individuals and corporations, the value of a firm is independent of its financial structure, Sherman, (1993). It does not matter if the firm's capital is raised by issuing or selling debt. It does not matter what the firm's dividend policy is. The model is based on a framework that starts with assumptions of perfect competition in factor and product markets and no transaction costs. Modigliani and Miller (1958) conclude that a firm cannot increase its value by using debt as part of its permanent capital structure. This argument is based on perfect arbitrage such that investors can assume personal debt to help financing the purchase of unlevered shares, if the value of the levered shares is greater than the unlevered ones. With perfect arbitrage any discrepancies in the value of the stocks of two hypothetical firms, one with levered shares and the other with unlevered shares, will be eliminated. Capital structure is thus irrelevant to firm value. Including tax deductibility of interest payments into their model, Modigliani and Miller (1963) show that borrowing will only cause the value of the firm to rise by the amount of the capitalized value of the tax subsidy. Relaxing assumptions in their original work and introducing imperfect competition, bankruptcy costs, asymmetric information, and monopoly

power, financial structure appears to be an influencing factor on firm value. The introduction of tax deductibility of interest payments has an implication on the choice of capital structure. Profitability increases, non-debt tax shields reduce and liquidity increases.

### 2.1.2 Pecking Order Theory

The pecking order theory is based on the assertion that managers have more information about their firms than investors, Serrasqueiro & Caetano (2015). This disparity of information is referred to as information asymmetry. According to Myers and Majluf (1984), if investors are less informed than the firm insiders about the value of the firm, then equity may be mispriced by the market. When firms need to finance new investments, underpricing may be so severe that new investors capture more than the net present value (NPV) of the project resulting in a dilution of value to the existing investors. This can lead to under-investment result, that is, the project will be rejected. To avoid this, firms establish a preference condition; firms prefer internal finance over external finance, safe debt over risky debt and convertibles and finally common stocks, Danaldson, (1961), Myers & Majluf, (1984).

Myers (1984), states that an optimal capital structure is difficult to define as equity appears at the top and at the bottom of the 'pecking order'. Internal funds incur no flotation costs and require no disclosure of the firm's proprietary financial information that may include the firm's potential investment opportunities and gains that are expected to accrue as a result of undertaking such investment. This brings into perspective the issue of growth as a determinant of capital structure. According to pecking order theory hypothesis, a firm will use first internally generated funds which may not be sufficient for a growing firm so the next option is for the growing firms to use debt financing which implies that a growing firm will have a high leverage, Serrasqueiro, & Caetano (2015). Hence firm growth should be considered as a determinant of capital structure.

This theory is applicable for large firms as well as small firms, Bas et al, (2009). Various research studies have been conducted to test the pecking order theory.

### 2.1.3 Modigliani and Miller (1958) without Corporate Taxes

The Modigliani-Miller without Corporate Taxes also known as Proposition I Theory (MMI) states that under a certain market price process, in the absence of taxes, no transaction costs, no asymmetric information and in a perfect market, the cost of capital and the value of the firm are not affected by the change in capital structure. The firm's value is determined by its real assets, not by the securities it issues. In other words, capital structure decisions are irrelevant as long as the firm's investment decisions are taken as given. The Modigliani and Miller (1958) explained the theorem was originally proven under the assumption of no taxes. It is made up of two propositions. Proposition one suggests that the capital structure does not influence the valuation of a firm. In other words, leveraging the company does not increase the market value of the company. It also suggests that debt holders in the company and equity shareholders have the same priority that is earnings are equally split amongst them.

Proposition two had an idea that says financial leverage is in direct proportion to the cost of equity. With an increase in the debt component, the equity shareholders perceive a higher risk to the company. Hence, in return, the shareholders expect a higher return, thereby increasing the cost of equity. A key distinction here is that Proposition 2 assumes that debt shareholders have the upper hand as far as the claim on earnings is concerned. Thus, the cost of debt reduces.

### 2.1.4 Modigliani-Miller with Corporate Taxes (1963)

The Modigliani-Miller with corporate taxes which is also referred to proposition II Theory (MMII) defines cost of equity is a linear function of the firm's debt/equity-ratio. According to them, for any firm in a given risk class, the cost of equity is equal to the constant average cost of capital plus a premium for the financial risk, which is equal to debt/equity ratio times the spread between average cost and cost of debt. Also, Modigliani and Miller (1963) recognized the importance of the existence of corporate taxes. Accordingly, they agreed that the value of the firm will increase or the cost of capital will decrease with the use of debt due to tax deductibility of interest charges. Thus, the value of corporation can be achieved by maximizing debt component in the capital structure. This theory of capital structure for the study provided an important and analytical framework. According to this approach, value of a firm is  $V_L = V_U = \text{EBIT} (1-T) / \text{equity} + \text{TD}$  where TD is tax savings. Modigliani-Miller Proposition II is assuming that the tax shield effect of each is the same, and continued in sight. Leverage firms are increased in interest expense due to reduced tax liability, has also increased the



allocation to the shareholders and creditors of the cash flow. The above formula can be deduced from the company debt, the more the greater the tax saving benefits, the greater the value of the company.

The Reviewed structure of the Modigliani and Miller proposition II, states clearly that the existence of tax shield a perfect capital market condition cannot be attained, in an imperfect financial market, capital structure changes will affect the value of a firm. This is to imply that value and cost of capital of a firm with the capital structure changes with difference in leverage. The value of a levered firm will exceed the value of unlevered firm. According to MM proposition theory, suggestion that the higher the ratio of debt is favorable to a firm that pays corporate taxes as compared to a firm that has higher equity ratio. This is so since borrowing adds an interest tax shield.

### 2.1.5 Competitive Advantage Theory.

Michael Porter proposed the theory of competitive advantage in 1985. The competitive advantage theory suggests that states and businesses should pursue policies that create high-quality goods to sell at high prices in the market, Tan & Sousa (2015). Porter emphasizes productivity growth as the focus of national strategies. This theory rests on the notion that cheap labor is universal, and natural resources are not necessary for a good economy. The other theory, comparative advantage, can lead countries to specialize in exporting primary goods and raw materials that trap countries in low-wage economies due to terms of trade. The competitive advantage theory attempts to correct for this issue by stressing maximizing scale economies in goods and services that garner premium prices.

Competitive advantage occurs when an organization acquires or develops an attribute or combination of attributes that allows it to outperform its competitors. These attributes can include access to natural resources, such as high-grade minerals or inexpensive power or access to highly trained and skilled personnel human resources. New technologies, such as robotics and information technology, are either to be included as a part of the product or to assist making it. Information technology has become such a prominent part of the modern business world that it can also contribute to competitive advantage by outperforming competitors with regard to Internet presence. From the very beginning (i.e., Adam Smith's Wealth of Nations), the central problem of information transmittal, leading to the rise of middle men in the marketplace, has been a significant impediment in gaining competitive advantage. By using the Internet as the middle man, the purveyor of information to the final consumer, businesses can gain a competitive advantage through creation of an effective website, which in the past required extensive effort finding the right middle man and cultivating the relationship

## 2.2 Conceptual Framework

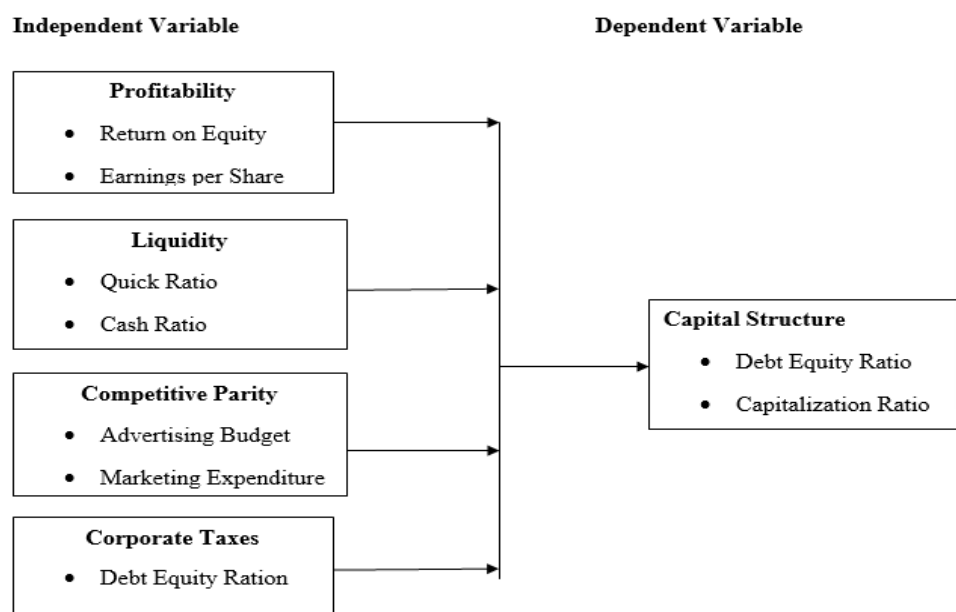


Figure 2.1: Conceptual Framework

Source: Researcher (2022)

### 2.2.1 Profitability of the Firm.

This has been the most advocated determinant of capital structure. It can be defined as the employment of an asset or sources of funds for which the firm has to incur a fixed cost or pay a fixed sum (as the return per period). This can be divided in two separate categories; operating leverage and financial leverage. The leverage associated with investment (or acquisition of assets) activities is referred to as operating leverage, while leverage associated with financing activities is called financial leverage. In general, the higher the level of (EBIT) and the lower the chance of downward fluctuation the larger the amount of debt that can be employed, Kodongo (2015).

### 2.2.2 Liquidity of the Firm.

The analysis of the cash flow ability of the firm to service current dues and the fixed charges when they fall due is regarded of great importance to carry out capital structure planning. In assessing the liquidity position of a firm in terms of its cash flow analysis, coverage ratio is considered to be of great assistance in liquidity determination. It is the ratio of fixed charges to net cash inflows. It measures the coverage of fixed financial charges (interest plus repayment of principal, if any) to net cash inflows, Ghasemi & Razak, (2016). In other words, it indicates the number of times the fixed financial requirements are covered by the net cash inflows. The higher the coverage ratio the larger the amount of debt (and other sources of funds carrying a fixed rate of interest) that a firm can use.

### 2.2.3 Competitive parity in the industry.

Another factor determining a company's optimal capital structure is the debt-equity ratios of other companies belonging to the same industry and facing a similar business risk. The rationale here is that the debt-equity ratios appropriate for other firms in a similar line of business should be appropriate for the company (under consideration) as well. The use of industry standards provides a benchmark. If a firm is deviating from its optimal capital structure, the market will give a red signal to the management that there is something wrong in the company's debt-equity mix, Mat Nawi (2015). If the firm is out of line, it should identify the causes of such deviation and be satisfied that the reasons are genuine.

### 2.2.4 Corporate Taxes

The Reviewed structure of the Modigliani and Miller proposition II, states clearly that the existence of tax shield a perfect capital market condition cannot be attained, in an imperfect financial market, capital structure changes affect the value of a firm. This is to imply that value and cost of capital of a firm with the capital structure changes with difference in leverage Modigliani and Miller (1963). The value of a levered firm will exceed the value of unlevered firm. According to MM proposition theory, suggestion that the higher the ratio of debt is favorable to a firm that pays corporate taxes as compared to a firm that has higher equity ratio. This is so since borrowing adds an interest tax shield.

## 2.3 Empirical review

Empirical review is a study of previous studies in such a manner that other investigators understand precisely what was done and what was found in such research. The extent that they could replicate the study to determine whether the findings are reproduced when repeated, Simon-Thomas (2010).

A study on Sri Lankan companies reveals that bigger manufacturing companies are willing to have higher debt ratio rather than the small Sri Lankan companies. This implies that the companies are willing to raise more debt as compared to the equity capital due to the size of the company. Further, profitable Sri Lankan companies prefer to have less debt in their capital structure, this an implication that profitability plays a role in the capital structure of the Sri Lankan manufacturing companies. This implies that more funds from the profits is retained to finance any available positive net present investment. The Sri Lankan companies which have high growth may have high debt ratio in the sense that more funds are needed for the expanding company which is selling a unique product in the market this is according to Nyaga, Omwenga, Murugi, Shalle, Ndung'u, Gekara, M. G., & Wairimu, (2016)..

Study on Taiwan Manufacturing companies demonstrates that the level of tangible assets, size and profitability are key determinants for listed companies with regard to their influence on capital structure. Profitability negatively affects the capital structure; as successful companies do not need to depend so much on external funding. Consistent with the predictions of the pecking order theory, the research observed that low profit firms use more debt to finance their investments and operations. In addition, the research found that the tangible assets ratio affects the capital structure, as firms holding more such assets will be less prone to asymmetric information. Firms with a higher tangible assets structure

can borrow more debt and this is consistent with trade off theory. Finally, firm size positively affects capital structure, which indicated that larger firms tend to be more diversified and have a lower probability of failure, and thus, can take on more debt, and this result is also consistent with trade off theory according to Shun Yu Chen and Li Ju Chen (2011).

Findings from a study on American manufacturing companies concludes that the capital structure of the firm impact's profitability. It is because interest on debt is tax deductible in United States. Profitable firms depend more on debt as their main financing option. Although interest on debt is tax deductible, a higher level of debt increases default risk, which in turn, increases the chance of bankruptcy for the firm. Therefore, the firm must consider using an optimal capital structure. The optimal capital structure includes some debt, but not 100% debt. In other words, it is a "best" debt/equity ratio for the firm, which in turn, will minimize the cost of capital that is the cost of financing the company's operations. In addition, it will reduce the chances of bankruptcy this is according to Matoke, & Omwenga, (2016).

A study on Libyan manufacturing firms shows that liquidity and profitability are significantly related to the leverage ratios. This implies that firms prefer to finance investment with internally returned funds before issuing debt. As for firm size effect, evidence is presented to indicate that the firm size is positively and significantly related to leverage ratio of firms as an inverse substitution for the probability of bankruptcy. This result supports the trade-off theory which suggests that firm size should matter in deciding an optimal capital structure as bankruptcy costs. In other perspectives, leverage is negatively related with tangibility. This finding is in line with the predictions of pecking order theory, which suggests a negative association between short-term debt and tangibility. Growth opportunities are positively related to book value leverage and negatively related to market leverage, which is consistent with the prediction of the trade-off theory. These results indicate that high price-earnings ratios and high interest rates will cause firms to choose equity over debt, as both of these factors reduce the cost of equity finance. The study indicates that both the trade-off and the pecking order theories can explain the Libyan firms' financing decisions Najeb Masound (2014)

Similarly, significant, the study additionally investigates the relationship between stock market developments and firms' financing choices. Results show that further development in the stock market indicators are negatively and significantly related to the leverage ratios in (Libyan firms) suggesting that as equity markets become more developed and their liquidity improves, their importance as tools for corporate financing increase by allowing to issue more equity and reduce their reliance on debt, which implies that transaction costs for equity are high relative to debt, firms are credit constrained or that the issue cost of equity high due lack of competition among investment banks, or it is possible that improved information dissemination, monitoring and risk sharing, market firms better credit risks for bank loans, while banking sector variables (especially bank deposits) are significantly and positively associated with debt equity ratio. This finding strengthens the argument that the capital structure decisions of firm are not only determined by their own characteristics, but are also influenced by the external environment in which they operate. Thus, the investigation of the Libyan firms' benefits to improve our understanding of how firms operate in different market settings and environments background according to Najeb Masound (2014).

Anthony Kithumbi Muema (2013) did research on the determinants of capital structures of firms listed under the various market segments in the Nairobi securities exchange. This study was set out to establish whether the various market segments in the NSE have different determinants of capital structure. A separate regression analysis was performed for each segment and another one for all the segments combined to find out whether there was a significant relationship between leverage and the respective factors.

In the agricultural segment, two factors, that is, profitability and liquidity were found to be significantly correlated with leverage. The commercial and services segment had only the size of the firm significantly correlated with leverage. Profitability was the only factor in manufacturing segment that was found to be significantly correlated with leverage. In the construction and allied segment, profitability, tangibility of assets and non-debt tax shields were found to be the key determinants of capital structure. Energy and petroleum segment had the greatest number of factors that turned out to be statistically significantly correlated with leverage. Profitability, tangibility of assets, size of the firm and growth of the firm are the key determinants of capital structure among firms in energy and petroleum sector. Telecommunication, automobile and investment segments did not have factors that were significantly correlated with leverage. For all the segments combined, tangibility and non-debt tax shield turned out to be the only key determinants of capital structure.

According to Kimencu Lena Gakii, (2018) the study on the effects of capital structure on financial performance of agricultural firms listed in the Nairobi securities exchange, the study concluded that there was low relationship between



capital structure variable debt to equity ratio and financial performance variable, earnings yield. The study showed that debt to equity do not influence firm performance as much. It is therefore recommended that there is need to increase the firms' long-term and short-term borrowings which are very low among all the firms under review. The research established that debt to assets ratio does not play a major role in improving firm performance. This may be because most of the firms under review had no debt at all in their capital structure, but other liabilities constituted the bulk of total liabilities. It is therefore recommended that managers should borrow more since the higher the debt, the higher the tax savings received by firms. The company managers should therefore maintain an optimal debt levels to enjoy tax savings and improve on their firms' financial performance without affecting their decision-making organ or dissolution of the existing structure of control.

#### 2.4 Critique of Existing Literature

From the study on Sri Lankan companies reveals that bigger manufacturing companies are willing to have higher debt ratio rather than the small Sri Lankan companies. This implies that the companies are willing to raise more debt as compared to the equity capital due to the size of the company. Further, profitable Sri Lankan companies prefer to have less debt in their capital structure, this an implication that profitability plays a role in the capital structure of the Sri Lankan manufacturing companies. This implies that more funds from the profits is retained to finance any available positive net present investment.

The study focuses mainly on profitability leaving out the aspects the equally important variables that can be used to boost the capital structure like the competitive parity in the industry, and the level of liquidity. The industry specific analogies should need a more elaborate study in inclusion of several factors that may aid in coming up with a clearer way of handling the capital structure decisions.

A study on Taiwan Manufacturing companies demonstrates that the level of tangible assets, size and profitability are key determinants for listed companies with regard to their influence on capital structure. Profitability negatively affects the capital structure; as successful companies do not need to depend so much on external funding. Consistent with the predictions of the pecking order theory, the research observed that low profit firms use more debt to finance their investments and operations. In addition, the research found that the tangible assets ratio affects the capital structure, as firms holding more such assets will be less prone to asymmetric information. Firms with a higher tangible assets structure can borrow more debt and this is consistent with trade off theory.

The study should have an inclusion of non-firm specific factors in establishing the decisions on the capital structure. Variables like competitive parity within the industry should also have an inclusion on the study. The managers' attitude to control as a non-financial aspect should be analyzed to give a proper presentation.

Findings from a study on American manufacturing companies concludes that the capital structure of the firm impact profitability. It is because interest on debt is tax deductible in United States. Profitable firms depend more on debt as their main financing option. Although interest on debt is tax deductible, a higher level of debt increases default risk, which in turn, increases the chance of bankruptcy for the firm.

The American firms' concentrates mainly on firm specific variables in capital structure determination ignoring the equally important non-firm specific variables like the competitive parity within the industries. These variables can be included in the study to come up with a more elaborate study.

From the study on Libyan manufacturing firms shows that liquidity and profitability are significantly related to the leverage ratios. This implies that firms prefer to finance investment with internally returned funds before issuing debt. As for firm size effect, evidence is presented to indicate that the firm size is positively and significantly related to leverage ratio of firms as an inverse substitution for the probability of bankruptcy. This result supports the trade-off theory which suggests that firm size should matter in deciding an optimal capital structure as bankruptcy costs. In other perspectives, leverage is negatively related with tangibility. This finding is in line with the predictions of pecking order theory, which suggests a negative association between short-term debt and tangibility. Growth opportunities are positively related to book value leverage and negatively related to market leverage, which is consistent with the prediction of the trade-off theory. These results indicate that high price-earnings ratios and high interest rates will cause firms to choose equity over debt, as both of these factors reduce the cost of equity finance.

The study on Libyan firms brings out the aspect of the size of the firm as the main determination of capital structure. This should not be the case as the size of the firm is just one variable that is not enough to conclude on a study and give an elaborate findings of the whole industry. The study should be carried out where non-financial variables like the attitude of the managers towards control can be considered to give a more elaborate picture in the industry.

On the study carried out by Anthony Kithumbi Muema (2013) on the determinants of capital structures of firms listed under the various market segments in the Nairobi securities exchange.

The study concluded that there was low relationship between capital structure variable debt to equity ratio and financial performance variable, earnings yield. The study showed that debt to equity do not influence firm performance as much.

The study therefore requires that there is need to increase the firms' long-term and short-term borrowings which are very low among all the firms under review. The research established that debt to assets ratio does not play a major role in improving firm performance. This may be because most of the firms under review had no debt at all in their capital structure, but other liabilities constituted the bulk of total liabilities. It is therefore recommended that managers should borrow more since the higher the debt, the higher the tax savings received by firms. The company managers should therefore maintain an optimal debt levels to enjoy tax savings and improve on their firms' financial performance without affecting their decision-making organ or dissolution of the existing structure of control.

The study included the non-firm specific variables that exist within the industry to make it more elaborative. An inclusion of competitive parity variables and corporate taxes gives rise to a more conclusive study.

## 2.5 Research gap

The existing studies have been elaborately executed where the major concern has been given to firm specific variables. These variables include, the size of the firm, the liquidity, financial performance, profitability and level of tangible assets. The non-firm specific variables have not been conclusively studied. These variables among others have a major impact on capital structure determination as indicated by MM theory and competitive advantage theory. These variables include, competitive parity and corporate taxes among manufacturing and value-added firms in Nairobi City County.

## 3. RESEARCH METHODOLOGY.

### 3.1 Research Design

The study used cross sectional research design to obtain information from manufacturing and value-added companies' personnel and obtain information from records maintained by quoted companies at NSE. According to Ary (2018) states that cross sectional research design main aim is to accurately and systematically describe a population, situation or phenomenon. It answers what, where, when and how questions, but not why questions. The superior design allows the researcher to acquire quantitative data relevant to the study. In this case, researcher quickly analyzed data using descriptive and inferential statistics Saunders et al., (2007).

### 3.2 Target Population

The target population is the entire population, or group, that a researcher is intending in researching and analyzing data from. The study focused on manufacturing companies and value-added companies who are members of Kenya Association of Manufacturers (KAM). There are 256 manufacturing and value-add companies in Nairobi City County as per the register of Kenya Association of Manufacturers. Total Members of KAM stands at over 800 where 40% of this are manufacturing and Value-added companies. Over 80% of the members of KAM are situated in Nairobi City County where other members are distributed to other parts of the country (Charles, & Omwenga, 2018)

### 3.3 Sample and Sampling

A sample is a predetermined part of a statistical population whose properties are studied to gain information about the whole population, Sharma (2017). According to Taherdoost (2017) a sample size relates to the number of participants involved in a study. The study employed a sample size of 153 companies out of the population of 256 manufacturing and value-added companies in Nairobi City County using the Cochran's (1977) formula as follows:

$$SampleSize = \frac{\frac{z^2 \cdot p(1-p)}{e^2}}{1 + \frac{z^2 \cdot p(1-p)}{e^2 N}}$$

Where;

N = Population size: 256

Z = Z-score Confidence level of 95% with a Z score of 1.96

e = Margin of error: 0.05

P = standard of deviation: 0.5

Sample Size =  $1.96^2 * 0.5(1-0.5) / 0.01^2 / 1.96^2 * 0.5(1-0.5) / 1 + 0.05^2 * 256 = 153$  companies.

Cochran's (1977)

### 3.4 Data Collection Instruments

The study used primary and secondary data. The data was collected from the manufacturing and value-added firms in Nairobi City County who are members of KAM as per the listing by the Kenya Manufacturing Association. The primary data was collected through structured questionnaire that was self-administered by the researcher.

### 3.5 Pilot Study

A pilot study tries to maximize the reliability and validity of the data collected (Mugenda & Mugenda, 2012). The rule of thumb is that at least 10% of the sample should constitute a pilot test Creswell (2003). Using validated questionnaire, a pilot testing was carried out on the instrument using respondents that were not covered in the actual research. Creswell and Clark (2017) and Mugenda and Mugenda (2012) explains that pilot testing is done to gauge validity and reliability of research instrument. An internal consistency technique for reliability and by determining the Cronbach's alpha value for each item in each variable will be carried out. This study pre-tested the questionnaire on 11 manufacturing and value-added firms outside the targeted population who comprised of 10% of the targeted sample size as is in line with Kothari (2004). He suggests that for a sample size between  $0 < n < 100$ , pre-testing 10% of the questionnaires is ideal to serve validity and reliability purposes of the data collection tool.

### 3.6 Data Analysis and Presentation

Data analysis refers to summarization of collected data. Analysis of collected data can be interpreted through the use of analytical and logical reasoning to determine patterns, relationships or trends according to Ali & Bhaskar (2016). This study employed the use of descriptive statistics to present data through tables and percentages to describe the relationship that exists between the dependent and independent variables on effect of financing determinants on capital structure for manufacturing and value-added firms in Nairobi City County. SPSS statistical software suite was used to analyze and present data. Inferential statistics was used to evaluate the data through regression and correlation.

## 4. RESEARCH FINDINGS AND DISCUSSION

### 4.1 Response Rate

The researcher self-administered 153 questionnaires to the targeted manufacturing companies in Nairobi County. A total of 112 manufacturing firms responded by correctly filling in the questionnaire and returning it to the researcher. This represented a 73% response rate which was considered satisfactory for the study. The remaining 27% accounted for questionnaires not filled, the management not willing to disclose their firm's capital structure decisions data or those not filled within the stipulated time. Mugenda and Mugenda (2003) concluded that a response rate of 70% and above is sufficient for a study. This, therefore, shows that the response rate was satisfactory to the study.

### 4.2 Pilot Study Results

In line with primary data collection procedures, the researcher conducted a pre-study on eleven manufacturing firms to subject the data collection instruments and gauge their reliability. To establish the content validity of instruments (questionnaires), the researcher applied the expert rating method.

#### 4.2.1 Reliability Test

**Table 4.1: Reliability Statistics**

Variable	N <sup>o</sup> of Items	Cronbach's Alphas
Profitability	6	0.778
Liquidity	6	0.912
Comparative Parity	4	0.976
Corporate Taxes	4	0.897
Overall Reliability	20	0.860

*Source: Research Data (2022)*

#### 4.2.2 Validity Test

**Table 4.2: Validity Statistics**

Experts	N <sup>o</sup> of Items	Valid Items	Fractions (CVI)
Rater One	20	18	0.85
Rater Two	20	18	0.85

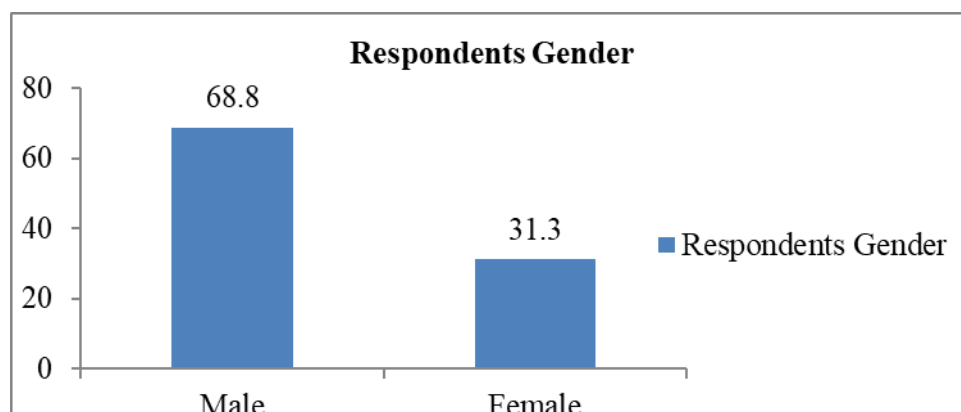
*Source: Research Data (2022)*

#### 4.3 Demographic Information

The respondents were asked to provide information concerning gender, age brackets, education levels, and the period of the manufacturing firm's operation. The findings of the study are indicated in the subsequent sections.

##### 4.3.1 Respondent's Gender

From the targeted population and sample size, the study engaged a total of 112 respondents. Put this, 77 were male while 35 were female which represented 68.8% and 31.3% respectively. Figure 4.1 shows the respondents gender distribution.

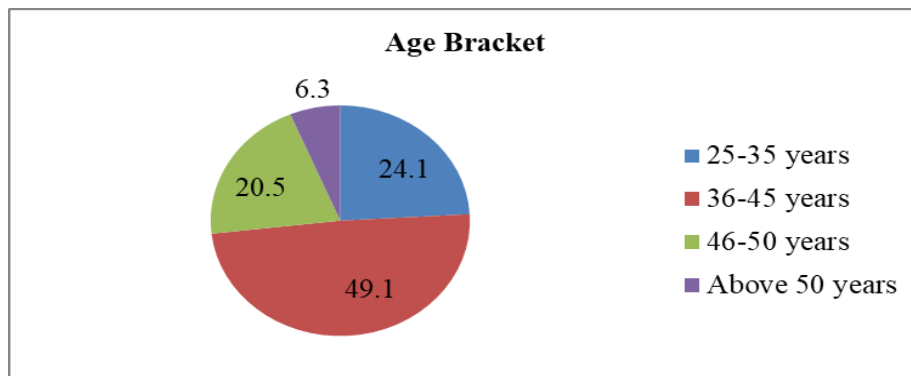


**Figure 4.1: Respondents Gender**

*Source: Research Data (2022)*

##### 4.3.2 Age Bracket

As shown on figure 4.2, the study examined the various age brackets of the respondents that the questionnaires were administered to. Employees within the age of 25-35 years were 24.1%, 36-45 years were 49.1%, 46-50 years were 20.5%, and those above 50 years comprised of 6.3%. As such, majority of the respondents fell between the ages of 36 to 45 years as shown in figure 4.2.

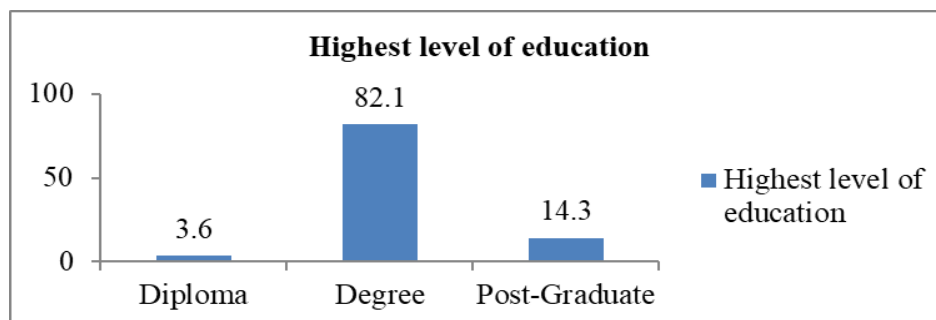


**Figure 4.2 Respondents Age Brackets**

*Source: Research Data (2022)*

#### 4.3.3 Highest Level of Education

For the education levels, the respondents were required to indicate whether their highest education levels fell within three categories i.e., diploma, degree or post-graduate. From the study, 4 respondents (3.6%) attained diploma as the highest qualification level, 92 respondents (82.1%) attained degree, and 16 respondents (14.3%) attained post-graduate levels of education. The summary is presented in figure 4.3.

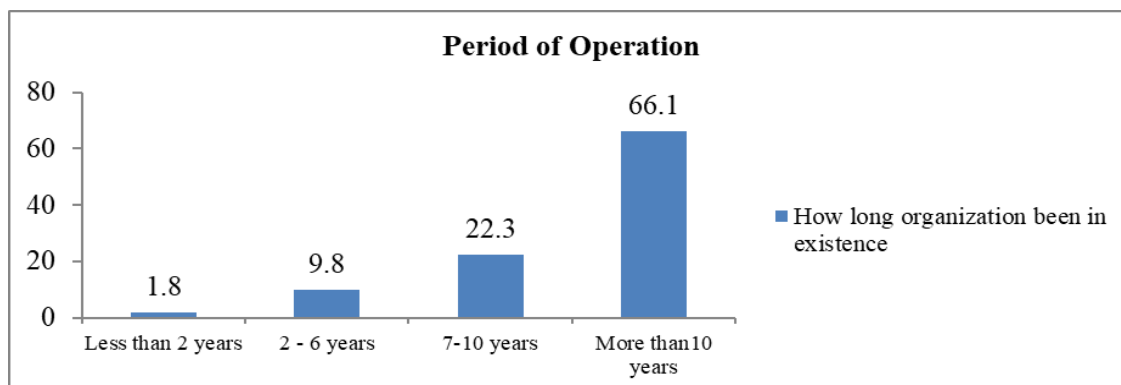


**Figure 4.3: Respondents Highest Levels of Education**

*Source: Research Data (2022)*

#### 4.3.4 Period of Operation

The respondents were further asked to indicate the period of existence for the respective manufacturing firms. Two respondents (1.8%), 11 respondents (9.8%), 25 respondents (22.3%), and 74 (66.1%) respondents indicated their companies having existed for less than two years, two to six years, seven to ten years, and more than ten years respectively. These statistics are summarized in figure 4.4.



**Figure 4.4: Length of Stay in the Organization**

*Source: Research Data (2022)*



#### 4.4 Descriptive Statistics

##### 4.4.1 Profitability Adoption

**Table 4.3: Profitability Adoption**

Profitability Adoption	Mean	Std. Deviation
The firm's retained profits have increased the debt equity ratio	3.61	.775
The firm's retained profits have increased premium to access financing of long-term debt of the bank	3.58	.743
Return on equity has led to adequate capital structure of the firm	3.63	.673
Earnings per share has enhanced the capital structure of the firm	3.56	.745
The profitability of the firm has an effect on the debt equity and capitalization ratios of the firm	3.56	.757

Source: Research Data (2022)

##### 4.4.2 Liquidity Adoption

**Table 4.4: Liquidity Adoption**

Liquidity Adoption	Mean	Std. Deviation
Excessive stocks place a heavy burden on the cash resources of a business	2.87	.850
Holding a high level of Short-term Liabilities, STL, negatively affected the capital structure of the firm	2.87	.885
Experience in liquidity management positively affected the firm's capital structure decisions	2.86	.847
Holding a high level of Net Liquid Assets, NLA, positively affects the firm's capital structure decisions	2.93	.835
The liquidity ratio affects the firm's capital structure of the firm	2.88	.814

Source: Research Data (2022)

##### 4.4.3 Competitive Parity Adoption

**Table 4.5: Competitive Parity Adoption**

Competitive Parity Adoption	Mean	Std. Deviation
My firm advertising intensity generates additional future cash flow and improve shareholder value	1.99	.822
Corporate branding strategy associates positively with capital structure decisions	2.05	.858
My firm has improved value appropriation through competitive advertising strategies	2.10	.870

Source: Research Data (2022)

##### 4.4.4 Corporate Taxes Adoption

**Table 4.6: Corporate Taxes Adoption**

	Mean	Std. Deviation
With high tax rate, the firm uses more debt and has more income to shield from tax	3.25	.885
The firm will take more debt when debt tax shields are high	3.24	.862
Tax policies have affected the ability of my firm to employ the use of debt in financing operations	3.31	.817

Source: Research Data (2022)

#### 4.5 Diagnostic Tests

##### 4.5.1 Test of Multicollinearity

Multicollinearity measures the extent of correlation underlying study variables. To determine if the study variables are correlated, the Variance Inflation Factor (VIF) is applied where a VIF of 1 signifies no correlation, values between 2 to 5 indicate moderate correlation while values of 5 and above indicate existence of high correlation (Kalnins, 2018). Where high multicollinearity exists, achieving the study objectives may become problematic. Table 4.7 provides the summary of VIF between the respective study variables. Extent of profitability usage, extent of liquidity usage, extent of competitive parity usage, and extent of corporate taxes usage had VIFs of 1.031, 1.048, 1.072, and 1.039 respectively. Since the VIF values were all of 1, the variables are said to have low correlation which is sufficient for a scientific study.

**Table 4.7: VIF Test for Multicollinearity**

Model	Coefficients of Std. Error	Standardized Coefficients Beta	Sig.	Collinearity Statistics	
				Tolerance	VIF
(Constant)	0.231		0.008		
Extent of profitability usage	0.044	0.462	0.000	0.970	1.031
Extent of liquidity usage	0.040	0.317	0.000	0.954	1.048
Extent of competitive parity usage	0.043	0.050	0.401	0.933	1.072
Extent of corporate taxes usage	0.039	0.513	0.000	0.963	1.039

a. Dependent Variable: Capital Structure

*Source: Research Data (2022)*

##### 4.5.2 Test for Independence of Errors

**Table 4.8: Durbin Watson Test for Independence of Errors**

Model	R	R-Square	Std. Error of the Estimate	Change Statistics	
				Sig. F-Change	Durbin-Watson
1	0.802 <sup>a</sup>	0.644	0.364	0.000	1.93

a. Predictors: (Constant), Profitability, Liquidity, Competitive Parity, Corporate Taxes

b. Dependent Variable: Capital Structure

*Source: Research Data (2022)*

##### 4.5.3 Karl Pearson Correlation Coefficient

**Table 4.9: Karl Pearson Correlation Matrix**

Variables	Capital Structure	Profitability	Liquidity	Competitive Parity	Corporate Taxes
Capital Structure	1.000	0.507	0.315	0.144	0.590
Profitability	0.507** (0.000)	1.000	-0.061	-0.084	0.133
Liquidity	0.315** (0.000)	-0.061 (0.262)	1.000	0.210	0.031
Competitive Parity	0.144** (0.066)	-0.084 (0.188)	0.210 (0.013)	1.000	0.128
Corporate Taxes	0.590** (0.000)	0.133 (0.081)	0.031 (0.372)	0.128 (0.089)	1.000

\*\*Correlation is significant at the 0.05 level (2-tailed test)

*Source: Research Data (2022)*

#### 4.6 Inferential Statistics Analysis

To examine the effect of profitability, liquidity, competitive parity, and corporate taxes on capital structure of manufacturing and value-addition firms in Nairobi County, this study applied inferential statistics analysis of simple regression analysis and multivariate regression analysis

#### 4.6.1 Univariate Regression Analysis and Results for Respective Independent Variables

The goal of the univariate regression analysis was to determine the relationship and distinct effect of each variable on the dependent variable. According to the study objectives, the next sections describe model summary of variables, analysis of variance, and regression coefficients.

##### 4.6.1.1 Profitability and Capital Structure

To establish the effect of profitability on capital structure of manufacturing and value-addition firms in Nairobi County, a univariate analysis was conducted. The study aimed at answering the following question on this variable;

**Q1:** What is the effect of profitability on capital structure for manufacturing and value-addition firms in Nairobi County?

Table 4.10 provides the summary for the effect of profitability on capital structure of manufacturing and value-addition firms, with an R-square of 0.931. The R-square represent the coefficient of determination between profitability and capital structure. The results show that profitability contributed 93.1% of the capital structure decisions of manufacturing and value-addition firms in Nairobi County.

**Table 4.10: Model Summary of Profitability and Capital Structure**

Model	R	R-Square	Adjusted R Square	Std. Error of the Estimate
1	0.965 <sup>a</sup>	0.932	0.931	0.198

a. Predictors: (Constant), Profitability

*Source: Research Data (2022)*

At 95% confidence level, variances tests were conducted to establish the significance of profitability in affecting the capital structure decisions of manufacturing and value-addition firms in Nairobi County. From table 4.11, the observed significance level was 0.000 which was less than the study's 5% ( $p=0.000 < 0.05$ ). The p-value as such, showed that the regression model was adequate in determining the causal relationship between profitability and capital structure decisions.

**Table 4.11: ANOVA for Profitability and Capital Structure**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59.232	1	59.232	1504.65	.000 <sup>b</sup>
	Residual	4.330	110	0.039		
	Total	63.562	111			

a. Dependent Variable: Capital Structure

b. Predictors: (Constant), Profitability

*Source: Research Data (2022)*

From table 4.12, the firms' capital structure had a constant value of 0.326, holding the profitability variable constant. Profitability registered a correlation coefficient of 0.965 denoting a strong positive relationship between profitability and capital structure decisions of manufacturing and value-addition firms. The beta coefficient means that a unit increase in profitability would result in an increase in the capital structure of these firms by 0.965. Table 4.12 further shows that profitability had a significance of 0.000 which was less than 0.05 significance level at which the tests were conducted. These results therefore mean that profitability has a statistically significant effect on the capital structure decisions of manufacturing and value-addition firms in Nairobi County. The findings are consistent with those of Mujiatun *et al.* (2021) that revealed a direct statistically significant effect of profitability on asset structure of Indonesia manufacturing firms.

The resultant profitability regression equation was as follows;

$$y_1 = B_{01} + B_{11}x_1 + \varepsilon_1$$

$$y = 0.326 + 0.965x_1$$

Where;

y = capital structure

X<sub>1</sub> = profitability

**Table 4.12: Coefficients for Profitability and Capital Structure**

Model		Unstandardized Coefficients Beta	Std. Error	Standardized Coefficients Beta	Sig.
1	(Constant)	0.326	0.086		0.000
	Profitability	0.920	0.024	0.965	0.000

a. Dependent Variable: Capital Structure

*Source: Research Data (2022)*

#### 4.6.1.2 Liquidity and Capital Structure

To establish the effect of liquidity on capital structure of manufacturing and value-addition firms in Nairobi County, a univariate analysis was conducted. The study aimed at answering the following question on this variable;

**Q2:** What is the effect of liquidity on capital structure for manufacturing and value-addition firms in Nairobi County?

Table 4.13 provides the summary for the effect of liquidity on capital structure of manufacturing and value-addition firms, with a R-square of 0.877. The R-square represent the coefficient of determination between liquidity and capital structure. The results show that liquidity contributed 87.7% of the capital structure decisions of manufacturing and value-addition firms in Nairobi County, other factors held constant.

**Table 4.13: Model Summary of Liquidity and Capital Structure**

Model	R	R-Square	Adjusted R Square	Std. Error of the Estimate
1	0.936 <sup>a</sup>	0.877	0.876	0.287

a. Predictors: (Constant), Liquidity

*Source: Research Data (2022)*

At 95% confidence level, variances tests were conducted to establish the significance of liquidity in affecting the capital structure decisions of manufacturing and value-addition firms in Nairobi County. From table 4.14, the observed significance level was 0.000 which was less than the study's 5% ( $p=0.000<0.05$ ). The p-value as such, showed that the regression model was adequate in determining the causal relationship between liquidity and capital structure decisions.

**Table 4.14: ANOVA for Liquidity and Capital Structure**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	64.437	1	64.437	782.813	.000 <sup>b</sup>
	Residual	9.055	110	0.082		
	Total	73.491	111			

a. Dependent Variable: Capital Structure

b. Predictors: (Constant), Liquidity

*Source: Research Data (2022)*

From table 4.15, the firms' capital structure had a constant value of 0.418, holding the liquidity variable constant. Liquidity registered a correlation coefficient of 0.936 denoting a strong positive relationship between liquidity and capital structure decisions of manufacturing and value-addition firms. The beta coefficient means that a unit increase in liquidity would result in an increase in the capital structure of these firms by 0.936. Table 4.15 further shows that liquidity had a significance of 0.000 which was less than 0.05 significance level at which the tests were conducted. These results therefore mean that liquidity has a statistically significant effect on the capital structure decisions of manufacturing and value-addition firms in Nairobi County. The findings are consistent with those of Sari and Sedana (2020) that revealed a direct statistically significant effect of liquidity on firm value and capital structure.

The resultant profitability regression equation was as follows;

$$y_2 = B_0 + B_2x_2 + \epsilon$$

$$y = 0.418 + 0.936x$$

Where;

y = capital structure

X<sub>2</sub> = liquidity

**Table 4.15: Coefficients for Liquidity and Capital Structure**

Model		Unstandardized Coefficients		Standardized Coefficients	
		Beta	Std. Error	Beta	Sig.
1	(Constant)	0.418	0.092		0.000
	Profitability	0.852	0.030	0.936	0.000

a. Dependent Variable: Capital Structure

*Source: Research Data (2022)*

#### 4.6.1.3 Competitive Parity and Capital Structure

To establish the effect of competitive parity on capital structure of manufacturing and value-addition firms in Nairobi County, a univariate analysis was conducted. The study aimed at answering the following question on this variable;

**Q3:** What is the effect of competitive parity on capital structure for manufacturing and value-addition firms in Nairobi County?

Table 4.16 provides the summary for the effect of competitive parity on capital structure of manufacturing and value-addition firms, with an R-square of 0.676. The R-square represent the coefficient of determination between competitive parity and capital structure. The results show that competitive parity contributed 67.6% of the capital structure decisions of manufacturing and value-addition firms in Nairobi County.

**Table 4.16: Model Summary of Competitive Parity and Capital Structure**

Model	R	R-Square	Adjusted R Square	Std. Error of the Estimate
1	0.822 <sup>a</sup>	0.676	0.673	0.497

a. Predictors: (Constant), Competitive Parity

*Source: Research Data (2022)*

At 95% confidence level, variances tests were conducted to establish the significance of competitive parity in affecting the capital structure decisions of manufacturing and value-addition firms in Nairobi County. From table 4.17, the observed significance level was 0.000 which was less than the study's 5% ( $p=0.000 < 0.05$ ). The p-value as such, showed that the regression model was adequate in determining the causal relationship between competitive parity and capital structure decisions.

**Table 4.17: ANOVA for Competitive Parity and Capital Structure**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	56.727	1	56.727	229.473	.000 <sup>b</sup>
	Residual	27.193	110	0.247		
	Total	83.920	111			

a. Dependent Variable: Capital Structure

b. Predictors: (Constant), Competitive Parity

*Source: Research Data (2022)*



From table 4.18, the firms' capital structure had a constant value of 0.289, holding the competitive parity variable constant. Competitive parity registered a correlation coefficient of 0.822 denoting a strong positive relationship between competitive parity and capital structure decisions of manufacturing and value-addition firms. The beta coefficient means that a unit increase in competitive parity would result in an increase in the capital structure of these firms by 0.822. Table 4.18 further shows that competitive parity had a significance of 0.000 which was less than 0.05 significance level at which the tests were conducted. These results therefore mean that competitive parity has a statistically significant effect on the capital structure decisions of manufacturing and value-addition firms in Nairobi County, when examined independently. These results are consistent with those of Donohoe *et al.* (2029) that found low positive relationship between competitive parity and firm's capital structure

The resultant profitability regression equation was as follows;

$$y_3 = B_{03} + B_{33}x_3 + \varepsilon_3$$

$$y = 0.289 + 0.822x_3$$

Where;

y = capital structure

X<sub>3</sub> = competitive parity

**Table 4.18: Coefficients for Competitive Parity and Capital Structure**

Model		Unstandardized Coefficients		Standardized Coefficients	
		Beta	Std. Error	Beta	Sig.
1	(Constant)	0.289	0.128		0.026
	Profitability	0.851	0.056	0.822	0.000

a. Dependent Variable: Capital Structure

*Source: Research Data (2022)*

#### 4.6.1.4 Corporate Taxes and Capital Structure

To establish the effect of corporate taxes on capital structure of manufacturing and value-addition firms in Nairobi County, a univariate analysis was conducted. The study aimed at answering the following question on this variable;

**Q4:** What is the effect of corporate taxes on capital structure for manufacturing and value-addition firms in Nairobi County?

Table 4.19 provides the summary for the effect of corporate taxes on capital structure of manufacturing and value-addition firms, with an R-square of 0.841. The R-square represent the coefficient of determination between corporate taxes and capital structure. The results show that corporate taxes contributed 84.1% of the capital structure decisions of manufacturing and value-addition firms in Nairobi County.

**Table 4.19: Model Summary of Corporate Taxes and Capital Structure**

Model	R	R-Square	Adjusted R Square	Std. Error of the Estimate
1	0.917 <sup>a</sup>	0.841	0.840	0.327

a. Predictors: (Constant), Corporate Taxes

*Source: Research Data (2022)*

At 95% confidence level, variances tests were conducted to establish the significance of corporate taxes in affecting the capital structure decisions of manufacturing and value-addition firms in Nairobi County. From table 4.20, the observed significance level was 0.000 which was less than the study's 5% ( $p=0.000 < 0.05$ ). The p-value as such, showed that the regression model was adequate in determining the causal relationship between corporate taxes and capital structure decisions.

**Table 4.20: ANOVA for Corporate Taxes and Capital Structure**

Model		Sum of Squares	Degree of freedom	Mean Square	F	Sig.
1	Regression	62.317	1	62.317	583.591	.000 <sup>b</sup>
	Residual	11.746	110	0.107		
	Total	74.062	111			

a. Dependent Variable: Capital Structure

b. Predictors: (Constant), Corporate Taxes

*Source: Research Data (2022)*

From table 4.21, the firms' capital structure had a constant value of 0.622, holding the corporate taxes variable constant. Corporate taxes registered a correlation coefficient of 0.917 denoting a strong positive relationship between corporate taxes and capital structure decisions of manufacturing and value-addition firms. The beta coefficient means that a unit increase in corporate taxes would result in an increase in the capital structure of these firms by 0.917 units. Table 4.21 further shows that corporate taxes had a significance of 0.000 which was less than 0.05 significance level at which the tests were conducted. These results therefore mean that corporate taxes have a statistically significant effect on the capital structure decisions of manufacturing and value-addition firms in Nairobi County. These findings are consistent with those of Astuti (2018) that revealed high corporate taxes motivate firms to opt for debt financing as it is not taxed heavily instead of the equity financing.

The resultant profitability regression equation was as follows;

$$y_4 = B_0 + B_3 X_4 + \varepsilon_4$$

$$y = 0.622 + 0.917 X_4$$

Where;

y = capital structure

X<sub>4</sub> = corporate taxes

**Table 4.21: Coefficients for Corporate Taxes and Capital Structure**

Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		Beta	Std. Error	Beta	
1	(Constant)	0.622	0.116		0.000
	Profitability	0.832	0.034	0.917	0.000

a. Dependent Variable: Corporate Taxes

*Source: Research Data (2022)*

#### 4.6.2 Multivariate Regression Analysis and Results

##### 4.6.2.1 Multivariate Regression Analysis

The multivariate regression analysis was conducted to establish the combined effect of the financing determinants on the capital structure decision of the manufacturing and value-added firms in Nairobi County. The regression analysis therefore, tested the effect of profitability, liquidity, competitive parity and corporate taxes on the capital structure of manufacturing and value-addition forms in Nairobi County. The tests were conducted at 5% confidence level where if the p<0.05, the respective variable was considered as statistically significant in affecting the capital structure decision of the manufacturing and value-addition firms in Nairobi County.

Table 4.22 provides the summary for the effect of financing determinants on capital structure of manufacturing and value-addition firms, with an R-square of 0.644. The R-square represent the coefficient of determination between the financing determinants and capital structure. The results show that financing determinants collectively contributed 64.4% of the capital structure decisions of manufacturing and value-addition firms in Nairobi County.

**Table 4.22: Model Summary for Financing Determinants and Capital Structure**

Model	R	R-Square	Adjusted R Square	Std. Error of the Estimate
1	0.802 <sup>a</sup>	0.644	0.631	0.364

a. Predictors: (Constant), Profitability, Liquidity, Competitive Parity, Corporate Taxes

*Source: Research Data (2022)*

At 95% confidence level, variances tests were conducted to establish the significance of financing determinants in affecting the capital structure decisions of manufacturing and value-addition firms in Nairobi County. From table 4.23, the observed significance level was 0.000 which was less than the study's 5% ( $p=0.000<0.05$ ). The p-value as such, showed that the regression model was adequate in determining the causal relationship between corporate taxes and capital structure decisions.

**Table 4.23: ANOVA for Financing Determinants and Capital Structure**

Model		Sum of Squares	Degree of freedom	Mean Square	F	Sig.
1	Regression	25.575	4	6.394	48.383	.000 <sup>b</sup>
	Residual	14.140	107	0.132		
	Total	39.714	111			

a. Dependent Variable: Capital Structure

b. Predictors: (Constant), Profitability, Liquidity, Competitive Parity, Corporate Taxes

*Source: Research Data (2022)*

From table 4.24, the firms' capital structure had a constant value of 0.628, holding the financing determinants constant. Profitability, liquidity, competitive parity, and corporate taxes registered correlation coefficients of 0.462, 0.317, 0.050, and 0.513 respectively. From the statistics obtained, all the variables registered positive correlation with the dependent variable, with the competitive parity being the weakest influencer of the capital structure decisions of manufacturing and value-addition firms in Nairobi County at just 0.050 coefficient of correlation.

Table 4.24 further shows that profitability had a significance of 0.000 which is less than the 5% significance level at which tests were conducted ( $p= 0.000<0.05$ ). This statistic showed that profitability was statistically significant in affecting capital structure decision of manufacturing and value-addition firms. Therefore, the study concluded that profitability directly and positively affects the capital structure decision of manufacturing and value-addition firms in Nairobi County.

Moreover, table 4.24 shows that liquidity had a significance of 0.000 which is less than the 5% significance level at which tests were conducted ( $p= 0.000<0.05$ ). This statistic showed that liquidity was statistically significant in affecting capital structure decision of manufacturing and value-addition firms. Therefore, the study concluded that liquidity directly and positively affects the capital structure decision of manufacturing and value-addition firms in Nairobi County.

From table 4.24, the competitive parity registered a correlation coefficient of 0.401 which was more than the 5% significance level at which tests were conducted ( $p= 0.401>0.05$ ). Thus, outcome showed that competitive parity was statistically insignificant in affecting capital structure decisions of manufacturing and value-addition firms in Nairobi County. The study, therefore, established that competitive parity does not affect the capital structure decisions of manufacturing and value-addition forms in Nairobi County.

Additionally, table 4.24 shows that corporate tax had a significance of 0.000 which is less than the 5% significance level at which tests were conducted ( $p= 0.000<0.05$ ). This statistic showed that corporate tax was statistically significant in affecting capital structure decision of manufacturing and value-addition firms. Therefore, the study concluded that corporate tax directly and positively affected the capital structure decision of manufacturing and value-addition firms in Nairobi County.

The resultant financing determinants regression equation was as follows;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon_4$$

$$Y = 0.628 + 0.462X_1 + 0.317X_2 + 0.050X_3 + 0.513X_4$$

Where;

Y= Capital Structure

X<sub>1</sub> = Profitability

X<sub>2</sub> = Liquidity

X<sub>3</sub>= Competitive Parity

X<sub>4</sub>= Corporate Taxes

**Table 4.24: Coefficients of Financing Determinants and Capital Structure**

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.628	.231		2.718	.008
	Profitability	.348	.044	.462	7.891	.000
	Liquidity	.212	.040	.317	5.364	.000
	Competitive Parity	.036	.043	.050	.843	.401
	Corporate Taxes	.341	.039	.513	8.719	.000

a. Dependent Variable: Capital Structure

*Source: Research Data (2022)*

## 5. SUMMARY, CONCLUSION AND RECOMMENDATION

### 5.1 Summary of the Study

The current study stemmed from the realization of the research problem in literature effect of financing determinants on capital structure for manufacturing and value-added firms. Empirically most of the studies on the effect of financing determinants on capital structure for manufacturing and value-added firms have been skewed towards use of primary data and only specific on capital structure for manufacturing and value-added firms had been evaluated. Among the several studies which had been done in the Kenyan perspective majority have not examined the causal joint effect of financing determinants on capital structure for manufacturing and value-added firms. The general objective of this study was to establish the effect of financing determinants on capital structure for manufacturing and value-added firms in Nairobi City County. The specific objectives were; to analyze the effect of profitability on capital structure for manufacturing and value-added firms, to identify how levels of liquidity of a firm determines capital structure, to investigate how corporate taxes contribute to capital structure for manufacturing and value-added firms and to establish how competitive parity among manufacturing and value-added companies influence capital structure. The study reviewed theories that are relevant to the study. These theories included Capital irrelevancy theory, pecking order theory, Modigliani and Miller (1958) without Corporate Taxes, Modigliani and Miller with Corporate Taxes (1963) and competitive advantage theory. The research design, the research population, sample and sampling, data collection methods, and the data presentation and analysis will be elaborated in this study. The study used descriptive research design and inferential research design. The study's target population was 256 manufacturing and value-addition firms in Nairobi from which a sample of 112 was used. Primary data used which was collected through self-administered questionnaires. Data analysis was done through Statistical Package for Social Science (SPSS) Version 25. Descriptive statistics included bar graphs, pie charts, means, standard deviations and percentages. Inferential statistics included Pearson Correlation and regression analysis. The study revealed that profitability had a positive significant effect on capital structure of manufacturing and value-addition firms in Nairobi County ( $\beta=0.462$ ,  $p=0.000$ ). Liquidity had a positive significant effect on capital structure of manufacturing and value-addition firms in Nairobi County ( $\beta=0.317$ ,  $p=0.000$ ). Competitive parity had a zero insignificant effect on capital structure of manufacturing and value-addition firms in Nairobi County ( $\beta=0.050$ ,  $p=0.401$ ). Corporate taxes registered a positive significant relationship with capital structure of manufacturing and value-addition firms in Nairobi

County ( $\beta=0.513$ ,  $p=0.000$ ). The overall regression analysis revealed that financing determinants have a statistically significant effect on capital structure of manufacturing and value-addition firms in Nairobi County (R-square= 0.644,  $p=0.000$ ). The study recommends for an increase in the scope for future studies to cover the Kenyan manufacturing and value-addition sector as a whole

## 5.2 Conclusion of the Study

In examining the effect of financing determinants on capital structure of manufacturing and value-addition firms in Nairobi County, the study concluded that profitability was statistically significant in explaining the capital structure decision of the analyzed firms. Profitability formed an integral part in the determination of capital structure of these firms, since the higher the profits, the more the firms were able to access debt capital and reduced their appetite for the equity capital to avoid dilution of shareholding. Therefore, profitability greatly affects the capital structure decisions of the manufacturing and value-added firms in Nairobi County.

Moreover, the study concluded that liquidity had a statistically significant effect on the capital structure of manufacturing and value-addition firms. Liquidity, which relates to the ease of a firm meeting its obligations, played a role in the capital structure formation of the studied firms. Firms that had adequate liquidity positions were considered viable with going concern which in turn resulted in ease of capital acquisition i.e., through borrowing. Fund providers were motivated to provide debt to the firms that maintained adequate liquidity ratios, thus resulting in better capital structure position of the manufacturing and value-addition firms in Nairobi County.

On the other hand, the study revealed that the competitive parity was statistically insignificant in affecting the capital structure decision of the analyzed firms. According to the analysis, competitive parity played no significant role in determining the capital structure of manufacturing and value-addition firms in Nairobi County. This result therefore, means that irrespective of the strategy deployed by the firms to acquire a competitive advantage, such efforts had minimum effect in determining the capital structure composition of the studied firms.

Additionally, the study revealed that corporate taxes were statistically significant in affecting the capital structure of the studied firms. The corporate taxes greatly determined the capital structure composition of the manufacturing and value-addition firms in Nairobi County. With high tax rates, manufacturing and value-addition firms studied preferred to go for debt-financing rather than equity financing. This move is informed by the underlying tax-shield enjoyed by debt-financing, thus resulting in high portion of firms' capital structures. Hence, manufacturing and value-addition firms prefer debt financing to equity financing due to the lack of taxation on such sources, hence forming the greater part of the capital structure of these firms.

Generally, the study concluded that financing determinants statistically and significantly affect the capital structure decisions of the manufacturing and value-addition firms in Nairobi County. These findings are consistent with those of Santhosh & Bindu (2021) that revealed a statistically significant relationship between the variables. The respective financing determinants collectively influence the capital structure composition of the manufacturing and value-addition firms, dictating on whether debt-financing or equity-financing should be used. The analysis revealed that debt-financing was the leading funding method affected by the financing determinants due to benefits such as lack of ownership dilution as explained by the profitability variable, tax-shield as explained by the corporate taxes' variable, and going-concern as explained by the liquidity variable.

## 5.3 Recommendations

### 5.3.1 Management Recommendations

The study found that profitability positively affects the capital structure decisions of manufacturing and value-added firms in Nairobi City County represented by a beta factor of 0.462. This means that when sourcing for additional capital, the firms' profitability plays a key role where firms with sustainable profitability access additional funding with ease, with debt capital being the leading source. This study therefore, recommends that management of manufacturing and value-added firms in Nairobi County should ensure sustainable operations to enable access to debt capital from financing institutions with ease. Equity capital is however, not attractive even with high profit margins due to underlying limitations such as dilution of control and reduction of shareable revenues.



Moreover, the study found that there is a positive relationship between liquidity and capital structure of manufacturing and value-addition firms in Nairobi County, represented by a beta coefficient of 0.317. With adequate liquidity positions demonstrated by the firm's ability to pay its obligations, the firms were able to access additional capital in form of equity and debt due to the going-concern. This study therefore, recommend that management of the manufacturing and value-added firms in Nairobi County should stick to the recommended liquidity levels such as liquidity ratios above 1 by striking a balance between their current assets and current liabilities to attract investors of equity and debt providers.

Between competitive parity and capital structure, the study found no correlation as demonstrated by a beta coefficient of 0.05. This statistic indicates that irrespective of the competitive strategy adopted by the respective manufacturing and value-addition forms, the decision will not influence the capital structure of the analyzed firms. The study therefore, recommends that managements of the manufacturing and value-addition firms in Nairobi County should not focus on their competitive positions as a financing determinant since the component neither attracts equity capital nor debt capital.

Corporate taxes registered the highest positive correlation with capital structure of manufacturing and value-addition firms in Nairobi County, with a beta coefficient of 0.513. This statistic indicates that the higher the taxes, the more firms will opt for the debt financing as opposed to equity since debt capital enjoys tax-shield. The study therefore recommends that with increased taxation by the government of Kenya on the manufacturing sector, the firms can avoid going into financial crisis by negotiating with debt providers favorable debts arrangements to enable them access these funding that are not taxed and as such, only pay the agreed interest after a govern period.

### 5.3.2 Policy Recommendation

The Firms under study are regulated by the Kenya Manufacturing Association (KMA), thus study recommends that the association should issue guiding policies to its members to enable them restructure their financing determinants in the categories of profitability, liquidity, competitive parity and corporate taxes. The association should adopt universally accepted guidelines on the operation of the firms to enable them enjoy unrestricted access to capital. Additionally, it is recommended that the association should on behalf of the member companies; negotiate with the government on favorable policies such as tax rates to enable the firms continue with operations in the long-run, as exhibited by their ability to access capital resources.

### 5.4 Suggested Areas for Further Research

This study was limited to the manufacturing and value-addition firms in Nairobi that was used as a case study to generalize findings. To achieve maximum accuracy in the findings, it suggested that a similar study be undertaken in the entire Kenyan economy to determine if the findings in Nairobi County are the same as the whole of the Kenyan manufacturing and value-addition sector. Additionally, the study was restricted to the financing determinants that affect the capital structure of manufacturing and value-addition firms in Nairobi County. It is therefore suggested that other external factors that affect capital structure of firms such as regulatory, interest rates inflation, and investors' attitude be studied in detail for the manufacturing and value-addition firms not only in Nairobi County, but also in the entire Kenyan economy.

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