THE RELATIONSHIP BETWEEN DIVERSIFICATION STRATEGIES AND CAPITAL STRUCTURE OF NON-FINANCIAL FIRMS LISTED AT THE NSE

BY

STELLA MWENDE NZIOKA

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A RESEARCH DISSERTATION PRESENTED TO THE SCHOOL OF BUSINESS AND PUBLIC MANAGEMENT KCA UNIVERSITY NAIROBI IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MSC COMMERCE (FINANCE AND INVESTMENT)

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DECLARATION

I, Stella Mwende Nzioka, hereby submit my research project for examination, entitled "The Relationship between Diversification Strategies and Capital Structure of Non-Financial Firms Listed at The NSE" and truthfully declare that the above-titled paper is a product of my original research investigation and has not been presented for a degree award in any other institution

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_____

Stella Mwende Nzioka

Registration No. 12/01530

APPROVAL

This Management Research Dissertation prepared and submitted by Stella Mwende Nzioka in partial fulfillment of requirements for the degree of Master of Science – (Finance and Investment) has been approved by us as University supervisors:

_____

Dr. Duncan Elly Ochieng' PhD, CIFA

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To my family and friends, thank you!

DEDICATION

I dedicate this dissertation to my loved ones for their support and encouragement.

ABSTRACT

Diversification is one significant method that firms use to maintain their competitiveness and enhance their profitability. Firms seek diversification strategy in order to achieve value creation through economies of scope, financial economies, or market power. This study was carried out with an aim to analyze the effect of diversification strategies on capital structure of non-financial firms listed at NSE. The study focused specifically on analyzing the effect of product (related and unrelated) and geographical diversification on capital structure.

An exploratory study design was used to collect data, with the population of the study being 64 firms listed in NSE. Out of the 64 firms, 47 non-financial firms were selected as the sample of the study. Data was collected from secondary sources, NSE and capital market authority. Data collected was analyzed through STATA by the use of panel data regression analysis. Co-efficient of determination and F- value was used to interpret the data with the results presented through frequency tables.

The study found that related product diversification strategies and unrelated product diversification strategies have a positive and significant influence on capital structure decisions of non-financial firms listed at NSE. However, geographical diversification strategies had no significant influence on capital structure decisions of non-financial firms listed at NSE. Related diversification helps a company to expand to new products and markets but within the existing strategic capability. The study results show that debt is the most preferred form of financing in related product diversification strategies. Unrelated diversifiers have a better position to create financial synergies by transferring capital across different businesses and through operating various businesses with different risk profiles. The findings of this study show that debt is the most preferred form of financing in unrelated product diversification strategies. Geographical diversification boosts the worth of shareholders by taking advantage of specific assets and by accelerating functioning flexibility. This study recommends that firms can increase their market power through increasing their new products and markets, which can be financed though debt financing. In addition, the management of firms should strive towards having optimum capital structure by increasing their equity level and reducing dependence on debts so as to avoid being cash strapped and debt ridden. This is because, beside equity holders providing funding, they could be helpful by bringing in their business experiences, skills, and contacts to grow the business. This study also recommends that firms focus on geographic diversification as it has advantages such as lower cost of production, but it should not be financed through debt or equity.

Key Words: Diversification, Capital structure

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ABBREVIATIONS

AT	-	Agency Theory
DC	-	Domestic Companies
MNCs	-	Multinational Corporations
NSE	-	Nairobi Stock Exchange

CHAPTER ONE

INTRODUCTION

1.1 Background

Diversification was originally developed as one of the basic research axis in strategic management. Diversification is defined as an increase in the number of industries a business participates in. Hence diversification implies a firm moving into a number of markets (sectors, industries, or segments) it was not previously engaged in. By adopting diversification, firms are presented with decisions that affect their capital structures.

The capital structure decision of a firm is an issue that has raised questions on the balance of debt and equity in the capital structure. Capital refers to the percentage of capital at work in any firm thus capital structure can be explained as a mix of long-term debt (including bonds and loans), equity (common and preferred stock) and hybrid securities (such as convertible debt and preferred shares). Given the fact that capital structure decisions emphasize on a combination of debt and equity to finance a firm, any financial decision taken by a firm in regard to capital structure, determines the maximization value for any firm (La Rocca, et al., 2009)

The effect of diversification on capital-structure choices has been explained mostly through the coinsurance effect, the transaction cost theory, and by applying the agency cost theory. The coinsurance effect deals with the reduction of operating risk, due to the imperfect correlation between the different cash flows of a firm running diverse businesses (Qureshi, 2009). It is more relevant for firms that develop unrelated diversification strategies because the lack of correlation between businesses is greater: these firms should be able to assume more debt. Transaction cost theory supposes that companies try to minimize the costs of transacting with the environment and that they also try to minimize the bureaucratic costs of transacting within the company.

Relevant distinction has been given between public and private equity, with literature suggesting that listed companies have dispersed shareholders thus an easier access to funding though with increased exposure to agency problems. Non listed

companies on the other side are faced with more difficulties in raising capital. Non listed companies experience more difficulties in raising large amount of funds to finance expansion, because of a higher cost of capital, but should take advantage of an enduring stakeholders' commitment and of a closer monitoring of professional management. Thus listed and non-listed firms have diversification strategies which them differently (Capasso*et al* (2005)

1.1.1 Diversification Strategy

Diversification is defined as the entry of a firm into new lines of activities either by the process of internal expansion or by acquisition. It is also defined as the process by which firms extend or grow the range of their businesses, outside those countries in which they are currently engaged. This definition encompasses the directions of diversification, which include vertical and horizontal integrations (Chkir & Cosset, 2001).

A diversified firm can therefore be considered to have operations in more than a single industry (Ibrahim & Kaka, 2007). Diversification increases the range of a firm's investment opportunities, as it enables a company to take advantage of the more profitable opportunities in sectors of the economy, in which it previously had no activities (Ibrahim and Kaka, 2007). Diversification strategies may take the following seven categories; single business, related vertical, related constrained, related linked-unrelated, related constrained, related linked, and unrelated business (Singh et al., 2003).

1.1.2 Capital Structure

It may be defined as the mix of debt and equity instruments which are used to finance a firm's assets from the capital structure. The mix comprises of common stock, debt and preferred stock and it is different for each firm. Managers of a firm have a big challenge of choosing the optimal capital structure, which is the mix of securities that minimizes the cost of financing the firm's activities and thereby maximizes the value of the firm (Ajay & Madhumathi, 2012). Enow (2010) describes optimal capital as the capital structure with a minimum weighted cost of capital and thereby maximizes the value of the firm's stock, one in which the share price is maximized.

A firm's capital structure can have significant implications on a firm's operations; it can both create opportunities and also impose limitations for the firm (Chen & Low, 2004). False capital structure decisions, may lead to financial distress and eventually to bankruptcy hence management of a firm sets its capital structure in a way that the firm's value is maximized. While debt financing is beneficial to firms because it can lower the firm's overall cost of capital and helps shield some income from taxes, it also poses a risk because failure to make periodic interest and loan payments can lead to financial distress and bankruptcy (Poddar & Mittal, 2014).

A capital structure is considered to be good when it consequently results in a fall in the cost of capital. The main advantages of debt are that it contains less risk for the investors than equity also its interests have a tax advantage. Conversely it also has disadvantages for instance it increases the variance of earnings which provokes the investors to ask for greater returns. Also it increases the cost of financial distress which may be considerable if a firm uses debt often (Markopoulou & Papadopoulos, 2008). Enow (2010) argued that in contrast to debt financing, equity financing does not require direct obligation from the firm to repay funds. Instead, equity investors become part of the owners in the business, and thus are able to exercise some degree of control of the firm.

1.1.3 Relationship between Corporate Diversification and Capital Structure

The effects of product diversification and geographical diversification can be explained through the co-insurance effect. Co-insurance effect is a corporate debt theory that suggests that firms can reduce risk by diversifying their activities. The reduced risk helps to boost a firm's debt capacity thereby signifying a positive relationship between leverage and the degree of diversification (Apostu, 2010). Qureshi (2009) argued that aggregating business segments that have imperfectly correlated cash flow streams reduces the variability of earnings for the combined firm.

By increasing a magnitude of insurance pool through geographical or product diversification, expected losses become more predictable and earnings volatility can be reduced. Singh et al. (2002) extended this argument and showed theoretically that the co-insurance effect leads to an increase in the market value of the diversified firm's debt and an associated decline in the value of its equity. Banerjee & Dey (2011)

argue that debt capacity adds value to the firm; hence diversification increases firm value by increasing overall debt capacity.

1.1.4 Nairobi Stock Exchange

The Nairobi Securities Exchange (NSE) was constituted as Nairobi Stock Exchange in 1954 registered under societies act as a voluntary association of stockbrokers. A number of developments have transpired since inception, which include the automation of the trading in government bonds through the Automated Trading System (ATS) in 2009. The name was changed to Nairobi Securities Exchange in the year 2011 to reflect the strategic plan to evolve into a full service securities exchange which supported trading, clearing, settlement of equities, debt, derivatives and other related instruments.

Currently there are 64 companies listed on the NSE under its 11 segments, whereby the biggest segment is banking which has 12 firms. The other segments include: Agricultural (7), Commercial and Services (10), Telecommunication and Technology (1), Automobiles and Accessories (4), Insurance (6), Investment (3), manufacturing and Allied (9), Construction and Allied (5), Energy and Petroleum (5) as well as the Growth Enterprise Market Segment (GEMS) which has 3 firm listed after its launch in January, 2013. The NSE is the principal securities exchange of Kenya and it is licensed and regulated by the Capital Markets authority (CMA), a government regulator charged with licensing and regulating capital markets in Kenya. (www.nse.co.ke)

1.2 Problem Statement

Diversification is one significant method that firms use to maintain their competitiveness and enhance their profitability. Firms seek diversification strategy in order to achieve value creation through economies of scope, financial economies, or market power (Chen and Yu, 2012). Due to stiff competition and changes in the business environment, firms have been forced to review their corporate strategies. Diversification strategy is one of such strategies. However its effectiveness has been questioned and there are mixed results by researchers. It's not clear if diversification adds any value to an organization i.e. if diversified firms perform better than focused

firms (Rushin, 2006). It is also not clear whether diversification has a positive financial impact on firms.

There have been well established frameworks and theories established to understand the relationship. Globally, studies by Ajay and Madhumathi (2012) and Qureshi (2013) in India and Pakistan respectively have been carried out to analyze the relationship between diversification strategies and capital structures, albeit with a focus on non-financial firms more specifically on food and chemical in manufacturing industry. Chang & Wang (2007) also carried out a study on the effect of product diversification strategies on the relationship between geographical diversification and firm performance. Similarly Jandir & Funchal (2013) in a study in Brazil focused on the effect of diversification strategies on capital structure, more specifically on cross pledging among non-financial services. These studies were carried in a different context and its findings may not be applicable in the Kenyan context.

Locally, a study by Ongeri (2014) was carried out on firms listed at NSE on the impact of diversification strategies on capital structure and with a recommendation for further research to determine the impact of geographical diversification. Akinyi (2013) carried out a study to investigate the effect of income source diversification on the financial performance of commercial banks in Kenya. This study focused on financial firms, both listed and non-listed. With these research gaps identified; the study wished to fill the research gap by establishing the relationship between corporate diversification and capital structure of non-financial firms listed at the Nairobi Securities Exchange (NSE).

1.3 Objective of the Study

The objective of the study was to establish the relationship between corporate diversification and capital structure of non-financial firms listed in the Nairobi Securities Exchange.

1.3.1 Specific Objectives

a) To establish the influence of related product diversification strategies on capital structure decisions of non-financial firms listed at NSE.

b) To establish the influence of geographical diversification strategies on capital structure decisions of non-financial firms listed at NSE.
c) To determine the influence of unrelated product diversification on capital structure decisions of non-financial firms listed at NSE.

1.3.2 Research questions

a) Do related product diversification strategies influence capital structure decisions of non-financial firms listed at NSE?
b) How do geographical diversification strategies influence capital structure decisions of non-financial firms listed at NSE?
c) What is the impact of unrelated diversification strategies on capital structure decisions of non-financial firms listed at NSE?

1.4 Significance of the Study

The study would be important to the following groups:

Managers: Management of listed firms would benefit from independent analysis of the relationship between corporate diversification and capital structure. This would help managers in formulation and implementation of relevant corporate diversification strategies that uphold the desired capital structure.

Researchers: The study would contribute to the literature on corporate diversification and capital structure. It would provide valuable factual information and data that can form basis for study by Scholars who may be interested in furthering research on capital structure and corporate diversification which would result to supporting existing theories or initiating new arguments.

Government: Relevant government authorities, who formulate policies to guide companies and protect consumers, would benefit from important information the study would provide for this purpose.

Other Stakeholders; Other individuals or entities besides government, interested to know the value and effects of corporate diversification for their own use would find the research very useful. These include investors who would be enlightened on the

effects of diversification as a strategy. The general public would also understand better on the benefits of diversification to the economy.

1.5 Scope of the Study

The study analyzed the relationship between diversification strategies and capital structure of non-financial firms listed at the Nairobi Securities Exchange. The study covered six calendar years ranging from January 2010 to December 2015. The study was restricted to the following types of diversification strategies: product diversification and geographical diversification.

1.6 Assumptions in the study

The study assumed that the capital markets are efficient and not subject to market changes and fluctuations. And also the study assumes that effects of markets events are reflected immediately in the stock price and eventually in the capital structure.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The literature reviews studies on diversification strategies and capital structure theories. The literature further expounds on each of the main concepts employed in the study.

2.2 Theoretical Framework

There are a number of theories that have been used to explain capital structure decisions. A review of some of these theories is provided in the section below.

2.2.1 Co-insurance effect theory

This theory deals with reduction of operating risk caused by the imperfect correlation between the different cash flows of a firm running various businesses (Lewellen, 1971; Kim and Mcconnell, 1977). It's more relevant to firms that develop unrelated diversification strategies because the lack of correlation between businesses is greater.

These firms should be able to adopt more debt (Kim & McConnell, 1971 and Bergh, 1997). Lewellen (1971) concludes that mergers provide more debt capacity because the likelihood of default of the consolidated firm is smaller than the sum of the firm's individual probability of failure on debt commitments. Therefore the co-insurance effect arises from the possibility of imperfect correlation of cash flows which reduces operational risks creating additional borrowing capacity.

2.2.2 Transaction cost theory

This theory deals with the governance of contractual relations in transactions between two parties (Williamson, 1988). This approach examines a firm's financial decisions in terms of its specific assets (Markides &Williamson, 1996). Firms diversify in response to the presence of an excess of unutilized assets (Penrose, 1959).

The kind of diversification strategy depends on the characteristics of these resources (Chatterjee &Wernerfelt, 1991; Mahoney &Pandian, 1992). This approach

supports the use of debt to finance non-specific assets (mainly associated with unrelated-diversification firms) and the use of equity to finance specific ones (mainly associated with related-diversification firms (Williamson, 1988).

2.2.3 Agency theory

Agency theory argues that the effect diversification has on capital structure, is dependent on the power of a firm's management and the effectiveness of collective governance mechanisms. The theory asserts that personal motives of managers constitute the reason for diversification of firms. It explains that information asymmetry makes it difficult for shareholders to access, evaluate and interpret all records and details pertaining to opportunistic managerial behavior. Without proper governance measures, there would be disagreements arising as a result of managers pursuing personal gain (agency cost) while shareholders aim to capitalize on profit making. Shareholders can, however put in place proper mechanisms for governance like creating boards of directors to check management from employing too much agency costs and over diversifying as well as accruing personal gain. Shareholders may further compel firms to use debt finance to fund new projects instead of equity.

The use of debt financing can limit the free cash flow of shareholders, thus compelling managers to reduce expenditure or even sell assets to repay the debt. This also checks managers from investing the free cash flow on low returns, since that may prevent them from repaying the debt in time leading to loss of their jobs. Capital structure can therefore be positively affected, in case shareholders manage to influence a firm's management to embrace related diversification. On the other hand, if management enjoys greater power resulting in unrelated diversification, the capital structure would be negatively affected.

Mole (2002) argues that agency theory explains capital structure decisions through determinants such as company size which may be proxy for the debt agency costs (monitoring cost) arising from conflicts between managers and investors. Mole (2002) emphasizes that the monitoring cost is lower for large companies than for small companies. Therefore, larger companies will be induced to use more debt than smaller ones in their diversification strategies. It suggests that management in equity controlled companies tend to invest sub-optimally to expropriate wealth from the

enterprises' bondholders. Hence, growth rate is negatively related with long-term debt level of firms diversifying both in product or geographical.

2.2.4 Pecking order theory

Myers & Majluf (1984) introduced a very influential pecking order theory saying; managers prefer to finance capital deficit by issuing safe security. The theory states that, in the event where retained earnings and other internal source of financing will be low to invest, then managers will issue debt and only issue new equity with possibility of issuing junk debt during times of financial distress. The pecking-order model of financing choice assumes that firms do not target a specific debt ratio, but instead use external financing only when internal funds are insufficient. External funds are less desirable because informational asymmetries between management and investors imply that external funds are undervalued in relation to the degree of asymmetry (Myers & Majluf, 1984).

Therefore, if firms use external funds, they prefer to use debt, convertible securities, and, as a last resort, equity. Myers and Majluf (1984) assume that firms seek to maintain financial slack to avoid the need for external funds. Therefore, if we find that firms value financial flexibility, this is generally consistent with the pecking-order theory. However, flexibility is also important for reasons unrelated to the pecking-order model (Opler, Pinkowitz, Stulz, & Williamson, 1999).

The Pecking Order Theory suggests that firms that intend to attain high growth opportunities need to undertake major long term investment projects. After internal sources of financing are exhausted, a majority of firms prefer to use debt financing than any other form of external equity since they are linked to greater risks (Shyam – Sunder & Myers, 1999). This theory basically is of the premise that firms with positive growth chances, ought to increase debt after internal funds become insufficient. A positive association between firm growth opportunities and debt is therefore likely. Project managers have the firm's mandate to invest in projects that have the capability to boost the firm's profitability in the long run. This study shall therefore undertake to establish the relationship between diversification and capital structure of non-financial firms.

2.2.5 Signaling theory

Another capital structure theory is the signaling theory which can be best explained by the use of two hypotheses; information asymmetry hypothesis and the implied cash flow hypothesis, Myers & Majluf (1984) assumed that the firm's managers have superior information about the true value of the company. If management has favorable information that is not yet reflected in market prices, the release of such information will cause a larger increase in stock than in bond prices.

To avoid diluting the value of existing shareholders, managers that believe their shares to be undervalued, will choose to issue debt rather than equity, conversely, managers will time to issue new equity if the market price exceeds their own assessment of the stock value i.e. if the stocks are overvalued by the market. This well-known propensity of companies to "time" their stock offerings helps explain the market's systematically negative response to announcements of such offerings (Myers and Majluf, 1984).

Secondly, another signaling theory hypothesis is implied cash flow hypothesis, which is premised on the idea that managers have more inside information than investors. It claims that financing decisions are designed primarily to communicate management's confidence in the firm's prospects and, in cases where management thinks the firm is undervalued, to increase the value of the shares. Increasing leverage has been suggested, as one obligates the firm to make a fixed set of cash payments over the term of the debt security, with potentially serious consequences on default. Issuing more debt capital can therefore serve as a credible signal of higher expected future cash flows. On the other hand, raising additional equity by a firm signals that the net operating cash flows of current operations are disappointing. Investors associate relatively large issues of equity with more severe cash flow changes, resulting in more severe price reactions and therefore firm value (Ross, 1977).

2.2.6 Modigliani and Miller theory (1958)

The Modigliani-Miller theorem of capital structure as established by Modigliani and Miller is an irrelevant approach with three propositions. The first proposition states that under certain conditions, a firm's debt-equity ratio does not affect its market value (1958). The second proposition (1961) establishes that a firm's

leverage has no effect on its weighted average cost of capital and the third proposition (1965) establishes that firm market value is independent of its dividend policy. This theory assumes that there exists a perfect market where there is information symmetry, no taxes, no bankruptcy costs and no transaction costs. The value of the firm is therefore not affected by its capital structure but rather dependent on the ability of the firm's assets to generate income.

Under the first proposition where there are no taxes, it is assumed that investors will value the firm based on its cash flows regardless of how the firm is financed. This is because there is no benefit of interest deductibility, as a result of using debt as a source of financing. Firms would therefore be indifferent to the source of capital they choose. The second proposition where the firm's cost of capital is independent of its financial leverage assumes that the cost of equity is a linear function of the firm's debt to equity ratio. The cost of debt is considered to be cheaper than the cost of equity because creditors have a preferential claim to the firm's earnings and assets compared to equity holders. As a result, the more debt a company uses, the greater the cost of equity but the weighted average cost of capital remains the same. The third proposition where the value of the firm is independent of its capital structure concludes that given a firm's investment policy, the dividend pay-out it chooses to follow will neither affect the current price of its shares nor the total return to its shareholders (Merton, 1974).

The theorem assumes that the capital market is efficient and that both those from within and without the organization have an even access to information. It further assumes that transaction or bankruptcy costs do not exist and that the decision between debt and equity financing does not count. It views capital structure as resulting majorly from factors such as financial, tax and growth. In the real world, the assumptions made under the Modigliani-Miller theorem of capital structure do not exist as there are information asymmetry, taxes, transaction costs as well as bankruptcy costs. This therefore means that the results of the Modigliani-Miller theorem of capital structure may not be practical and only exist in theory. Thus this study seeks to determine the relationship between diversification and capital structure.

2.3 Empirical literature

There are two main forms of corporate diversification that have been practiced by a number of organizations worldwide. The first type of diversification is geographical diversification where a firm operates all its business activities under one industry, area or geographical location. Such firms produce a single line of products. The second form of diversification is product diversification, where a firm engages in the production of more than one product or having a presence in more than one market (Kim & Mathur, 2008).

2.3.1 Product Diversification Strategies and Capital Structure Decisions

Product diversification is a growth strategy where a company expands into new markets or starts production of entirely new products or services (David, 2011). It could be pursued either in related industries or unrelated industries (Abdullah, 2009; Jones & Hill, 2010). Rocca et al., (2009) concluded that firms following unrelated diversification have more debt than those following related diversification. Product diversification has both positive and negative impacts. On the positive side there is less motivation to sacrifice positive net present value ventures, higher borrowing capacity, reduction in taxes and economies of scale. There are various reasons as to why a firm may diversify. It may do so to conquer flaws in the outside capital markets. By diversifying, managers form internal resource markets where capital distribution is more proficient as a result of lower levels of disproportionate information. This raises the level of investment, since the diversified firms make more positive net present value than their divisions would make as distinct entities.

Diversification also increases the borrowing capacity because the firms can maintain high degrees of collateral, since they lower earnings instability by merging businesses with poorly linked income streams. According to Whited (2001), diversified corporations are least likely to suffer liquidity problems since they can sell their assets in case a crisis occurs. Lastly, multiproduct companies benefit from economies of scale when the production of two or more commodities depends on the same patented knowledge base and when a particular inseparable asset is a collective input in the production of two or more commodities.

The possible costs of diversifying include the use of increased unrestricted capital to commence value-decreasing ventures, cross-subsidies that permit divisions to channel capital from better-performing divisions, and misalignment of inducements between central and divisional directors. Cross-subsidization of waning firms leads to unevenness between growth and decrease of units of a company that is multi-business. In diversified companies, information is more circulated and monitoring is more expensive. For this reason, diversified firms are less valuable than their lines of operation would be as separate units.

2.3.1.1 Related Diversification Strategy

Related diversification is a company's expansion into new products and markets but within the existing strategic capability (Grant, Butler, Hung, & Orr, 2011; Johnson et al., 2008). In this strategy, a company's new business activities are related with existing business activities Harrison & John, (2010); Lahovnik, (2011) and the businesses are similar to one another in terms of input and operational requirements (Teecekk, 1982; Thompson, Peteraf, Gamble, & Strickland III, 2012).

Equity financing is the preferred mode of financing and many scholars argue that the primary motive behind related diversification is creation of synergy, as the related diversified companies could gain both operative or growth synergy advantages and these could be obtainable through capability up gradation, scale effects, or entry into new market segments (Knoll, 2007; Morden, 2007). Additionally, synergy benefits could be available in form of economies of scope, market power, and internal governance (Martin & Eisenhardt, 2001; Mehmood & Hilman, 2013). Furthermore, related diversification of firms might outperform unrelated ones on the basis of the economies of scope, benefits available, through sharing of capabilities and resources across businesses which might result in substantial cost or differentiation advantages (Hoskisson *et al*, 2009). Procter & Gamble shares its marketing and R&D costs across various businesses and hence enjoys economies of scope advantages over its competitors (Jones & Hill, 2010).

Motives for related diversification are also active through increased market power (Hoskisson et al., 2009; Johnson et al., 2008). A diversified company could

naturally outperform a focused one, through tactics like predatory pricing or price cutting Klier, (2009), cross subsidization Johnson et al., (2008); Lee, (2002), mutual forbearance, and reciprocity (George, 2007). In particular, related diversifiers could gain benefits through backward and forward integration strategies David (2011) as opposed to unrelated diversifiers.

Other synergy benefits in related diversifiers could be in form of internal governance advantages which are realized by having an efficient internal market which could facilitate rapid transfer of capital and other assets among various businesses (Martin & Eisenhardt, 2001). In fact, in related diversifiers, knowledge sharing, implementation of internal control systems and attaining collaboration or team work between different businesses could be easier in comparison to unrelated diversifiers and therefore in related ones, transaction costs and governance costs might be comparatively lower (Abdullah, 2009; Busija, O'Neill, & Zeithaml, 1997). Hence, in reference to (TCE) transaction cost economies (Liu & Hsu, 2011); this provides definite cost and competitive advantages to related ones compared to their counterparts.

On the other side of it, these synergy programmes could be quite risky and might not meet management expectations (Haberberg & Rieple, 2001) as they could increase interdependency among subsidiaries which might resist change process in certain subsidiaries. Also, in related businesses, too much diversification might increase its marginal costs and erode all its benefits (Palich et al., 2000).

2.3.1.2 Unrelated diversification strategy

Unrelated diversification is a company's expansion beyond its current strategic capability (Johnson et al., 2008) where its new businesses or subsidiaries have little or no relatedness with old businesses (Thompson et al., 2012). Companies like General Electric, Bidvest, Wesfarmers, Tata Group, Hitachi, and Royal Philips are some examples of s (Harrison & John, 2010; Jones & Hill, 2010; Kenny, 2012). The literature on s clearly depicts that reduction of overall company risk and increase in profitability has been the main motives behind this strategy (Grant et al., 2011).

In contrast to focused companies or related ones, unrelated diversifiers have a better position to create financial synergies by transferring capital across different businesses and through operating various businesses with different risk profiles. In huge unrelated diversifiers, these benefits are easily attainable through large internal capital market capable of generating substantial financial economies (Hoskisson et al., 2009). However, the benefits of internal capital markets can be more rewarding particularly in developing economies. It is because, external markets are not properly developed in those economies, and thus internal capital markets prove more rewarding (Fan, Huang, Oberholzer-Gee, Smith, & Zhao, 2008). Similarly, external environmental conditions also have an important role to play. For instance, in their study of US firms, Kuppuswamy and Villalonga (2010) concluded that value of unrelated diversification increased during 2008-2009 crises because of the money associated with internal capital markets.

Another motive associated with unrelated diversification is attainment of financial economies through business restructuring (Bamford & West, 2010). Under this, a company would acquire unrelated business which is undervalued and use its financial expertise and capable governance to convert the business into a profitable subsidiary for sale at higher price later on (Bamford & West, 2010; Johnson et al., 2008).

2.3.2 Geographical Diversification Strategies on Capital Structure Decisions

Geographical diversification is the process where a firm moves to new markets outside its home market. This may include movements to regional or geographical countries. According to various authors, geographical diversification boosts the worth of shareholders by taking advantage of specific assets, by accelerating functioning flexibility and by satiating investors' preferences for holding worldwide diversified positions. Global diversification adds value to companies because of extensive information-based resources related to R&D as well as advertising. Information based-assets have increasing incomes but they are hard to sell. The appropriate tactic for companies having this kind of resource, is to internalize the markets for these resources through worldwide diversification (Kim & Mathur, 2008)

Geographical diversification can also bring about worth through operational elasticity, giving the company the opportunity to utilize market opportunities. A globally diversified firm, can shift production from one country to another country with lower cost of production as well as shift production to a country whose demand is higher. Additionally, geographical diversified companies can exploit different taxation systems and therefore reduce its cost of production by shifting some profits or losses within the company to areas where taxes are lower (Franko, 2004). Finally, investors can benefit by paying premiums for shares of globally diversified firms, which charge lower costs for holding diversified positions.

On the other hand, geographic diversification could also reduce firm value. As in the case of industrial diversification, global diversification can also lead to the inept cross-subsidization of business entities that are less profitable. Furthermore, the sophistication of geographical diversified organizations can result in higher costs of coordinating business guidelines due to information unevenness between companies' headquarters and divisional managers as outlined in (Campa & Kedia, (2002).

It is argued that the multinational corporations (MNCs) are likely to have higher leverage, as they have lesser default risk due to their operations which are spread in multiple countries (Eiteman et al., 1998). However, contrary to this theorized relationship, empirical studies observe the MNCs and their subsidiaries use less debt as compared to their domestic counterparts but gradually the leverage of MNCs increases with the increase of their foreign involvement (Burgman, 1996; Chen, Cheng, He, & Kim, 1997). Moreover, there is no significant relationship between geographical diversification and capital structure (Yaffe 2008). However, some observe a positive but complex relationship between diversification and performance (G. Qian in 2002). But others argue that diversification whether it is industrial or geographic lowers the leverage position of firms (Kim & Mathur; 2008).

According to various authors, geographical diversification boosts the worth of shareholders by taking advantage of specific assets, by accelerating functioning flexibility and by satiating investors' preferences for holding worldwide diversified positions. Global diversification adds value to companies because of extensive information-based resources related to research and development (R&D) as well as

advertising. Information based-assets have increasing incomes but they are hard to sell. The appropriate tactic for companies having this kind of resource, is to internalize the markets for these resources through worldwide diversification (Kim, & Mathur, 2008)

2.3.3 Impact of Product and Geographical Diversification Strategy on Capital Structure Decisions

Wide range of information shows that corporate control is adversely related to global diversification. This is because multinational companies (MNCs) tend to bear less debt burden in their capital structure than domestic firms (DCs). Related diversified firms made much less use of debt than was the case for either unrelated-diversified or specialized firms (as predicted by the transaction cost theory). Unrelated-diversified firms carried more debt than either related-diversified or specialized firms, probably due to the low probability of distress and the low cost of debt (coinsurance effect).

Kim & Mathur, (2008) argues that diversification strategies have an influence on capital structure. However according to them, this is moderated by non-interest tax shields, greater agency and insolvency costs related to global diversification and the higher risk factors of foreign-currency denominated debt. They further discovered that worldwide companies bear a greater share of short-term debt possibly due to greater access of MNCs to financial markets around the world and deficiency of depth in the markets for long-term funding elsewhere.

According to Singh & Nejadmalayeri (2004), geographical diversification is positively related to greater aggregate and long-term debt ratios. They also discovered a nonlinear overturned U-shape relation between the level of geographical diversification and financing short term debts. Low & Chen (2004) the relationship between related diversification and capital structure is determined by the type of firms, with multi-national companies having a positive relationship between related diversification and capital structure. They further argued that domestic firms exhibit negative relationship between related diversification and capital structure, with this relationship attributed to increased costs. On the other hand, they realized that

companies diversifying across commercial lines have greater debt ratios than firms that are not diversified.

Various researchers indicate that MNCs follow a dual strategy of geographical and product diversification. Kotabe and Capar (2003) contend that product and geographical diversification go hand in hand to create the complexity that characterizes multinational operations. Product and geographical diversification have no impact on a company's individual performance, but their relations lead to increase in the performance of the firm. Furthermore, the union of geographical and product diversification may lead to increase in control by lowering the operating risk of MNCs.

To determine individual and interactive effects of geographical and product diversification on business control, Singh et al. (2003) used a sample of 1,127 companies based in the US. After analyzing global diversity based on asset turnover, company size, and other features, they discovered that diversification is negatively linked to debt. On the other hand, their research shows that global diversification is greatly associated to lower debt ratios. Nevertheless, they argued that firms that are product diversified do not have lower control ratios in comparison to domestic firms. This was based on the fact that the interactions of product commodity and worldwide diversification may lessen the negative effect of global diversification on control.

Besides, there is no finding of a negative relation between the level of global diversification and control of the product diversified companies. They explained this by the fact that the interaction of product and geographical diversification might diminish the negative influence of geographical diversification on leverage. Moreover, they do not find a negative relation between the degree of geographical diversification and leverage for the product-diversified MNCs. Their conclusion was therefore that the two types of diversification supplement each other in creating debt usage, albeit their negative relation to firm control.

2.4 Research Gap

Theoretical and empirical studies suggest that corporate leverage is positively related to diversification across product lines but negatively related to geographic diversification. Some studies show that these diversification strategies are complementary in generating debt usage in both listed and non-listed firms.

Ajay and Madhumathi (2014) took a study to establish effect of diversification strategies on capital structure decisions. The study took into account the diversification strategies (geographic and product) adopted by the manufacturing firms and identified its influence on a firm's leverage ratio after controlling for other determinants of capital structure from 2004-2010. The study found out that multinational and domestic firms differ significantly from each other with respect to leverage, tangibility, non-debt tax shield, age, size and agency cost. Regression results also revealed that geographic diversification impacts leverage for the overall sample while product diversification does have a negative effect on capital structure of firms.

Apostu (2010) in a study to establish the effect of diversification strategies on capital structure used a panel data analysis for a sample of 232 European firms during the period 2004-2007. In the univariate analysis, it was established that product diversified firms tend to be significantly more leveraged, larger, less risky, less profitable and more diversified. After controlling for firm size, profitability, growth, assets tangibility and operating risk, the study found out that product and geographical diversification do not have a significant influence on leverage.

Nicoli & Funchal (2013) carried out a study in Brazil to establish the effect of corporative diversification on the capital structure of Brazilian Firms. The study in particular, aimed at determining whether corporate diversification increases the borrowing capacity of Brazilian companies by means of cross-pledging. Using a panel data model, the study estimated the relationship between leverage and the degree of corporate diversification using a sample of companies listed on the Sao Paulo Stock Exchange (Bovespa) between 2009 and 2011 and Brazilian companies with access to geographical markets through American Depositary Receipts (ADRs) in the period 2003-2011. The study established from the tests that there exists no relationship

between diversification and debt, indicating that a strategy of corporate diversification should not be used as a strategy to expand a company's financing capacity.

Valahzagharda & Farahanib (2014) carried out a survey study to establish the relationship between capital structure, free cash flow and diversification and firm performance of listed companies in Tehran Stock Exchange. The study used Tobin-Q model to establish if there exists a relationship between diversification strategies and capital structure. The study found out that diversification strategies have positive influence on capital structure and free cash flow.

Kochar and Hitt (2005) examined the relationship between corporate strategy and capital structure, specifically the diversification and financing strategies of a firm. The results showed that equity financing is preferred for related diversification and unrelated diversification is associated with debt financing. The study also concluded that firms diversifying through acquisitions are more likely to use public sources of financing while those through internal developments of new businesses, depend primarily on private sources of financing.

Monteforte and Staglianò (2009) in a study examined the link between product diversification, geographic diversification and capital structure for a panel of medium and large Italian firms. The study findings indicated that product and geographic diversification individually, are positively related to capital structure, but the interactive variables between product and geographic diversification has a negative and significant coefficient. This study concluded that a firm's diversification in product and geographic markets may increase coordination problems and information processing .The complex structure of these firms may aggravate asymmetric information problems and agency costs of debt implying a reduction of debt ratio. When firms engage simultaneously in product and geographic diversification strategies, agency costs of debt and asymmetric information problems may increase, thus reducing debt capacity.

The study sought to investigate the interactive effect of product and geographic diversification on capital structure for a panel of medium and large Italian firms. They pointed out that combining business with cash flows that are not perfectly correlated can potentially reduce the volatility of earnings and the costs of financial

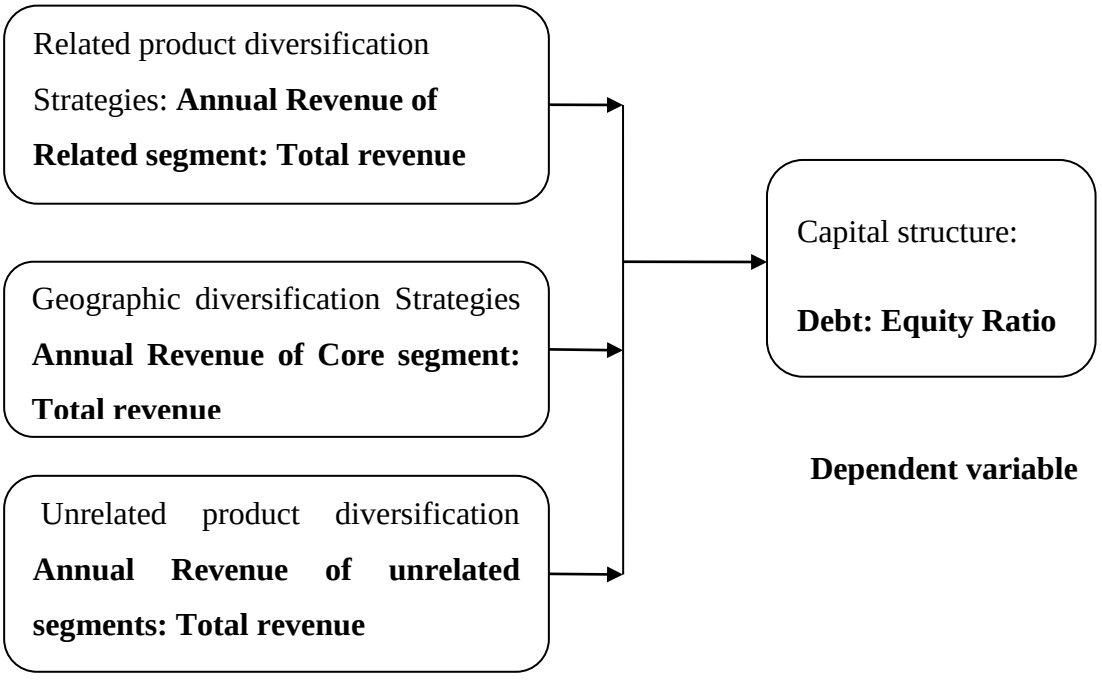
distress, thus reducing the cost of capital and increasing total stakeholders' value, with an overall impact on debt levels.

Wang & Chang (2007) in a study carried out in USA with a focus on investigating the differential impacts of product diversification strategies on the relationship between geographical diversification and firm performance. The study established that while related product diversification positively influences the performance of multinational firms, unrelated product diversification negatively moderates the geographical diversification–performance relationship. The study concludes that evidence is robust for different models of geographical diversification and firm performance, and holds for firms in both the service and manufacturing industries. The study also concludes it is important to test different product strategies and its influence on performance of firms.

2.5. Conceptual Framework

The conceptual framework to be used in the study is as shown below;

Figure 2. 1: Conceptual Framework



Independent Variables

Source: Author (2016)

The study focuses on the relationship between the two types of diversification strategies and capital structure. Related product diversification is when a firm focuses on producing its core products, unrelated product diversification is when a company produces other products other than its core product while geographical diversification is when a company has presence in more than one geographical location. Diversification strategy is one of the factors that is said to influence capital structure. This study tries to find out whether that influence is significant or not.

2.6 Operationalization of Variables

Table2. 1: Operationalization of Variables

Objective	**Variable Type**	**Indicators**	**Measures**	**Type of data analysis**
To establish the influence of related product diversification strategies on capital structure decisions of non-financial firms listed at NSE.	**Independent** Related diversification strategy Unrelated diversification strategy	New markets New product line Net present value Synergy creation Business restructuring Specialization ratio	Specialization Ratio Annual turnover of the core segment/Total turnover	Panel data
To establish the influence of geographical diversification strategies on capital structure decisions of non-financial firms listed at NSE	**Independent** Multinational corporations (MNCs) Global enterprises Geographic diversification	Operational elasticity Extensive information-based resources Higher leverage Subsidization of business entities Specialization ratio	Specialization Ratio Annual turnover of the core segment/Total turnover	Panel data
To determine the influence of unrelated product diversification on capital structure decisions of non-financial firms listed at NSE	**Independent** Corporate control Tax shields Insolvency costs	Long-term debt ratios Access to financial markets Performance of the firm Specialization ratio	Specialization Ratio Annual turnover of the unrelated segment/Total turnover	Panel data

	Dependent Capital structure		Debt: Equity ratio	Panel data

Table 2. 2: Knowledge Gap

Author	**Focus of Study**	**Findings**	**Research gaps**	**How current study addresses the gap**
Ongeri (2014)	The Relationship Between Corporate Diversification and Capital Structure Of Firms Listed At The Nairobi Securities Exchange.	The results of the study showed that diversification has positive relationship with capital structure.	The study focused on all the firms at NSE and used time series approach without testing the effect of product and geographical diversification on capital structure	The study focused on only non-financial firms through the use of panel data analysis to test for effect of geographical and product diversification on capital structure
Ranjitha and Madhumathi (2013)	Impact of Diversification Strategy on the Capital Structure Decisions of Manufacturing Firms in India	Regression result revealed that geographic diversification impacts leverage for the overall sample unlike product diversification	The study was only carried out among manufacturing sector besides it was carried outside Kenya	The study was carried out among non-financial firms listed at NSE in Kenya.
Jandir & Funchal (2013)	The Effect of Corporative Diversification on the Capital Structure of Brazilian Firms	The result indicated no evidence that diversification offered financing advantages for Brazilian firms in the studied sample.	The study never focused on effect of product and geographical on diversification listed firms but on cross pledging	The study tested for the effect of geographical and product diversification on capital structure of listed firm at NSE
Singh *et al* (2003)	The relationship between Corporate diversification	The results found out that product diversity leads to greater debt	The study focused on only multinational companies	The study focused on both multinational and local companies

	strategies and capital structure	while Geographic diversity, on the other hand, is associated with lower debt ratios.		
Chang & Wang (2007)	The effect of product diversification strategies on the relationship between geographical diversification and firm performance	The study found out that related product diversification positively influences the performance of multinational firms while unrelated product diversification negatively moderates the geographical diversification–performance relationship	The study focused on the effect of diversification on firm performance	The study focused on effect of diversification strategies on capital structure
Qureshi et al (2012)	The study aim was to identify and analyze the nature of relationship that exists between diversification and capital structure as well as profitability in Pakistan	The study found out that the diversified firms are more profitable and have greater amount of debt capital	The study only focused on manufacturing sector	This study included all the non-financial firms

2.7 Summary of Literature Review

Most of the earlier studies were mainly done in the developed countries whose diversification effects on capital structure are different from those of listed firms in Kenya and the findings don't arrive at one conclusion`. Decisions on which capital structure mix is the best, as suggested from the theories are further complicated by diversification which requires funds. Furthermore there is no published research in Kenya concerning the relationship between diversification strategies and capital

structure thereby there exist a research gap. This study therefore sought to fill this literature gap by investigating the relationship between diversification strategies and capital structure of non-financial firms listed on the Nairobi Securities Exchange.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In this chapter the researcher presented the research design and methodology that was used to carry out the research. Specifically it includes the following subsections; research design, population and sample, data collection as well as data analysis.

3.2 Research Design

This section focuses on the research technique that was adopted in this study with the aim of achieving the research objectives. Research design refers to the way the study is designed, that is the method used to carry out the research (Mugenda & Mugenda, 2003). This study adopted an exploratory study design. This is because the study tends to explore or investigate more on the research questions and doesn't intend to offer a conclusive solution to the existing problem.

3.3 Population

Population refers to the entire group of people or things of interest that the researcher wishes to investigate. Mugenda and Mugenda (2003), define population as an entire group of individuals or objects having common observable characteristic. Data available at the NSE shows that there are 65 companies listed at the NSE as at 31st December 2014 and out of which 47 are the non-financial firms which were the target population in this study after excluding 18 financial firms (banks and insurance companies).

3.4 Sampling Size and Procedure

The researcher using census sampling method targeted all the 47 non-financial firms listed at the NSE for the period 2010-2014. These firms were chosen since they have a similar financial statement and respondents were drawn from all the 47 non-financial firms listed at the NSE. However the researcher only managed to get data for 32 non -financial firms which formed the basis of this study.

3.5 Data Collection Instruments

The study analysis and findings was based on secondary data. The data was collected from the annual financial data of the 32 out of the 47 non-financial firms listed at the NSE for the period 2010 to 2014; the data was obtained from the Nairobi Securities Exchange, Capital Markets Authority and respective companies' websites as well as their official publications. Other relevant published information from sources other than the respective companies will be also used; magazines and newspapers.

3.6 Data Analysis

Panel data regression analysis technique was used in the study to explore the effect of diversification strategy on the leverage decisions of firms after controlling for firm size. In this study a regression model as shown below was applied.

$$LEVit = \beta 1INTit + \beta 2UNRELit + \beta 3IRELit + \alpha i + uit$$

LEV represents capital structure used as the dependent variable varying across cross section and time. The independent variables used were *INTit, UNRELit, RELit and* Sizeit ie international market diversification, unrelated product diversification related product diversification and firm size respectively. Firm size will be used as the control variable in the study.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter covers presentation and interpretation of the study results based on secondary data obtained from Nairobi Securities Exchange. The general objective of this research study was to establish the relationship between corporate diversification and capital structure of non-financial firms listed at the Nairobi Securities Exchange. The study also sought to establish the influence of related product diversification strategies, geographical diversification strategies and unrelated product diversification on capital structure decisions of non-financial firms listed at NSE. The chapter is divided into two main sections: decsriptive statistics and inferential statistics.

Related product diversification strategy was a measured as a ration of annual revenue of related segment and total revenue. Unrelated product diversification strategy was a measured as a ration of annual revenue of unrelated segments and total revenue. Geographic diversification strategy was measured as a ration of the annual revenue of core segment and total revenue. Capital structure was measured by the use of debt to equity ratio.

4.1.1 Response Rate

The target sample was 41 non-financial listed firms at the Nairobi Stock Exchange, out of which 32 firms whose data was available were studied. This gives a response rate of 78.05%. According to Kothari (2004), a response rate of 50% and above is adequate for analysis. The data was therefore used to find out the relationship between diversification and capital structure.

4.2 Descriptive Statistics

The study analyzed the capital structure decisions in a period of 6 years in relation to the selected diversification strategies as measured by related product diversification, geographical diversification and unrelated diversification. The descriptive statistics comprised of mean, minimum, maximum and standard deviation

of the dependent variable (capital structure) and the independent variables (related product diversification strategies, geographical diversification strategies and unrelated product diversification).

Table 4. 1: Desciptive Statistics of the Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
DE	114	1.475526	1.344059	0	6.6
RPDS	114	.929386	.1396537	.47	1
URPDS	114	.07	.1369969	0	.53
GDS	114	.8205263	.2249438	.22	1.08
Size	114	22.93254	1.719617	19.99	26.65

The results show that the average debt equity ratio for all the 32 companies for the period ranging from 2010 to 2015 was 1.475526 with a minimum of 0, maximum of 6.6 and standard deviation of 1.344059. The results also show that the average related product diversification strategies for all the 32 companies for the period ranging from 2010 to 2015 was 0.929386, with a minimum of 0.47, a maximum of 1 and a standard deviation of 0.1396537.

Unrelated product diversification for the period ranging from 2010 and 2015 had a mean of 0.07, standard deviation of 0.1369969, minimum of 0 and maximum of 0.53. Comparatively, for the period ranging from 2010 to 2015 geographical diversification strategy had a mean of 0.8205263, standard deviation of 0.2249438, minimum of 0.22 and maximum of 1.08. In addition, the average size for all the 32 companies for the period ranging from 2010 to 2015 was 22.9325, standard deviation was 1.719617, standard deviation was 1.719617, minimum was 19.99 and maximum was 26.65.

4.3 Trend Analysis

This section presents trend analysis for the independent variables (related product diversification strategy, unrelated product diversification strategy, geographic diversification strategy), dependent variable (debt to equity ratio) and the control variable (size).

4.3.1 Debt Equity Ratio

Figure 4.1 shows the trend of the average debt to equity ratio for all the 32 companies for the period ranging from 2010 to 2015.

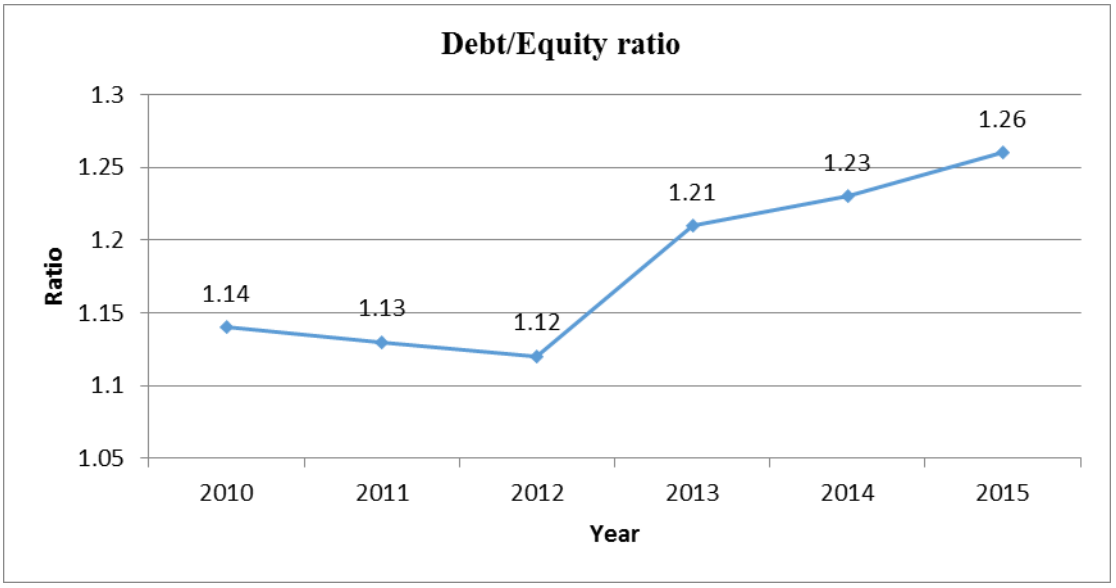


Figure 4. 1: Debt Equity Ratio

From the findings, the average debt to equity ratio for the 32 companies in the year 2010 was 1.14. This figure decreased to 1.13 in the year 2010 and 1.12 in the year 2012. In the year 2013, debt to equity ration increased to 1.21 and then to 1.23 and 1.26 in the years 2014 and 2015, respectively. The results show that although debt to equity ratio was flactuating over the study period, it generally increased from 1.14 in 2010 to 1.26 in 2015.

4.3.2 Related product diversification strategy

Figure 4.2 shows the trend of the average related product diversification strategy for the period ranging from the year 2010 to 2015.

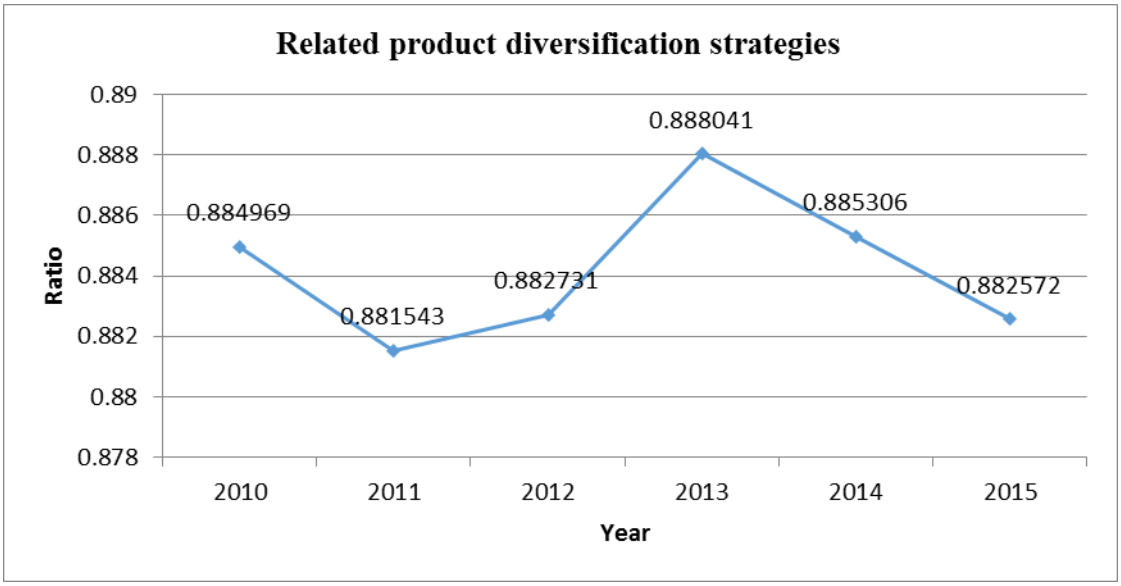


Figure 4. 2: Related product diversification strategies

The results show that the average related product diversification strategy decreased from 0.884969 in 2010 to 0.881543. This figure then increased to 0.882731 in 2012 and 0.888041 in 2013. The average related product diversification strategy then attained a decreasing trend to 0.885306 in 2014 and 0.882572 in 2015. These results show that average related product diversification strategy has been flactuating over the study period.

4.3.3 Unrelated product diversification strategy

Figure 4.3 shows the trend of the average unrelated product diversification strategy for the period ranging from 2010 to 2015.

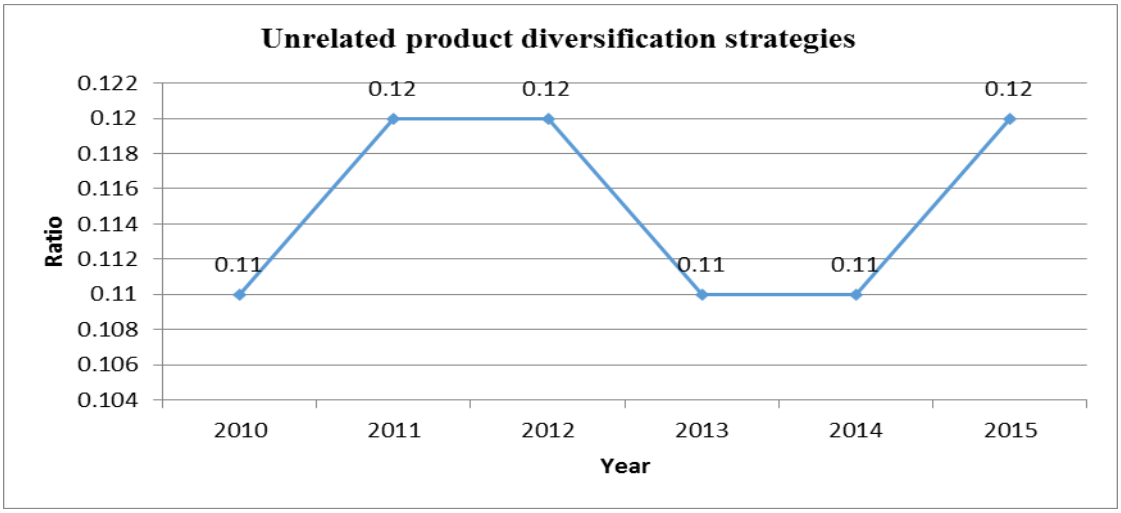


Figure 4. 3: Unrelated product diversification strategy

Over the study period, unrelated product diversification strategy has been fluctuating. In the year 2010, the average unrelated product diversification strategy was 0.11, increased to 0.12 in 2011, decreased to 0.11 in 2013 and increased to 0.12 in the year 2015.

4.3.4 Geographic diversification strategy

Figure 4.4 shows the trend of the average geographic diversification strategy for the period between the year 2010 and 2015.

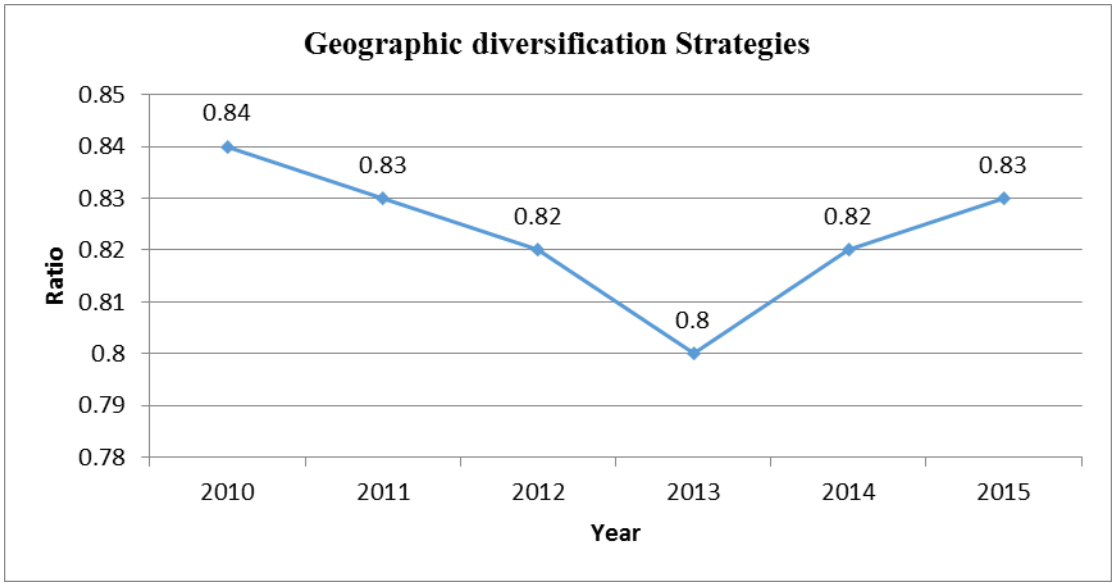


Figure 4. 4: Geographic diversification strategy

The results show that geographic diversification strategy attained a decreasing trend and then an increasing trend. The average geographic diversification strategy decreased from 0.84 in 2010 to 0.83 in 2011, 0.82 in 2012 and 0.8 in 2013. It the increased to 0.82 in 2014 and 0.83 in 2015. The highest average geographic diversification strategy was in the year 2010 and the lowest was in the year 2013.

4.3.5 Size

Figure 4.5 shows the trend of the average company size (natural log of total assets) for the period between 2010 and 2015.

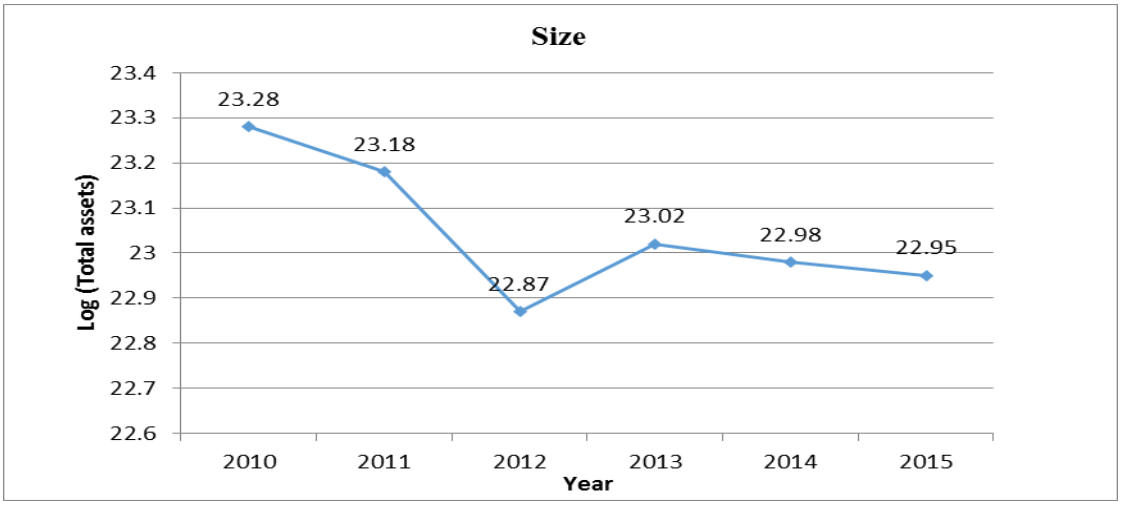


Figure 4. 5: Company Size

From the findings, the average size (log of total assets) of the 32 companies has been fluctuating over the study period. In the year 2010 the log of total assets was 23.28, which decreased to 23.18 in 2011 and 22.87 in 2012. The figure then increased to 23.02 in 2013, decreased to 22.98 in 2014 and 22.95 in 2015. These findings imply that the average size (natural log of total assets) of the 32 companies has been fluctuating over the years.

4.4 Inferential Statistics

4.4.1 Diagnostic Tests

Diagnostic tests in this study included Heteroscedasticity Test and Breusch and pagan Lagrangian multiplier test for random effects.

4.4.1.1 Breusch-Pagan/Cook-Weisberg test for heteroscedasticity

The study used Breusch-Pagan/Cook-Weisberg test for heteroscedasticity. Homoscedasticity shows a situation where the error term is the same across all values of the independent variables. Heteroscedasticity, which can be described as a violation of homoscedasticity, is considered present when the error term size differs across values of an independent variable.

Table 4. 2: Breusch-Pagan/Cook-Weisberg test for heteroscedasticity

```
Ho: Constant variance
Variables: fitted values of DE
chi2(1) = 45.09
Prob > chi2  = 0.000
```

As indicated in table 4.2, the p- value (0.000) was less than the significance level (0.05), which implies that we can reject the null hypothesis of homoscedasticity. DE represents the dependent variable (Debt to Equity ratio).

4.4.1.2 Breusch and pagan Lagrangian multiplier test for random effects

The Lagrangian multiplier test helps in deciding on whether to use a random effects regression or a simple OLS regression. The null hypothesis in the LM test indicates that variances across entities are zero, which indicates that there are no significant differences across units (no panel effect).

Table 4. 3: Breusch and pagan Lagrangian multiplier test

```
Breusch and Pagan Lagrangian multiplier test for random effects

        DE[Company,t] = Xb + u[Company] + e[Company,t]

        Estimated results:
                     |        Var      sd = sqrt(Var)
             ---------+------------------------------
                  DE |    1.806496        1.344059
                   e |      .82593        .9088069
                   u |    1.030277        1.015026

        Test:   Var(u) = 0
                             chibar2(01) =     67.91
                          Prob > chibar2 =    0.0000
```

Since the p-value (0.000) is less than the significance level (0.05), we can accept the null hypothesis and conclude that random effects are appropriate. This means that there is evidence of significant differences across companies and hence random effects regression should be used.

4.4.2 Regression Model

Panel data regression analysis technique was used in the study to explore the effect of diversification strategy on the leverage decisions of firms after controlling for firm size. In this study a random effects regression model as shown below was applied.

$$LEV_{it} = \beta 1 INT_{it} + \beta 2 UNREL_{it} + \beta 3 IREL_{it} + \alpha_i + u_{it}$$

Where *LEV* represents Capital Structure used as the dependent variable varying across cross section and time. The independent variables used were INT_{it}, $UNREL_{it}$, REL_{it} *and* $Size_{it}$ international/geographic market diversification, unrelated product diversification, related product diversification and firm size respectively. Firm size will be used as the control variable in the study.

Table 4. 4: Model Summary

```
Random-effects GLS regression                   Number of obs      =       114
Group variable: Company                         Number of groups   =        19

R-sq:  within  = 0.0858                         Obs per group: min =         6
       between = 0.0010                                        avg =       6.0
       overall = 0.0256                                        max =         6

                                                Wald chi2(3)       =      8.36
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0392
```

R-squared shows the variation in the dependent variable that can be explained by the independent variables. From the findings the overall r-squared was 0.0256. This implies that the independent variables (related product diversification strategies, geographical diversification strategies and unrelated product diversification) explain 2.56% of the dependent variable (capital structure decisions of non-financial firms listed at NSE). The r-squared within companies will be 0.0858. This implies that independent variables explain 8.58% of the dependent variable within the 32 companies. Between companies the r-squared was 0.0010, which implies that independent variables explain 1% of the dependent variable between the 32

companies. In addition, the p-value for the F-test was 0.0392, which is less than the significance level (0.05). This means that the model is a good fit for the data.

Table 4. 5: Regression Coefficients

DE	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
RPDS	24.1643	8.385912	2.88	0.004	7.728213	40.60039
URPDS	24.59435	8.574405	2.87	0.004	7.788826	41.39988
GDS	.0663805	.7242395	0.09	0.927	-1.353103	1.485864
_cons	-22.75851	8.453506	-2.69	0.007	-39.32707	-6.189939
sigma_u	1.0150258					
sigma_e	.90880692					
rho	.55504434	(fraction of variance due to u_i)				

Interpretation of the coefficients includes both the within-entity and between-entity effects. In this study, data represents the average effect of X over Y when X changes across time and between companies by one unit. In addition, Two-tail p-values test the hypothesis that each coefficient is different from 0. To reject this, the p-value has to be lower than 0.05, if this is the case then we can say that the variable has a significant influence on the dependent variable (y).

From the findings, the results show that related product diversification strategies influence capital structure decisions of non-financial firms listed at NSE as shown by a regression coefficient of 24.1643. This implies that a unit increase in related product diversification strategies across time and between companies would lead to a 24.1643 increase in capital structure. The association was significant as the p-value (0.004) was less than the significance level (0.05).

The results also show that unrelated product diversification strategies influence capital structure as shown by a regression coefficient of 24.59435. This implies that a unit increase in unrelated product diversification strategies across time and between companies would lead to a 24.59435 increase in capital structure. The association was significant as the p-value (0.004) was less than the significance level (0.05).

The study findings show that geographical diversification strategies influence capital structure decisions of non-financial firms listed at NSE as shown by a

regression coefficient of 0.0663805. This implies that a unit increase in geographical diversification strategies across time and between companies would lead to a 0.0663805. The association was not significant as the p-value (0.927) was more than the significance level (0.05). This shows that geographical diversification strategies have no significant influence on capital structure decisions of non-financial firms listed at NSE.

4.4.3 Hierarchical Multiple Regression

This is a type of multiple regression where the contribution of different variables on the dependent variables is predetermined in a hierarchical order. The method is used to determine whether a set of variables account for a considerable variance in the dependent variable after controlling for control variables.

Table 4. 6: Control Variable Model Summary

Random-effects GLS regression		Number of obs	= 114
Group variable: Company		Number of groups	= 19
R-sq: within	= 0.0932	Obs per group: min	= 6
between	= 0.1286	avg	= 6.0
overall	= 0.1129	max	= 6
		Wald chi2(1)	= 12.16
corr(u_i, X)	= 0 (assumed)	Prob > chi2	= 0.0005

The overall r-squared for the association between size and capital structure was 0.1129. This implies that the size explains 11.29% of capital structure decisions of non-financial firms listed at NSE.

Table 4. 7: Coefficients for Size and Capital Structure

DE	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Size	.2911192	.0834928	3.49	0.000	.1274764	.4547619
_cons	-5.200576	1.928624	-2.70	0.007	-8.98061	-1.420543
sigma_u	.94314345					
sigma_e	.90109283					
rho	.52278926	(fraction of variance due to u_i)				

The results show that size had an influence on capital structure decisions of non-financial firms listed at NSE as indicated by a coefficient of 0.2911192. This implies that size across time and between companies has a significant influence on capital structure decisions of non-financial firms listed at NSE. The association was significant because the p-value (0.000) was less than the significance level (0.05).

Table 4. 8: Model Summary for all the Variables

```
Random-effects GLS regression                   Number of obs      =       114
Group variable: Company                         Number of groups   =        19

R-sq:  within  = 0.1718                         Obs per group: min =         6
       between = 0.0871                                        avg =       6.0
       overall = 0.1162                                        max =         6

                                                Wald chi2(4)       =     20.29
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0004
```

The results show that the r-squared for the association between the independent variables, control variable and the dependent variable was 0.1162. This implies that independent variables (related product diversification strategies, geographical diversification strategies and unrelated product diversification) and the control variable (size) can explain 11.62% of the capital structure decisions of non-financial firms listed at NSE.

Table 4. 9: Coefficients for all the variables

DE	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
RPDS	21.51125	8.043824	2.67	0.007	5.745643	37.27685
URPDS	22.68872	8.204877	2.77	0.006	6.607461	38.76999
GDS	.1778104	.6965395	0.26	0.799	-1.187382	1.543003
Size	.279706	.0840145	3.33	0.001	.1150406	.4443713
_cons	-26.6652	8.14984	-3.27	0.001	-42.6386	-10.69181
sigma_u	.99978589					
sigma_e	.87252782					
rho	.5676558	(fraction of variance due to u_i)				

The results show that related product diversification strategies has a significant influence on capital structure decisions of non-financial firms listed at NSE as shown by a coefficient of 21.51125 (p-value=0.007). The results also show that unrelated product diversification strategies has a significant influence on capital structure

decisions of non-financial firms listed at NSE as indicated by a coefficient of 22.68872 (p-value=0.006). However, geographical diversification strategies had no significant influence on capital structure decisions of non-financial firms listed at NSE as shown by a coefficient of 0.1778104 (p-value=0.799). In addition, the results show that size has a significant influence on capital structure decisions of non-financial firms listed at NSE as indicated by a coefficient of 0.279706 (p-value=0.001).

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of the findings, conclusion and recommendations of the study based on the objectives of the study which were to establish the relationship between corporate diversification and capital structure of non-financial firms listed on the Nairobi Securities Exchange.

5.2 Summary of the Findings

This section presents a summary of the findings as per the research objectives and the research questions. The study involved 32 firms whose data was collected over a six year period.

5.2.1 Influence of Related Product Diversification Strategy on Capital Structure

Related diversification in a firm involves expansion into new products and markets but within the existing strategic capability. In related product diversification strategy, a company's new business activities are related with existing business activities and the businesses are similar to one another in terms of input and operational requirements. The study found that firms that diversify across product lines are likely to have higher debt ratios than non-diversified firms. In differentiating between the scopes of diversification and observing the difference between related and unrelated diversification, the study found that related-diversified firms have a lower debt ratio than specialized firms, whereas unrelated-diversified firms have higher debt level.

The findings from the regression analysis revealed that related product diversification has a positive and significant influence on debt to equity ratio of non-financial firms listed on the Nairobi Securities Exchange. Firms prefer the use of equity to debt in running their operations. These findings concur with Rocca et al. (2009) argument that related product diversification influences the debt to equity ratio.

Firms should not be considered as a homogeneous group on the basis of some of their attributes like their subsidiary network structure and their level of product

diversification. The results suggest that not only does this heterogeneity extend to the financial profiles of the firms but also to the relationship between the capital structure of firms and their determinants. The regression analysis reveals that product diversification is significantly related to the debt ratios for non-financial firms listed on the Nairobi Securities Exchange. These findings are contrary to Knoll (2007) argument that equity financing is the preferred mode of financing in related diversification. This is because the primary motive behind related diversification is creation of synergy, as the related diversified companies could gain both operative or growth synergy advantages and these could be obtainable through capability up gradation, scale effects, or entry into new market segments.

5.2.2 Influence of Geographical Diversification Strategy on Capital Structure

Geographical diversification involves moving to new markets outside home market and may include movements to regional or geographical countries. According to Kim and Mathur (2008), geographical diversification boosts the worth of shareholders by taking advantage of specific assets, by accelerating functioning flexibility and by satiating investors' preferences for holding worldwide diversified positions. Global diversification adds value to companies because of extensive information-based resources related to research and development as well as advertising. A globally diversified firm, can shift production from one country to another country with lower cost of production as well as shift production to a country whose demand is higher.

The study found out that geographical diversification strategy had no significant influence on a firm's capital-structure decisions. These findings are contrary to Kim and Mathur (2008) findings that firms diversified in related segments promote the use of equity to finance the growth of the companies. However, the findings agree with Yaffe (2008) argument that there is no significant relationship between geographical diversification and capital structure. Eiteman et al. (1998) observe that MNCs and their subsidiaries use less debt as compared to their domestic counterparts but gradually the leverage of MNCs increases with the increase of their foreign involvement.

5.2.3 Influence of Unrelated Product Diversification on Capital Structure Decisions

Unrelated diversification is the expansion of a company beyond its current strategic capability, where its new businesses or subsidiaries have little or no relatedness with old businesses. Reduction of overall company risk and increase in profitability are the main motives behind this strategy. As compared to related ones, unrelated diversifiers have a better position to create financial synergies by transferring capital across different businesses and through operating various businesses with different risk profiles.

The study established that unrelated diversification had a significant effect on a firm's current debt to equity ratio. This finding implied that there is a target debt-to-equity ratio for the firms. From the results above, unrelated diversification is positively related to capital structure. These firms usually have more debt to equity ratio. The non-financial firms listed on the Nairobi Securities Exchange tend to move toward an optimal debt level such that a trade-off approach well-explains their capital-structure decisions. In particular, the capital-structure decisions of unrelated diversified firms seem to be strictly aimed at reaching their target optimal debt levels, a behavior that is consistent with the trade-off hypothesis. This finding is in agreement with that of Low & Chen (2004) that the relationship between unrelated diversification and capital structure is determined by the type of firms, with multi-national companies having a positive relationship between unrelated diversification and capital structure.

5.3 Conclusions

The study concludes that related product diversification strategies influence capital structure decisions of non-financial firms listed at NSE. Related diversification helps a company to expand to new products and markets but within the existing strategic capability. The study results show that debt is the most preferred form of financing in related product diversification strategies.

The study also concludes that unrelated product diversification strategies influence capital structure decisions of non-financial firms listed at NSE. The main motive behind this strategy is reduction of overall company risk and increase in

profitability. Unrelated diversifiers have a better position to create financial synergies by transferring capital across different businesses and through operating various businesses with different risk profiles. The findings of this study show that debt if the most preferred form of financing in unrelated product diversification strategies.

The study further concludes that geographical diversification strategies influence capital structure decisions of non-financial firms listed at NSE. Geographical diversification boosts the worth of shareholders by taking advantage of specific assets and by accelerating functioning flexibility. However, the sophistication of geographical diversified organizations can result in higher costs of coordinating business guidelines due to information unevenness between companies' headquarters and divisional managers. Therefore, debt and equity are not the preferred forms of financing in geographic diversification strategy.

5.4 Recommendations

The study recommends that the listed non-financial firms listed at NSE are completely different in terms of their operations and their decisions for their respective capital structure decision between equity and debt financing. As such one cannot make a generalized conclusion on the operations and the capital structure decisions for all the listed non-financial firms. This observation informs policy in that non-financial firms are independent at firm level and any analysis calls for individual firm analysis to avoid biased results.

The study found that the use of related diversification leads to an increased market power. This study recommends that firms can increase their market power through increasing their new products and markets, which can be financed though debt financing.

The study also found that unrelated diversifiers have a better position to create financial synergies by transferring capital across different businesses and through operating various businesses with different risk profiles. To finance unrelated diversification, firms can use debt financing. However, they need to pay attention to environmental conditions, which can negatively affect performance.

The study recommends that the management of firms should strive towards having optimum capital structure by increasing their equity level and reducing

dependence on debts so as to avoid being cash strapped and debt ridden. This is because, beside equity holders providing funding, they could be helpful by bringing in their business experiences, skills, and contacts to grow the s. Investors are often prepared to provide follow-up funding as the business grows and they take a long-term view as most do not expect return on their investment immediately.

The study established that there was geographical diversification had no significant influence on capital structure decisions. This study recommends that firms focus on geographic diversification as it has advantages such as lower cost of production, but it should not be financed through debt or equity.

5.5 Recommendation for further Study

This study was limited to non-financial firms listed at NSE. The study therefore recomnends further studies on the relationship between corporate diversification and capital structure decisions of financial firms listed in the NSE. The study also found that corporate diversification explains only 2.56% of the capital structure decisions of financial firms listed in the NSE. The study therefore suggests further studies on the other factors affecting capital structure decisions of financial firms listed in the NSE.

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APPENDIX

APPENDIX I –LIST OF NON-FINANCIAL FIRMS USED IN THE STUDY

	SECTOR
	AGRICULTURAL
1	Rea Vipingo
2	Kakuzi Ord.5.00
3	Sasini Ltd Ord 1.00
4	Williamson Tea Kenya Ltd Ord 5.00
	AUTOMOBILES AND ACCESSORIES
5	Car and General (K) Ltd Ord 5.00
6	Sameer Africa Ltd Ord 5.00
	COMMERCIAL AND SERVICES
7	Express Ltd Ord 5.00
8	Kenya Airways Ltd Ord 5.00
9	Standard Group Ltd Ord 5.00
10	Scan group Ltd Ord 1.00
11	TPS Eastern Africa (Serena) Ltd Ord 1.00
12	Deacons (East Africa) Plc Ord 2.50
13	Hutchings Biemer Ltd Ord 5.00
14	Uchumi Supermarket Ltd Ord 5.00
15	Longhorn Kenya Ltd
	CONSTRUCTION AND ALLIED
16	Athi River Mining Ord 5.00
17	Bamburi Cement Ltd Ord 5.00
18	Crown Berger Ltd 0rd 5.00
19	E.A.Cables Ltd Ord 0.50
	ENERGY AND PETROLEUM
20	Kenya Power & Lighting Co Ltd
	INVESTMENT
21	Centum Investment Co Ltd
22	Home Afrika Ltd

23	Olympia Capital Holdings Ltd
24	Trans-Century Ltd
	MANUFACTURING AND ALLIED
25	B.O.C Kenya Ltd Ord 5.00
26	British American Tobacco Kenya Ltd Ord 10.00
27	Carbacid Investments Ltd Ord 5.00
28	East African Breweries Ltd Ord 2.00
29	Mumias Sugar Co. Ltd Ord 2.00
30	Unga Group Ltd Ord 5.00
31	Eveready East Africa Ltd Ord.1.00
	TELECOMMUNICATION AND TECHNOLOGY
32	Safaricom Ltd Ord 0.05

Source https://www.nse.co.ke/listed-companies/list.htm