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Moderating Effect of Firm Characteristics on the Relationship Between Capital Structure and Financial Performance of Medium-sized and Large Enterprises in Kenya

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Abstract
The purpose of this study was to establish the moderating effect of enterprise characteristics on the relationship between capital structure and financial performance of medium-sized and large enterprises in Kenya. The study drew on secondary data consisting of audited financial statements from 60 large enterprises listed at the NSE and 30 medium-sized enterprises totaling to 90 enterprises for six year period (2011 to 2016). The objective of the study was to establish the moderating effect of enterprise characteristics on the relationship between capital structures and financial performance of medium-sized and large enterprises in Kenya. SDTAR, LDTAR and TDTET represented capital structure proxies; ROE and ROA represented financial performance while size and age represented enterprise characteristics. The study was anchored on positivism paradigm and guided by the following capital structure theories: static trade-off theory, pecking order theory and free cash flow theory. Descriptive statistics and inferential statistics were used to analyze data. Multiple regressions were applied to establish the extent of the effect of enterprise characteristics on the relationship between capital structures and financial performance while Pearson correlation was used to ascertain the moderating effect of firm characteristics on the relationship between capital structure and financial performance. The hypothesis was tested using calculated F-value and the critical value of F. The study established significant positive moderating effect of enterprise characteristics on the relationship between capital structures and financial. However, size and age reduced the explanatory powers of accounting for the variability in ROE while they increased explanatory powers for ROA. In conclusion the study found that decrease in ROE and increases in ROA were attributed to change in size and age. In improving financial performance it was recommended that enterprises invest in easily re-locatable and quality. Future studies to investigate other factors that account for variability in financial performance and other enterprise characteristics of medium-sized and large enterprises in Kenya.
Keywords: capital structure, enterprise characteristics, financial performance

1.0 Introduction

Enterprises operating in a world that is highly dynamic and vibrant with competitive business environment need to maximize on their financial performance for their growth and survival in that environment. This requires sound capital structure decisions as these decisions do affect their abilities in dealing with the competitive environment. The first attempt made to examine or explore capital structures was the theory developed by Paton in 1922. This was supported by Modigliani and Miller (1963) who argued that under a perfect market setting capital structures do not influence the value of an enterprise. Their proposition explained that enterprise value is measured by real assets and not by the financing mode. The actual long history of attempting to build capital structures theories of started with the presentation of a paper by Modigliani and Miller (1958) when they revealed conditions under which capital structures are relevant or irrelevant to the financial performance of listed enterprises. They argued that, in a world without friction, there is no difference between debts and equities financing regarding the value of enterprises and therefore, financing decisions add no value and are of no concern to enterprise managers. However, the reality nowadays is that, capital structures are some of the most important financial decisions for serious business organization or an enterprise that needs to maximize its financial performance. Capital structures and their influence on the enterprise performance and the overall value of an enterprise have remained issues of great concern amongst financial scholars and academicians since the decisive seminal paper of Modigliani and Miller in 1958. Globally, other theories like static trade-off, dynamic trade-off, perking order theory (Myers, 1984, Myers and Magluf, 1984), and market timing theory (Baker and

Wurgler (2002) emerged after some years following the perfect market capital structure irrelevance model. Researchers and practitioners have explained conflicting theories on capital structures. Durand (1952) using the Net Income Approach argued that enterprises can decrease their cost of capital and increase their values through debt financing. In contrast Modigliani and Miller (1958) argued that the value of enterprise is free of its debts to equities ratios. Atkin and Glen (1992) pointed out that there were no reasons to argue that enterprises in developed economies have different objectives from those in developing economies. However, because capital markets in developing economies are less developed than the developed economies, then there is reason to believe that their capital structures behavior may be different. Marsh (1982) tested the choice between debts and equities capitals for enterprises in United Kingdom and established that enterprises tend to have target levels of debts in mind. Rajan and Zingales (1995) revealed that in Germany and United Kingdom, enterprises were under levered compared to the United States enterprises. In terms internally generated funds, Myers (1988) found that retentions accounted for huge amounts of investment for non-financial enterprise in United Kingdom. Lemmon, Zender and Jaime (2010) revealed that enterprises rely on internally generated finances. Capital structures explain how enterprises finance their projects and plans. The capital structures proportions determine how the profits of the firms should be divided between creditors and the business owners. Hence, capital structures are mixes of debts and equity capitals that enterprises maintain to finance their operations efficiently. However, how organizations are financed is of great importance to the managers of the enterprises and the providers of financial resources, because if wrong mix of finance is employed, the financial performance, growth and survival of enterprises are seriously affected (Osuji and Odita, 2012). Deciding on capital structures proportion is one of major concerns for enterprise's financial managers and business owners, since it is about a trade-off between risks and costs (Ross *et al.* 2008).

Organizational performance is made of three specific areas of an enterprise's outcome: financial performance (profits, ROE, ROA, ROI, etc), product market performance (sales, market share, etc) and shareholders returns (total shareholder return, economic value added, etc) (Pierre, *et al* 2009). Ruigrok and Wagner (2003) suggested that performance can be conceptualized on two main dimensions: financial and operational (non-financial) performance. Financial performance is divided into measures based on accounting data (indicating past performance) and those grounded in capital market values (reflecting investors' expectations of future performance). Therefore, financial performance is the ability of an enterprise to make or get profits (Saidi 2004) or it is the enterprise's ability to achieve planned results as measured against expected outputs (Gleason and Barnum, 1982). It includes output related to market and financial performance. It can also be defined as the firm's ability to achieve objectives by using resources in an efficient and effective manner (Daft, 1995) and, Soliha and Taswan (2002), argued that financial performance is net profit margin that can be achieved by an enterprise while conducting its activities. Financial performance refers to the ability of enterprises to generate more resources from the day to-day operations in a period of time (Bora, 2008). It involves enhancing the profits and wealth of the shareholders (Pandey, 2005). The wealth of the shareholder is mostly influenced by growth in sales, capital investment, improvement in profit margin and capital structure decisions (Arnolt and Asness, 2003). Van, (2005) defined financial performance as a subjective measure of how best an enterprise uses assets from its primary mode of business and generate more revenues. Firm characteristics are the attributes that make enterprises to be different from each other. They are enterprise's demographics and managerial variables which comprise part of the enterprise's internal environment that include size, leverage, assets growth, liquidity, sales growth, turnover, and ownership structure, age of enterprise, dividend payout, board structure, profitability, growth opportunity and access to capital markets (Kogan and Tian, 2012; Mcknight and Weir, 2008 and Titman and Subrahmanyam, 2001). By analogy, enterprises should weaken over time and lose their ability to compete in the market. Therefore, establishing the relation between enterprise age and financial performance was relevant for theory and practice. Loderer, Neusser and Waelchli (2009) stated that if performance declines as enterprises grow older, it explains why most of them are eventually taken over. However, age could actually help enterprises to become more efficient since over time they discover what they are good at and learn how to do things better (Arrow, 1962 and Jovanoic, 1982, Ericson and Pakes, 1985). Some enterprise characteristics such as age (Yadenfar, 2013); leverage and size (Dogan, 2013) influence financial performance of an enterprise. Galbreath and Galvins (2008) established that enterprise characteristics highly influence enterprise's performance. Therefore as enterprises age, they find and specialize in better ways to speed up, coordinate and standardize their production processes, reduce costs and improve product quality. They also benefit from reputation effects that enable them to earn higher profit margin on sales. LiPuma *et al* (2013) in their study focused on new and old enterprises and looked at the number of years that the business has been in operation legally. From the trade-off theory angle, the enterprise's size should have a positive relationship with the enterprise leverage, since bigger enterprise have well diversified portfolio, less risk and thus larger borrowing capacity and suffer less financial distress (Rajan and Zingales, 1995), while the pecking-order theory suggests an opposite conclusion. Due to asymmetry information smaller enterprises have lower credit rating to convince lenders, hence external capital like debt appears to be costly. Medium and large enterprises make a vital

contribution to the economic wellbeing, creating jobs and growth in prosperity of developed and developing countries. The role of these enterprises is and will continue to be in the forefront of investors, academicians and policy makers in developed and developing economies. Therefore, there is need to study the moderating effect enterprise characteristics on the relationship between capital structures and financial performance of these enterprises. It is on this background this study sought to show the relationship between capital structures and financial performance and then the moderating effect of enterprise characteristics on the relationship between capital structure and financial performance of medium-sized and large enterprises in Kenya.

1.2 Statement of the problem

Capital structure decisions result in a given capital structure and unsound capital structure can lead to enterprise's failure (Chisti, *et al*, 2013). Whether an optimal capital structure exists is a great dilemma to investors, scholars, other stakeholders and business managers. Therefore to measure the quality or soundness of a capital structure decision is to establish a relationship of such decision on the enterprises' financial performance (Gillet, *et al*, 2011). Some studies have been carried out all over the world to investigate the moderating effect of enterprise characteristics on capital structure and financial performance; for example Atif and Qaiser (2015) in establishing firm's size moderating financial performance in growing firms in Pakistan found that firm size has positive correlation between enterprise size and return on assets; Maniagi, *et al* (2013) in their study capital structures and performance established a positive correlation between return on equity and capital structures. Kaguri (2013) in revealing the relationship between enterprise characteristics and financial performance of insurance companies in Kenya listed at NSE found an insignificant correlation between firm age and financial performance of life insurance companies and Kioko (2013) determined a positive correlation between firm size (net assets) financial performance measured by ROA. Most of the studies that have been undertaken in and outside Kenya have focused mostly on the relationship, impact or effect between enterprise characteristics and financial performance and not on the moderating effect of firm characteristics on the relationship between capital structure and financial performance. This study has established the moderating effect of firm characteristics on the relationship between capital structure and financial performance of medium-sized and large enterprises in Kenya

The main objective of the study was to establish the moderating effect of enterprise characteristics on the relationship between capital structures and financial performance of medium-sized and large enterprises in Kenya. The specific objective was to determine the relationship between capital structures and financial performance. The hypotheses of the study were:

i) **H_1**: There is a significant positive relationship between capital structures and financial performance of medium-sized and large enterprises in Kenya.

ii) **H_2:** Enterprise characteristics have a significant positive moderating effect on the relationship between capital structures and financial performance of medium-sized and large enterprises.

2.0 Literature Review

There is no universal theory of capital structure choice and no reason to expect one (Myers 2001). However there are some useful theories that help to understand the capital structure that enterprises choose. These theories either predict the presence of optimal capital structure for each enterprise or state that there are no clear capital structures. This study was anchored on the following theories: static trade-off theory (Kraus and Litzenberger 1973 and Myers 1984). The theory assumes that enterprises have a target capital structure created by trading off the costs against the benefits of the use of equity and debt. The theory postulates that enterprise managers work towards the balancing of benefits of interest tax shields and the current value of the costs of financial distress (Myers, 2001). Jensen and Meckling (1976), suggest that the enterprise's optimal capital structure involves the trade-off of corporate and personal taxes, bankruptcy costs and agency costs that arise from the separation of ownership and control, and conflicts of interest between categories of agents. The trade-off theory has four predictions: firstly, it predicts that enterprises will have a target debt ratio and the ratios differ from one enterprise to another. Secondly, it predicts that enterprises with safe and quality tangible assets are less prone to financial distress costs and are expected to borrow more. Conversely, enterprises which have risky intangible assets are more exposed to financial distress costs and borrow less. This prediction was confirmed by Rajn and Zingales (1995), Frank and Goyal (2010) and Qiu and La (2010). Thirdly, it predicts that a higher marginal tax rate is associated with a higher level of debts. Finally the theory predicts that enterprises with more taxable income and relatively few non-debt tax shields such as investment tax credits and depreciation have more incentives to borrow more (DeAngelo & Masulis, 1980). Therefore the prediction of static trade-off theory is that enterprises target their capital structures; the dynamic trade-off model is used when considering the option values embedded in deferring debt decisions to future periods. In practice, enterprises operate for long period of time thereby making the dynamic trade-off theories more relevant to the real world in explaining the relationship between an enterprise's capital structures and financial performance. The core point of this theory is that an

enterprise will pursue an optimal debt ratio and any deviation resulting from random shocks will be adjusted without any time lag and transaction costs. This proposition supports the view that an enterprise will maintain high levels of debt to avail tax savings benefits (Kane *et al* 1984, Brennnan and Schwartz 1984, Goldstein *et al* 2001 and Strebulaev 2007). However, the assumption that firms rebalance debt ratios swiftly without any transaction costs is questionable. In dynamic settings retained earnings and transaction costs are of great importance as profitable enterprises may prefer to retain earnings in order to minimize costs of raising funds in the future. Therefore, the optimum financial choice today depends on the expected optimal capital structure in the next period; Donaldson (1961) founded the pecking order theory when he carried out a survey of 25 large United States enterprises and revealed that that management strongly prefer to use internal funds when available and prefer not to use external equity of funds unless internal sources are not available. Later Myers and Magluf (1984) argued that information is the base that managers and investors depend upon when making decisions regarding issuing equity or borrowing funds. The pecking order theory is an alternative theory as discussed by Myers (1984), Myers and Majluf (1984) and Fama and French (2002). The theory does not declare a well-defined target capital structure. However, it explains why internal finance is more popular than external finance and why debt is considered the best option for enterprises. Debt finance is considered attractive, cheaper and more profitable as it is considered flexible. The theory describes an enterprise's debt position as the accumulated outcome of past investment and capital decisions. Myers and Majluf, (1984) predict that managers tend to follow the pecking order whenever they are making financing decisions. Raja and Zingales (1995) argue that larger firms tend to disclose more information to outside investors than smaller ones and hence with less asymmetric information problems tend to have more equity than debt leading to lower leverage. However, larger firms are often more diversified and have more stable cash flow lowering the probability of bankruptcy as compare to smaller firms. Owadabi and Anyang (2013), argue that increasing debt instills discipline in managers as they will be cautious not to make the enterprise insolvent. Fama and Fench (2002) in their study based on cross-section and time series methods supported the pecking order theory by revealing an enterprise's leverage and profitability relate negatively. Pratheepkanth (2011) studied capital structure and its impact on financial performance of enterprises in Sri Lanka and found a negative relationship between capital structures and financial performance of enterprises. The market timing theory assumes that enterprises time their equity issues and issue new shares when the share prices are perceived to overvalued and buy their/own shares back when they are undervalued. This overvaluation and undervaluation in share prices affects the capital structures of enterprises. The theory assumes that the economic agents are rational and enterprises issue equity directly after a positive information release which reduces the asymmetry problem management and shareholders of the enterprises. The decrease in information asymmetry increases market share prices and in turn enterprises set their own timing opportunities or time. The second assumption of the theory is that it assumes that agents have irrational behavior (Baker and Wurgler, 2002).

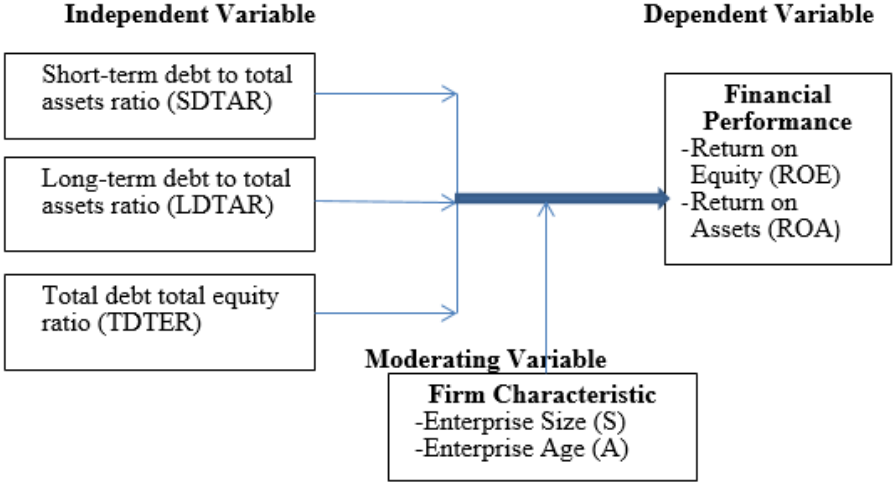

Figure 2.1: Conceptual Framework

2.2 Empirical Studies

Empirical literature review is a directed search of previous published works, including books and periodicals that have discussed theories and presented results relevant to the current topic under discussion (Zikmud, 2010).

Kajananthan and Nimalthansan, (2013), in their study revealed that capital structure significantly contributes to returns on equity and insignificantly to return on assets. Returns on equity and assets are significantly correlated with debt to equity ratio, while return on equity is significantly correlated with debt to assets ratio as the measure of capital structure. The study showed that increase in debts affects returns on equity

negatively. Mahammad and Jaafer (2012) established negative correlations between capital structures as measured by total debt, short-term debt and long-term debt and financial performance. Abbasali and Esfandiar (2012), in their study established a significant negative relationship between capital structure as measured by debt ratio and financial performance as measured by ROE and ROA. The study of Niway (2016) indicated that an increase in debts affected the financial performance of enterprises negatively. Sorana (2015) established a negative and significant relationship between total debts and ROE and ROA. Tangible assets correlate negatively with ROE and ROA. All the three debt ratios – TDTA, LDTA and SDTA - have negative impact on ROE and total debts to total equity ratios showed positive impact on ROE and ROA. Short-term and long-term debts indicated significant relationship with ROA and ROE. Short-term debt and ROE have significant moderate negative relationship and very weak insignificant negative relationship with ROA. Long-term debt has insignificant very weak relationship with ROE and weak and insignificant negative relationship with ROA, however there is a positive and significant relationship between ROE and capital structures (Zuraidah *et al,* 2012). Mirza and Javel (2013) in their study of determinants of financial performance of enterprises quoted at Pakistani Stock Exchange concluded that the firms that have well-governed ownership structure, capital structure and proper risk management have better financial performance. He (2013) studied a comparison of impact from capital structures to corporate performance between Chinese and European listed enterprises. Using data from 1200 firms in Germany and Sweden and 100 listed companies in China established that capital structure has significant negative effect on enterprise performance in China and significant positive effect on firm performance in Germany and Sweden.

The study of Puwanenthiren (2011) revealed negative relationship between ROA and capital structure. Kamau (2010) studied the relationship capital structure and financial performance of insurance companies in Kenya. The study established a weak relationship between financial performance and capital structure implying that debts to equity ratio accounted for a small percentage of financial performance among insurance companies in Kenya. The study of Rakesh (2013) determined a negative relationship between capital structure and ROA. Nawaz and Mohsin (2016) in their study provided evidence showing a negative relationship amongst financial performance and leverage. Thomas (2014) studied the relationship between Capital Structure and Financial Performance of Manufacturing Companies quoted on Nairobi Securities Exchange and revealed that there was no association between capital structures and financial performance of manufacturing companies at NSE. Younus *et al* (2014) in their study illustrated a weak positive relationship between capital structure and ROE and a strong positive association between capital structure and ROA. The association between capital structure and financial performance measured by ROE and ROA is negative and significant (Jeannine *et al* (2016). Thamila and Arulvel (2013), using secondary data 2007-2011 studied the relationship between capital structure and financial performance of listed firms in Colombo Stock Exchange and revealed a negative association between capital structure and financial performance. They used net profit ratio, returns on capital employed ratio and return on equity ratio as measures or indicators of financial performance. Saeed, *et al* (2013), investigated the impact of capital structure on performance of Pakistani banks in 2007-2011. ROE, ROA and earnings per share were used as measures of performance while long-term debts to capital ratio, short-term debts to capital ratio and total debts to capital ratio were used as capital structures proxies. Applying the multiple regressions, they deduced a significant positive association between capital structure and performance of the banking industry. Vedran (2012) studied capital structure and firm performance in financial sector in Australia and revealed a significant and strong quadratic positive association between capital structure and firm performance at a relatively low level of debt capital structure and at relatively high levels of debt capital structure reported a negative correlation between capital structures and performance. Gleason and Mathur (2000) deduced a negative impact between leverage and the profitability of firms in Europe. Akinyomi (2013) using the static trade-off and pecking order theories, adopted the use of correlation analysis method and showed that debt to capital, debt to common equity, short-term to total debt ratios and age of firms were significantly and positively related to ROE and ROA. However, long-term debt to capital was significantly and negatively related to ROE and ROA.

Thamila and Arulvel (2013) researched on the relationship between capital structure and financial performance of Colombian listed companies using secondary data, 2007-2009. They selected 30 companies for the analysis. Net profit, return on capital employed and return on equity ratios were used as financial performance indicators. The study established a negative relationship between capital structure and financial performance. Velnampy and Nimalathasan (2010) studied the relationship between firm size and profitability of all branches of banks in Ceylon and commercial banks in Sri Lanka over a 10 year period – 1997-2006. They observed positive relationship between enterprise size and profitability in commercial banks but no association between firm size and profitability in branch banks of Ceylon. Ozgulbas *et al* (2006) studied the effect of firm size on performance of firms operating in Istanbul Stock Exchange in 2000-2005. They established that big scale firms have higher performance than that of small scale firms. Becker *et al* (2010) investigated the effect of firm size on profitability in firms operating in manufacturing sector in USA. The result of the study showed a negative and statistically significant relationship was found between total assets and profitability. Banchuevjit

(2010) explored factors affecting performance of firms operating in Vietnam. The study established a positive relationship between total assets and profitability of firms. However, in the contrary negative relation has been found between total assets and profitability. Nirese and Velnampy (2014), studied firm size and profitability: A study of listed manufacturing firms in Sri Lanka. The study showed a weak positive relationship between size indicators and profitability of listed firms in Sri Lanka. Atif and Qaisar (2015) studied the moderating of firm size between firm growth and firm performance. They used cross-sectional data from 50 firms quoted at Karachi Stock Exchange. The study established a positive and weak correlation between firm size and return on assets. Degreyse *et al* (2010) established a significant support concerning positive relationship between total debts and collateral – tangible assets. Olatunji *et al* (2014) determined that tangible assets have strong statistically significant effect on financial performance of enterprises. Jeniffer and Philip (2015) established significant positive association between tangible assets and debts to total assets ratio. Roanne (2013) established weak positive significant correlations between ROA and tangible assets and a positive insignificant relationship between ROE and tangible assets. Anthony (2015) in his study the effect of debts financing on the financial performance of companies quoted at the Nairobi Securities Exchange determined insignificant and weak correlations between ROA and tangible assets. Chunhua and Meiyan (2013) studied impact of capital structure and firm performance using information communication technology in Shanghai and Shanzhen stock exchange. They deduced a negative correlation between capital structure and profitability.

Osuji and Odita (2012) examined the impact of capital structures on financial performance of Nigerian firms: non-financial firm listed at Nigerian stock exchange. They used panel data and analyzed the data using Ordinary Least Squares as a method of estimate. They established that debt ratio has significantly and negatively impacted on ROA and ROE negatively; a negative relationship between ROA and tangible assets (enterprise size) but insignificantly positive with ROE and tangible assets. The correlations between ROA, ROE and age of enterprises are positive and significantly weak (Roanne, 2013). Salteh *et al* (2012) studies the impact of capital structure on financial performance using ROE, ROA, EPS, market values of equity to book value of equity and Tobin's Q as performance measures while short-term debt, long-term debt, total debt to total assets and total debt to total equity ratios were used as capital structures proxies. The study covered a 5 year period 2005-2009. The study revealed that firm performance as measured by return on equity, market value of equity to book value of equity, and Tobin's Q was significantly and positively association with capital structure while return on assets and earnings per share was negative and concluded that firm performance is positively or negatively related with capital structure.

The studies of Coad *et al* (2013) and Gaur and Gupta (2011) support positive association between age and enterprise performance stating that experience due to age assists the enterprise to perform financially better. Aging enterprises experience increasing levels of profits, production, lower debt ratios, higher equity ratios and larger size. They also found that older enterprises have lower growth rate of sales, productivity and profits thereby establishing positive and negative relationships (Coad, *et al,* 2013). Agarwal and Gort (2002) established that age and financial performance related negatively indicating that old age make knowledge, abilities and skills obsolete leading to enterprises decay and poor financial performance. Waelchli (2010) also established that as the enterprises age their financial performance drops indicating that age affected financial performance negatively. Lodeerer and Waelchli (2010) studies firm age and performance and found negative correlations between age and financial performance of enterprise. Abbasali and Esfandiar (2012) revealed that there was a significant association between age of enterprise and returns on assets and equity. In their study they established that there is a negative insignificant correlation between ROA and age of enterprise, a very weak positive insignificant correlation between ROE and age of enterprise. Osuji and odita (2012) revealed insignificant negative relationship between ROA and age of the firm and significant association between ROE and age. Abbasali and Esfanndiar (2012) in their study the relationship between capital structure and firm performance established that there is a weak positive correlation between ROA and tangible assets and a very weak positive insignificant relationship between ROE and tangible assets and a negative relationship between ROE, ROE and age. Hall *et al* (2004) revealed that age of enterprise is positively association or related to long-term debts but negatively related to short-term debt. Esperanca *et al* (2003) however, found that age is negatively related to both long-term and short-term debts. Jani *et al* (2005) asserts that life cycle of an enterprise influences the debts level. Loderer *et al* (2009) established positive and significant relationships between age of enterprise and profitability and concluded that age has significant effect on financial performance. Their study inferred that age helps enterprises to be more efficient as they discover what they are good at and better ways of carrying out their operations. Sorensen and Stuart (2000) established that age affects firm performance.

3.0 Methodology

3.1 Research Philosophy

Research philosophy is a way in which data about a phenomenon is gathered, analyzed and used. It focuses on source, nature and development of knowledge. It is concerned with how the world operates or works and being

an academic subject, it focuses on reality, knowledge and existence. Major research philosophies include positivist and interpretivist (Galliers, 1991). Positivists believe that reality is stable, observable and describable from an objective view point (Levin, 1988), that is without interfering with the phenomenon being studies. The study was anchored on the positivist research paradigm. This is appropriate for this study since we seek to determine the effect of capital structure on financial performance and then moderating effect of enterprise characteristics on the relationship between capital structure and financial performance of medium-sized and large enterprises in Kenya, which is a quantitative study and hence eliminating subjectivity.

3.2 Research Design

The study was an explanatory study and its design was ex-post design as secondary data were used to examine the moderating effect of enterprise characteristics on the relationship between capital structures on enterprise's financial performance. The main objective of the study was to establish the moderating effect of enterprise characteristics on the relationship between capital structure on financial performance of medium-sized and large enterprises in Kenya. To achieve the objective of the study, a quantitative approach was applied. A secondary source of data was used to provide capital structures and financial performance data from 2011 - 2016. Data was obtained from the Capital Market Authority (CMA), Nairobi Securities Exchange (NSE) and direct from the individual enterprises. Then various ratios were calculated.

3.3 Population

The target population considered for the study was the Top-100 medium-sized enterprises which have reached or crossed the mark of ksh.1 billion turn-over by the end of 2011 – 2016 financial periods and the 63 enterprises quoted at the NSE by the year 2016 totaling to 163 enterprises.

3.4 Sampling Frame

The Top-100 medium-sized enterprises have been identified through a competition organized by Klynveld Peat Marwick Goerdeler (KPMG) and they are assumed to have organized records which are suitable to provide quality data and information for the study. The large enterprises consist of the listed enterprises at the Nairobi Securities Exchange (NSE). The study enlisted all the 63 NSE listed enterprises. If a population consists of 100 or fewer study objects, a census is conducted (Saravanavel, 2007). Since the population of medium-sized enterprises is 100 and the listed firms are 63, census was applied on each group.

3.5 Research Instruments

Secondary data was directly collected from the Kenyan Capital Market Authority, Nairobi Securities Exchange and individual medium-sized enterprises using a template. Reliability test was carried out by finding out who collected the data, establishing the source of the data, the time it was collected and the method used in collecting the data. Validity test was carried out to assess if the information or data obtained was valid by evaluating whether the data relates to the problem or hypotheses under investigation and for accuracy determine if the information was consistent with information generated from other reputable sources. In the study Cronbach coefficient was used to measure the reliability in relation to the operationalization of the constructs in this study

3.6 Data Collection Procedure

The researcher analyzed the research hypotheses by making use of secondary data relating to the top-100 medium and 63 large enterprises in Kenya. The data was limited to the period of 2011-2016. The secondary data used in the study was sourced from NSE, CMA for large enterprises and direct from medium-sized enterprises using a template.

3.7 Data Processing and Analysis

The raw data from the field was transformed into ratios and was used to test the hypotheses. However, before data analysis was carried out, the data was examined for completeness, integrity and consistency, and then categorized all the items, cleaned, edited and coded. Statistical techniques like correlation analysis, regression analysis and analysis of variances (ANOVA) were used during data analysis. Statistical Package for Social Sciences (SPSS) version 20 was used to facilitate the analysis as it has in-build formula. It was used for generating tabulated reports, compare means and correlation. Descriptive analysis, correlation analysis and regression analysis were used to analyze the data. Correlation analysis was used to determine an association between two or more quantified variables where the magnitude and direction of correlations are expressed by correlation coefficients (Cohen et al 2013). Descriptive analyses produced measures of central tendency – frequencies, mean values and standard deviation - presented in tables and appropriately interpreted. Linear analysis involves measuring the linear association between dependent variables and independent variables. Multiple linear regression models were used to establish the influence or effect among predictor variables.

Pearson correlation was applied to assess the strength of linear relationship between each of the independent variables and the dependent variables. F-test was used in testing the hypotheses. The regression models were tested on how well they fit the data. The model fitness was estimated using the coefficient of determination which explained how closely independent variables explain the variations in the dependent variables. The significance of each independent variable was tested using the t-test statistic. The F-test was used to test the hypotheses. The benchmark for accepting or rejecting the null hypothesis at a significance level of 5 percent was the critical F-value. If the critical F-value is less than less than the calculated F-value, the null hypothesis is rejected and the alternative hypothesis accepted and vice versa. The F-test was also used to test the significance of the overall model at a 95 percent confidence level. If the p-value was less than 0.05 then it was concluded that the model was significant and has good predictors of the dependent variable and the results are not based on chance and if the p-value was greater than 0.05 then the model was not significant and cannot be used to explain the variations in the dependent variables.

3.8 Diagnostic Tests

Diagnostic tests were carried out to assess non-violations of the assumptions of the classical regression model before attempting to estimate equation. Linearity, normality, autocorrelation, multicollinearity and heteroscedasticity tests were performed to ensure proper specification of the equations given below.

Specific objective was stated as follows;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where:

Y = Financial Performance; β_0 = the Y intercept

β_i; (i= 1,2,3) = coefficients representing various independent variables

X_i; (i = 1,2,3) = values of various independent variables

X_1 = long-term debt to total assets ratio; X_2 = short-term debt to total assets ratio

X_3 = total debt total equity ratio; ε = the error term

The general or main objective was as follows:

$$Y = \beta_0 + Z(\beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3) + \varepsilon$$

Where Z = natural log of firm characteristics

i) ZS = natural log of firm size measured by tangible assets.

ii) ZA = Natural log age of enterprise – number years in existence

4.0 Results and Discussions

4.1 Response Rate

The numbers of observations made were six per an enterprise totaling to 540 observations from 30 medium-sized and 60 large enterprises during the study period 2011-2016.

4.2 Diagnostic Tests

Various tests were carried out to ensure that coefficients of estimates were consistent and could be relied upon in making inferences. Regression can only be accurately estimated when the basic assumptions of multiple linear regressions are observed (Greene, 2002). The assumptions of this study included reliability, normality, heteroscedaticity, autocorrelation and multicollinearity.

4.2.1 Reliability Test

Cronbach's Coefficient Alpha was used to assess the reliability in relation to the operationalization of the constructs in this study. Table 4.2 below shows very strong internal consistency reliability of the template used to collect the data.

Table 4.1: overall and Constructs variables Reliability Tests

Construct variables	Cronbach's Alpha	Number of items
TDTER	0.967	6
LDTAR	0.950	6
SDTAR	0.971	6
ROE	0.913	6
ROA	0.919	6
CPS	0.868	18
CPS*ZS	0.875	18
CPS*ZA	0.898	18
Overall reliability test	0.888	66

CPS=capital structure; CPS*ZS=capital structure multiplied by natural log of size (total tangible assets); CPS*ZA=capital structure multiplied by natural log of age of enterprise

The above table 4.1 showed that the alphas of the construct variables were above 0.8, thereby revealing a

very strong reliability of the instrument used in collecting data.

4.2.3 Multicollinearity Tests

The Variance Inflation Factor (VIF) was used to test for multicollinearity. A tolerance value of equal or less than 0.1 signals the presence of multicollinearity and any of the VIF values more than 5, implies that related regression coefficients are poorly estimated because of multicollinearity. The table 4.2 below shows that multicollinearity did not exist among the variable.

Table 4.2: Multicollinearity Results for Capital Structure Proxies

Capital structure proxies	Collinearity statistics	
	Tolerance	VIF
SDTAR	0.608	1.645
TDTER	0.729	1.376
LDTAR	0.680	1.471
F=9.150; P=0.000 – ROE		
F=11.779; P=0.000 – ROA		

SDTAR- short-term debt to total assets ratio; TDTER- total debt to total equity ratio; LDTAR-long-term debt to total assets ratio

4.2.4 Autocorrelation Tests

The Durbin-Watson statistic was used to investigate the existence of autocorrelation. The study established that there was no autocorrelation as the Durbin-Watson values ranged from 1.4 to 2.5 which indicated that there was no presence of autocorrelation.

Table 4.3: Autocorrelation tests

Model 1 - ROE	R	R^2	Adjusted R^2	Std. error of estimate	Durbin Watson
LDTAR	0.215	0.046	0.044	0.4750	1’563
SDTAR	0.129	0.017	0.015	0.4823	1.510
TDTER	0.047	0.002	0.000	0.4588	1,534
CPS	0.221	0.049	0.043	0.4753	1.542
CPSZS	0.199	0.040	0.034	0.4775	1.542
CPSZA	0.185	0.034	0.029	0.4788	1.517
Model 2 - ROA					
LDTAR	0.077	0.006	0.004	0.1368	1.459
SDTAR	0.216	0.047	0.045	0.1339	1.448
TDTER	0.190	0.036	0.034	0.1347	1.445
CPS	0.249	0.062	0.057	0.1331	1.438
CPSZS	0.279	0.078	0.073	0.1320	1.438
CPSZA	0.303	0.092	0.087	0.1300	1.448

Dependent variables: ROE-return on equity; ROA- return on assets: Predictors: LDTAR – long-term debt to total assets ratio; SDATR – short-term debt to total assets ratio; TDTER – total debt to total equity ratio; CPS – capital structure; CPSZS - capital structure multiplied by natural log of size; CPSZA- capital structure multiplied by natural log of age

4.2.5 Heteroscedasticicty Tests

The results of heteroscedasticity tests below in the table 4.4 show that hjeteroscedasticity did not exist.

Table 4.4: Shapiro-Wilks Tests for Normality

	Shapiro-Wilks W		
	Statistics	Degree of freedom (df)	Sign.
ROE – LDTAR	0.838	3	0.184
SDTAR	0.896	3	0.411
TDTER	0.888	3	0.375
ROE – LDTAR	0.802	3	0.119
SDTAR	0.894	3	0.365
TDTER	0.794	3	0.101

4.2 Descriptive Analysis

The descriptive procedure displays a summary of statistics in a single table. The table below (table 4.5) shows the values of minimum, maximum, mean values, standard deviation and variance of dependent variable, independent variable and moderating variables.

Table 4.5: Descriptive Statistics Analysis

Variable	N	Minimum	Maximum	Mean	Std. Deviation
TDTER	540	.0808	33.6497	2.783876	3.4558314
LDTAR	540	.0000	2.4694	.256868	.2383277
SDTAR	540	.0048	1.2859	.351687	.2487969
TDTERZS	540	1.5294	501.4620	56.682270	60.2949195
LDTARZS	540	.0000	47.8510	5.231498	4.8568440
SDTARZS	540	.1051	26.5272	7.464541	5.3712315
TDTERZA	540	.3310	53.1839	9.140660	8.7599806
LDTARZA	540	.0000	12.5821	.924484	1.2673750
SDTARZA	540	.0182	5.9381	1.259961	.9457028
ROE	540	-4.6275	3.4958	.262808	.4859129
ROA	540	-.5429	.6786	.094545	.1370434
ZS	540	13.4114	26.7229	20.956783	2.3535798
ZA	540	.6931	23.5930	3.702331	2.1589956
Valid N (listwise)	540				

Table 4.5 above showed capital structure proxies mean values of the Kenyan medium-sized and large enterprises as; total debts to total equity ratio (TDTER) mean value (2.7839), with highest ratio of TDTER being 33.6497 and lowest is 0.0808 meaning that on average total debt used by enterprises was 278.39% of total equity, lowest was 8.08% and highest 3364.97% of total equity. Long-term debts to total assets ratio (LDTAR) mean value (0.2569) with the highest ratio of LDTAR being 2.4694 and lowest of 0. The study determined that on average the long-term debt employed was 256.9% of total assets; lowest was 0% and highest 246.94% of total assets. The short-term debt to total assets ratio (SDTAR) mean value was 0.3517 with highest ratio being 1.2859 and lowest 0.0048 which indicated that short-term debt used to finance operations was on average 35.17% of total assets; lowest was 0.48% and highest being 128.59% of total assets. The findings also showed that TDTER (2.7839) had the highest mean and the lowest mean being that of LDTAR (0.2569) while the other hand the mean value of return on equity (ROE) was higher than that of return on assets (ROA). The study showed that all the variables for capital structure proxies and financial performance measures have positive mean values. On average total debt of the enterprises under study was 278.3876% of equity capital, long-term debt is 25.68% of the total assets, and short-term debt 35.1687% of total assets.

The empirical study showed that the proportion of short-term debts in total assets is larger than the long-term debt. This was according to the maturity matching principle that the long-term assets are financed with long-term financing and short-term assets are financed with short-term finances. The maturity matching is an important factor in choosing between short-term and long-term finances. It shows that about 60.8555% of the total assets of the medium-sized and large enterprises in Kenya are financed by debt. The enterprises used more short-term debt (35.1687%) to finance their operations and are not heavily dependent on long-term debt (25.6868%). The study showed that the enterprises' activities are financed through retained profits and other reserves. Hence they operate with a significant level of financial leverage (60.8.555%). The dependence on short-term debt instead of long-term debt could be due not having an efficient public debt market for long-term debt. The only way out for the medium-sized and large enterprises to obtain long-term financing, is to borrow from banks. The banks have attached a lot of restrictive debt covenants that have to be fulfilled by the enterprises to get stable supply of funds and make it a less favourable source of financing (Sheikh and Wang, 2011). From the empirical study, the medium-sized and large enterprises in Kenya tend to apply the pecking order theory in financing their activities. According to this theory, organizations first use internally generated funds which are cheaper to finance their activities and if more funds are required, they resort to debt funds with fixed interest and then move to equity capital with variable interest which is more expensive than debt finance. This is consistent with the findings of Maniagi, *et al* (2013).

The maximum and minimum values for each financial performance measures indicate that financial performance varies substantially among the medium-sized and large enterprises in Kenya. The mean value of ROE is 0.262808 which showed that on average the medium-sized and large firms in Kenya on average earn a 26.2808% return on equity. The highest ROE being 349.58% and the lowest is -462.75%. While the mean value of ROA is 0.094545, this showed that the enterprises on average earn a 9.4545% return on their total assets. The highest ROA being 0.6786 and the lowest is -0.5429. The results showed a moderate financial performance during the period 2011-2016 by the medium-sized and large enterprises in Kenya which could be due to a number of factors that the enterprises faced over this period.

4.3 Correlation Analysis

Correlation analysis was carried out on the data to determine strength of the effect that exist between financial

performance and capital structure and the moderating effect of firm characteristic on the relationship between capital structure and financial performance. ROE and ROA were used as financial performance measures while size and age of enterprise were used as firm characteristics. The results for the effect of capital structure and financial performance were presented in table 4.6 shown below:

Table 4.6: Correlations for Capital Structure, Financial performance and size Model 1

	ROE	ROA	TDTER	LDTAR	STDTAR	TDTERZS	LDTARZS	SDTARZS	ZS
PC – ROE	1.000								
PC-ROA	0.810	1.000							
Sign.	0.000								
PC -TDTER	0.047	-0.190	1.000						
Sign.	0.138	0.000							
PC-LDTAR	0.215	0.077	0.175	1.000					
Sign.	0.000	0.037	0.000						
PC-SDTAR	-0.129	-0.216	0.365	-0.437	1.000				
Sign	0.001	0.001	0.000	0.000					
PC-TDTERZS	0.001	-0.233	0.975	0.185	0.442	1.000			
Sign	0.485	0.000	0.000	0.000	0.000				
PC-LDTARZS	0.182	0.062	0.117	0,951	-0.492	0.142	1.000		
Sign.	0.000	0.075	0.003	0.000	0.000	0.000			
PC-SDTARZS	-0.156	-0.238	0.324	-0.449	0.970	0.426	-0.483	1.000	
Sign.	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
PC- ZS	-0.211	-0.195	-0.204	-0.062	-0.078	-0.075	0.067	0.219	1.000
Sign.	0.000	0.000	0.000	0.075	0.038	0.041	0.060	0.000	

PC – Pearson Correlation; ZS- Natural log of enterprise size

Table 4.6 Model 1 above indicated that the correlation coefficients between returns on equity and assets and total debts to total equity ratio were 0.047 and -0.190 respectively. This indicated an insignificant positive effect of total debts to total equity ratio on the financial performance measured by returns on equity and significant negative effect of and total debts to total equity ratio on returns on assets as financial performance measure of medium-sized and large enterprises. The significance probability for this effect was found to be p=0.138 and p=0.000 respectively. The significance probability between return on equity and total debts to total equity ratio was more than the 0.05 level of significance indicating that the effect of total debt to total equity ratio on return on equity was statistically insignificant while that of the effect of total debts to total equity ratio on return on assets was less than the significance level of 5% indicating that the effect was statistically significant at 5% level of significance.

The correlation coefficients between returns on equity and assets and long-term debts to total assets ratio were 0.215 and 0.077 respectively. The coefficients showed a statistically significant positive effect of long-term debts to total assets ratio on the financial performance of medium-sized and large enterprises in Kenya. The significance probabilities for the effect were 0.000 and 0.037 and all were less than less than 0.05 showing that the effect of long-term debts to total assets ratio on the financial performance was statistically significant at a 5% level of significance. The correlation coefficients between financial performance and short-term debt to total assets ratio were established as -0.129 and -0.216 respectively indicating a significant negative effect of short-term debts to total assets ratio on financial performance of the medium-sized and large enterprises in Kenya. Their significance probabilities were 0.001 and 0.001 respectively and were less than 0.05 indicating that the effect of short-term debt to total assets ratio on the financial performance was statistically significant at 5% level of significance.

The correlation coefficients between financial performance (ROE and ROA) and to total debt to total equity ratio multiplied by natural log of size was established as 0.001 and -0.233 respectively. The coefficients showed positive effect of total debt to total equity ratio multiplied by natural log of size between return on equity and a negative effect of total debt to total assets ratio multiplied by natural log of size on return on assets of the medium-sized and large enterprises. The significance probabilities 0.485 and 0.000 respectively indicating that effect of total debts to total assets ratio multiplied by natural log of size return on equity multiplied by natural log of size was insignificant while that of total debts to total assets ratio multiplied by natural log of size on return on assets was statistically significant a 5% level of significance. The correlation coefficients between returns on equity and assets and long-term debts to total assets ratio multiplied by natural log of size were 0.182 and 0.062 respectively. This indicated positive effect of long-term debt to total assets ratio multiplied by natural log of size on returns on equity and assets. The significance probability values were 0.000 and 0.075 showing the effect of

long-term debts to total assets ratio multiplied by natural log of size on returns on equity and assets was statistically significant and insignificant respectively at 5% level of significance.

The correlation coefficients between returns on equity and assets and SDTARZS were -0.156 and -0.238 respectively. The coefficients indicated negative effect of SDTARZS on financial performance. The significance probabilities showed that this effect was statistically significant. The correlation coefficients between return on equity and return on assets and natural log of size as measured using tangible assets were -0.211 and -0.195 respectively. They indicated negative effect of size on financial performance measured by returns on equity and assets and size of enterprise. The significance probabilities revealed that the relationship was significant.

Table 4.7: Correlation for Capital Structure, Financial performance and Age -Model 2

	ROE	ROA	TDTER	LDTAR	STDTAR	TDTERZA	LDTARZA	SDTARZA	ZA
PC-TDTERZA	-0.043	-0.268	0.783	0.210	0.477	1.000			
Sign	0.158	0.000	0.000	0.000	0.000				
PC-LDTARZA	0.067	0.006	0.021	0,661	-0.366	0.329	1.000		
Sign.	0.060	0.448	0.310	0.000	0.000	0.000			
PC-SDTARZA	-0.176	-0.255	0.240	-0.432	0.904	0.526	-0.193	1.000	
Sign.	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
PC- ZA	-0.121	-0.112	-0.157	-0.013	-0.094	0.242	-0.641	0.179	1.000
Sign.	0.003	0.000	0.000	0.384	0.014	0.000	0.060	0.000	

PC – Pearson Correlation; ZA- Natural log age of enterprise.

Table 4.7, Model 2 the study established correlations coefficients between returns on equity and assets and total debt to total equity multiplied by natural log of age of enterprise was -0.043 and -0.268 respectively indicating negative effect of TDTER*ZA on financial performance. The significance probabilities for this effect were found to be 0.158 and 0.000 respectively. The probabilities indicated that the effect of TDTER*ZA on return on equity and TDTER*ZA was statistically insignificant while effect on return on equity was statistically significant. The correlation coefficients between returns on equity and assets and LDTAR*ZA were 0.067 and 0.006 respectively. This indicated a positive effect of LDTAR*ZA on financial performance. However, the significance probability indicated that the effect of LDTAR*ZA on financial performance as measured by return on equity and return on assets was statistically insignificant.

The correlation coefficients between return on equity and return on assets and SDTAR*ZA were -0.176 and -0.255 respectively indicating negative effect of SDTAR*ZA on the financial performance of medium-sized and large enterprises in Kenya. The significance probability values were 0.003 and 0.000 and were all less than 0.05 showing that the effect of SDTAR*ZA on financial performance at 5% level of significance was statistically significant.

4.3.2 Regression Analysis

Regression analysis was used to establish the effect of capital structures on financial performance of the enterprises. Multiple regressions were run to establish the effect between each capital structure proxies or measures (LDTAR, SDTAR and TDTER) representing capital structures as an independent variable and the financial performance measures returns on equity and assets representing financial performance as dependent variables. Then enterprise characteristic (natural logs of size - ZS and age - ZA) of enterprise), were introduced to determine its moderating effect enterprise characteristics on the association between capital structure and the financial performance of medium-sized and large enterprises in Kenya. Therefore each objective was analyzed as follows: first step we established the effect of LDTAR, SDTAR and TDTER and financial performance measures; return on equity and return on assets. The second step established the moderating effect of enterprise characteristics on the relationship between combined capital structure and financial performance. The unstandardized coefficients (B values) were used to establish the regression models for each objective. The standardized coefficients (beta) for each variable were used to deduce the relative importance each of the independent variable. To test whether the model was statistically significantly better at predicting the outcome, the F-test was used. R was used to show overall strength of the relationship between combined capital structures and financial performance before and after introducing the moderating variables. While R^2 was used to show how the model was generalized. Durbin Watson test was used to indicate the existence of autocorrelations. When the Durbin Watson value is less than 3 then autocorrelation problem does not exist, when the value is much less than 2 then there is prove of positive serial correlation and when the value is less than 1, it may indicate cause for alarm. The calculated F-value and critical value of F were used in testing the hypotheses. In testing the hypothesis, the following regression equation model was used: $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$

The overall multiple regression analysis was carried out to establish the effect of capital structures on financial performance of medium-sized and large enterprises before introducing enterprise characteristic as a moderating variable. The capital structure consisted of three proxies; TDTER, LDTAR and SDATR.

Table 4.8: Model Summary[b] for Combined Capital Structure and Financial Performance

Model	R	R square	Adjusted R square	Std. error of the estimate	Durbin Watson
Model 1 ROE	0.221[a]	0.049	0.043	0.47532535	1.557
Model 2 ROA	0.249[a]	0.062	0.057	0.1331087	1.438

a. Predictors: SDTAR, TDTER, LDTAR; b. Dependent Variables: ROE-return on equity and ROA- return on assets

In Table 4.8 above, Model 1 showed that 4.9% of the variability in ROE was accounted for by capital structure while 95.1% was accounted for other factors. In Model 2, 6.2% of the variability in ROA was accounted for by capital structure and 93.8% was accounted for by other factors. R revealed a significant positive relationship between capital structure on financial performance of medium-sized and large enterprises in Kenya. This indicated a moderate relationship between financial performance and capital structures.

Table 4.9: ANOVA Tests for Capital structure and Financial Performance

MODEL	Sum of squares	df	Mean square	F	Sig.
Model 1 ROE					
1 Regression	6.200	3	2.067	9.150	0.000[b]
Residual	121.064	536	0.226		
Total	127.264	539			
Model 2-ROA					
1 Regression	0.626	3	0.209	11.779	0.000[b]
Residual	9.497	536	0.018		
Total	10.123	539			

Dependent variables: ROE- return on equity; ROA – return on assets

The F values in above table 4.9 showed that capital structure statistically and significantly improved the ability of the final model in predicting the return on equity and assets respectively.

The regression model for the effect of combined capital structure on financial performance was presented as:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$

Y = financial performance as measured by return on equity and return on assets

β_0 = constant or Y intercept; β_1 = coefficient of long-term debt to total assets ratio

X_1 = long-term debt to total assets ratio; β_2 = coefficient of short-term debt to total assets ratio

X_2 = short-term debt to total assets ratio; β_3 = coefficient of total debt to total equity ratio

X_3 = total debt to total equity ratio; and ε = error term

Table 4.10: Regression Results for Combined Capital Structure and Financial Performance

Model	Unstandardized coefficients		Standardized coefficients	t	Sig.	Collinearity statistics	
	B	Std error	Beta			Tolerance	VIF
MOD1 ROE							
1 Constant	0.198	0.053		3.722	0.000		
SDTAR[b]	-0.128	0.106	-0.065	-1.210	0.227	0.587	1.645
TDTER[c]	0.006	0.007	0.046	0.810	0.424	0.701	1.372
LDTAR[d]	0.365	0.104	0.179	3.505	0.000	0.680	1.471
MOD 2 ROA							
1 Constant	0.133	0.015		8.932	0.000		
SDTAR[b]	-0.081	0.030	-0.148	-2.751	0.006	0.605	1.645
TDTER[c]	-0.006	0.028	-0.143	-2.911	0.004	0.729	1.372
LDTAR[d]	0.021	0.002	0.037	0.735	0.463	0.680	1.472

a. Dependent Variables: ROE-return on and ROA-return on assets; b. Short-term debt to total assets ratio; c. Total debt to total equity ratio; d. Long-term debt to total assets ratio

The Y constant 0.198 was the predicted value of the effectiveness of return on equity when short-term debts to total assets ratio (STDAR), long-term debts to total assets ratio (LDTAR) and total debts to total equity ratio (TDTER) were zero, showing that without those variables the effectiveness of return on equity was 0.198, while returns on assets was 0.133. In model 1 the unstandardized coefficient of SDTAR showed negative on return on equity while TDTER and LDTAR showed positive effect on return on equity. In model 2 the unstandardized coefficients of SDTAR and TDTER revealed negative effect on return on assets whereas that of LDTAR revealed a positive effect on return on assets. Therefore, the regression models were as follows:

ROE = 0.198 + 0.365LDTAR – 0.128SDTAR + 0.006TDTER ….Model 7

ROA = 0.133 + 0.021LDTAR – 081SDTAR - 0.006TDTER …….Model 8

Table 4.10 above showed that only LDTAR was statistically significant in predicting ROE (Model 1) while in Model 2 LDTAR was insignificant in predicting the ROA. The VIFs and tolerance values showed that

multicollinearity did not exist among the capital structure proxies.

The results showed that the correlation among capital structure and financial performance was significant and positive. Therefore any increase in financial performance measured by returns on equity and assets, was attributed to the changes in capital structure. The results revealed significant positive effect of capital structure on financial performance of medium-sized and large enterprises in Kenya. The result is inconsistent with the findings of Sorana (2015) and Jeannine *et al* (2016) who established that capital structure had a negative impact on return on equity. Model 2, the correlation between the return on assets and all the capital structure proxies are positive (0.250) indicating a moderate positive relationship between the return on assets and capital structure. Therefore, as total debts increased, return on assets also increased or vice versa. The result of the research was consistent with the studies of Younus *et al* (2014) and Zuraidah *et al* (2012) which established significant positive relationship between capital structure and financial performance of enterprises. However, the result was inconsistent with the studies of Rakesh (2013), Tran (2017), Nawaz and Mohsin (2016) who in their studies revealed negative relationship between capital structure and financial performance of enterprises. ZengSheng and NuoZhi (2013) determined a positive assets structure and performance. Mawih (2014) and Okwo,*et al* (2014) investigated the effect of asset structure on financial performance and established that asset structure did not have significant impact on ROE.

Objective of the study was stated as: Moderating effect of enterprise characteristic on the relationship between capital structure and financial performance

In the study, size in terms of tangible assets and age in number of years of existence of enterprise were used as firm characteristics. The moderating effect of each on the relationship among capital structures and financial performance was assessed on objectives one.

Table 4.11: Model Summary[b] for Combined Capital Structure and Financial Performance with moderator - Size of enterprise

Model	R	R square	Adjusted R square	Std. error of the estimate	Durbin Watson
Model 1 ROE	0.199[a]	0.040	0.034	0.4775094	1.542
Model 2 ROA	0.279[a]	.0.078	0.073	0.1319727	1.438

a. Predictors: SDTARZS, TDTERZS, LDTARZS; b. Dependent Variables: ROE and ROA

From the above table 4.11, Model 1 established that 4% of the variability in returns on equity was accounted by capital structure and 96% by other factors. While in Model 2, 7.8% of the variability in returns on assets was accounted for by capital structure and 92.2% was accounted for by other factors. The correlation (R) of capital structure multiplied by natural log of size of enterprise and returns on assets was significant and positive.

In table 4.12 below, Model 1 established that the effect age of enterprise on the association between capital structure and returns on equity was positive and significant as indicated by R. The table also showed that 3.4% (R-squared) of the variability in return on equity was accounted for by capital structure and 96.6% by other factors. While in Model 2, 9.2% (R-squared) of the variability in return on assets was accounted for by capital structure and 90.8% was accounted for by other factors.

Table 4.12: Model Summary[b] for Combined Capital Structure and Financial Performance with moderator - Age of enterprise

Model	R	R square	Adjusted R square	Std. error of the estimate	Durbin Watson
Model 1 ROE	0.185[a]	0.034	0.029	0.4788357	1.517
Model 2 ROA	0.303[a]	.0.092	0.087	0.1309741	1.448

a. Predictors: SDTARZS, TDTERZS, LDTARZS; b. Dependent Variables: ROE-return on equity and ROA-return on assets

The summary of moderating effect of enterprise characteristics is presented in table 4.13 below. In Model 1, the study established that before moderation, capital structure accounted for 4.9% of the variability in returns on equity and 6.2% in the variability of returns on assets. After introducing size of enterprise as a moderating variable 4.0% of the variability in returns on equity was accounted for by capital structure and 7.8% in returns on assets. Therefore, variability in returns on equity and assets changed from 4.9% to 4.0% and 6.2% to 7.8% respectively due to the moderating effect of size of enterprise. In Model 2, the research revealed that after moderation 3.4% and 9.2% of the variability in returns on equity and assets respectively was accounted for by capital structure. This was supported by the fact that variability in returns on equity and assets changed from 4.9% to 3.4% and 6.2% to 9.2% respectively. In general size and age of enterprise decreased the accountability for variability in return on equity while the accountability in return on assets was increased.

Table 4.13: Summary of Moderating Effect of Size and Age of Enterprise

Model 1 – Size of Enterprise	R-squared before moderation	R-Squared after moderation
ROE	0.049	0.040
ROA	0.062	0.078
Model 2 – Age of Enterprise		
ROE	0.049	0.034
ROA	0.062	0.092

Predictor: capital structure; Dependents: ROE-return on equity; ROA-return on assets; Moderators: Size and Age of Enterprise

Table 4.14: ANOVA Tests for Combined Capital Structure and Financial Performance with moderator - Size of Enterprise

Model	Sum of squares	df	Mean square	F	Sig.
Model 1 ROE					
1 Regression	5.048	3	1.683	7.379	0.000[b]
Residual	122.216	536	0.228		
Total	127.264	539			
Model 2-ROA					
1 Regression	0.788	3	0.263	51.072	0.000[b]
Residual	9.335	536	0.017		
Total	10.123	539			

Table 4.14 above, the calculated F values indicated that capital structure multiplied by natural log of size as a moderator statistically and significantly in improving the ability to predict the return on equity and return on assets in the final models.

Table 4.15: ANOVA Tests for Combined Capital Structure and Financial Performance with moderator - Age of Enterprise

Model	Sum of squares	df	Mean square	F	Sig.
Model 1 ROE					
1 Regression	4.368	3	1.456	6.350	0.000[b]
Residual	122.896	536	0.229		
Total	127.264	539			
Model 2-ROA					
1 Regression	0.928	3	0.309	18.037	0.000[b]
Residual	9.195	536	0.017		
Total	10.123	539			

The calculated F values in Table 4.15 above indicated that capital structure multiplied by natural log of age as a moderator significantly improved the ability to estimate the returns on equity and assets in the final models.

The regression model for moderating effect of enterprise size on the association between capital structure and financial performance of medium-sized and large enterprises was presented as given below

$Y = \beta_0 + ZS(\beta_1X_1 + \beta_2X_2 + \beta_3X_3) + \varepsilon$

Y = financial performance

β_0 = constant or Y intercept; ZS = natural log of size of enterprise

β_1 = coefficient of long-term debt to total assets ratio; X_1 = long-term debt to total assets ratio

β_2 = coefficient of short-term debt to total assets ratio; X_2 = short-term debt to total assets ratio

β_3 = coefficient of total debt to total equity ratio; X_3 = total debt to total equity ratio; and ε = error term

Table 4.16: Regression Results[a] for Combined Capital Structure and Financial Performance with moderator - Size of Enterprise

Model	Unstandardized coefficients		Standardized coefficients	t	Sig.	Collinearity statistics	
	B	Std error	Beta			Tolerance	VIF
MODEL1-ROE							
1 Constant	0.257	0.055		4.646	0.000		
SDTAR*ZS[b]	-0.010	0.005	-0.108	-1.838	0.067	0.517	1.933
TDTER*ZS[c]	0.000	0.000	0.030	0.571	0.568	0.661	1.512
LDTAR*ZS[d]	0.013	0.005	0.125	2.327	0.020	0.619	1.616
MODEL2-ROA							
1 Constant	0.146	0.015		9.586	0.000		
SDTAR*ZS[b]	-0.004	0.001	-0.166	-2.875	0.004	0.517	1.933
TDTER*ZS[c]	0.000	0.000	-0.163	-3.200	0.001	0.661	1.512
LDTAR*ZS[d]	0.000	0.001	0.005	0.097	0.922	0.619	1.616

a. Dependent Variables: ROE-return on equity and ROA-return on assets

b. Short-term debt to total assets ratio multiplied by natural log of size

c. Total debt to total equity ratio multiplied by natural log of size

d. Long-term to total assets ratio multiplied by natural log of size; ZS = natural log of size of enterprise

From the above table 4.16, Model 1 determined that the Y intercept was 0.257 showing the effectiveness of return on equity when other variables are zero and model 2 it was 0.146 implying that without the input of the variables the effectiveness of returns on assets would be 0.146. The coefficient of SDTARZS revealed negative relationship among capital structure and return on equity whereas the coefficient of LDTARZS indicated positive relationship among capital structure multiplied by natural log of size and return on assets. In model 2 coefficients of SDTARZS revealed negative relationship between capitals structures multiplied by natural log of size. TDTERZS and LDTARZS had zero coefficients. From the models the following were the regression models:

ROE = 0.257 + 0.013LDTARZS – 0.010SDTARZS ……..Regression Model 21

ROA = 0.146 – 0.004SDTARZS …….Regression Model 22

The study indicated that SDTARZS and TDTERZS are statistically insignificant in predicting return on equity while LDTARZS is insignificant in predicting return on assets. The coefficient for TDTERZS was 0.000 indicating that returns on equity and assets do not consistently differ as the values of TDTERZS increase. The 0.000 coefficient in Model 2 showed that returns on assets does not consistently differ as the value of LDTARZS of enterprises increase. The tolerance and VIF values showed that multicollinearity did not exist among the capital proxies.

The study revealed negative moderating effect of enterprise characteristics on the association between capital structure and return on equity and positive effect on the relationship among capital structure and returns on assets. The result was consistent with the studies of Velnampy and Nimalathasan (2010 and Atif and Qaisar (2015) who established a positive effect in their study. It was inconsistent with the findings of Thamila and Arulvel (2013) and Becker et al (2010) who found a negative effect in their studies.

Hypothesis Testing: H_{1S} - Enterprise size has significant positive moderating effect on the relationship between capital structure and financial performance.

From model 1 in table 4.15, the calculated value of F at a degree of freedom of (3,536) was 7.379; with p=0.000 and the critical value of F = 2.60 at a significance level of 0.05. By comparing the two F values, H_{1S} enterprise size as enterprise characteristic had a positive moderating effect on the relationship between capital structure and financial performance was accepted. For ROA, the calculated F value is 51.072 with p=0.000 and a critical F value of 2.60, H_1 was accepted as the calculated F value is greater than the critical F value. Hence, size of enterprise had a significant positive moderating effect on the relationship between capital structure and financial performance of medium-sized and large enterprises in Kenya.

Regression models for the moderating effect of age of enterprise on the relationship between combined capital structure and financial performance was as follows:

$Y = \beta_0 + ZA(\beta_1X_1 + \beta_2X_2 + \beta_3X_3) + \varepsilon$

Y = financial performance; β_0 = constant or Y intercept

ZA = natural log of age of enterprise; β_1 = coefficient of long-term debt to total assets ratio

X_1 = long-term debt to total assets ratio; $\beta 2$ = coefficient of short-term debt to total assets ratio

X_2 = short-term debt to total assets ratio; $\beta 3$ = coefficient of total debt to total equity ratio

X_3 = total debt to total equity ratio; and ε = error term

Table 4.17: Regression Results[a] for Capital Structure and Financial Performance with moderator - Age of Enterprise

Model	Unstandardized coefficients		Standardized coefficients	t	Sig.	Collinearity statistics	
	B	Std error	Beta			Tolerance	VIF
MODEL1-ROE							
1 Constant	0.363	0.040		9.033	0.000		
SDTARZA[b]	-0.107	0.029	-0.208	-3.727	0.000	0.573	1.745
TDTERZA[c]	0.004	0.003	0.065	1.113	0.266	0.531	1.884
LDTARZA[d]	0.002	0.019	0.006	0.110	0.912	0.707	1.415
MODEL2-ROA							
1 Constant	0.144	0.011		13.120	0.000		
SDTAR*ZA[b]	-0.019	0.008	-0.132	-2.421	0.016	0.573	1.745
TDTER*ZA[c]	-0.003	0.001	-0.216	-3.817	0.000	0.531	1.884
LDTAR*ZA[d]	0.006	0.005	0.015	1.047	0.296	0.707	1.415

a. Dependent Variables: ROE-return on equity and ROA-return on assets

b. Short-term debt to total assets ratio multiplied by natural log of age

c. Total debt to total equity ratio multiplied by natural log of age

d. Long-term to total assets ratio multiplied by natural log of age; ZA = natural log of age of enterprise

From table 4.17, in Model 1, the study revealed that estimated value of the effectiveness of return on equity was 0.363 when the values of SDTARZA, TDTERZA and LDTARZA are zero and indicated that without the inputs of capital structure the effectiveness of return on equity would be 0.363 while that of return on assets was 0.144. The coefficient (-0.107) of SDTARZA showed negative association between capital structure and return

on equity, whereas coefficients of TDTERZA and LDTARZA indicated positive relationship among capital structure and returns on assets. In Model 2 the coefficients of SDTARZA and TDTERZA showed negative relationship between capital structure and returns on assets while LDTARZA revealed a positive relationship. The multiple regression models were as follows:

ROE = 0.363 – 0.107SDTARZA+0.004TDTERZA + 0.002LDTARZA …Regression Model 23

ROA = 0.144 – 0.019SDTARZA – 0.003TDTERZA + 0.006LDTARZA...Regression Model 24

It was established that TDTERZA and LDTARZA were statistically insignificant in predicting the return on equity while in model 2 LDTARZA was statistically insignificant in predicting the return on assets.

Therefore the study determined significant positive effect of age as a moderating variable on the association between capital structure and financial performance of medium-sized and large enterprises in Kenya. However the overall correlations reduced from 0.255 to 0.185 and increased from 0.250 to 0.303 due to age as moderating firm characteristic. Age weakened the association between capital structure and return on equity. However, it strengthened the relationship between capital structure and return on assets. The finding was consistent with findings of Coad, *et al* (2013) established positive and negative relationship between age and financial performance. They established that ageing enterprises experience increasing levels of productivity, profits, lower debt ratios and high equity ratios while at same time, they determined that older enterprises have lower expectation growth rate of productivity, sales and profits. It was inconsistent with study of Agarwal and Gort (2002) who established a negative relationship, pointing out that there can be decay because of age leading to poor financial performance; Pastor and Veronesi (2003), and Loderer and Waelchli (2010) who determined negative effect on performance arguing that as enterprises age their performance drops. Therefore from the empirical studies there are contradictory results in relation to enterprise age and financial performance.

Hypothesis Testing: H_{1A} - Enterprise age has positive and significant moderating effect on the relationship between capital structure and financial performance of medium-sized and large enterprises in Kenya.

The calculated F-value at a degree of freedom of (3,536) was 6.350; with p=0.000 and the critical value of F = 2.60 at a significance level of 0.05. By comparing critical F-value and calculated F-value, the hypothesis H_{1A}: enterprise age has positive moderating effect on the relationship between capital structure and financial performance measured by ROE was accepted. For ROA, the calculated F value is 18.037 with p=0.000 and a critical F value of 2.60. Therefore the study established that age of enterprise has a significant moderating effect on the relationship between capital structure and financial performance of medium-sized and large enterprises in Kenya.

5.0 Summary, Conclusions and Recommendations

5.1 The effect of combined capital structure on financial performance

The first objective of the study was to determine the effect of combined capital structure on financial performance of medium-sized and large enterprises in Kenya with a hypothesis H_1: 'combined capital structures has significant positive relationship with financial performance of medium-sized and large enterprises in Kenya'. The multiple regressions were carried to determine the effect of capital structure on financial performance. The regression model $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon$ was fitted to the data and the model was found to be significant. The values of correlation and R-squared (R^2) were 0.221 and 0.049 respectively for return on equity and 0.249 and 0.062 respectively for return on assets. Correlations showed that capital structure had significant positive effect on financial performance. R-squared revealed that explanatory power of capital structure was 0.049 and 0.062 for returns on equity and assets respectively. This indicated that 4.9% of the variation in return on equity and 6.2% return on assets was explained by the model $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon$. The values of F statistic of 9.150 and 11.779 for returns on equity and assets respectively showed that the overall model was significant as they were more than the critical F value of 3.84 with (1,538) degree of freedom at p=0.05 level of significance. Constant term implied that in absence of capital structure return on equity was 0.198 and return on assets was 0.133. The regression results before moderation gave an R-squared of 0.049 for return on equity and 0.062 for return on assets. This meant that capital structure explained 4.9% of the variation in return on equity and 6.2% in return on assets. The alternative hypothesis (H_1) was accepted since the critical F value (3.84) was less than the calculated F values (ROE – 9.150 and ROA – 11.779).

5.2 Effect of enterprise characteristics on the relationship between capital structure and financial performance

The second objective of the study was to establish the moderating effect enterprise characteristics on the relationship between capital structure and financial performance of medium-sized and large enterprises in Kenya. Using this objective the second hypothesis was developed as: H_1 'enterprise characteristics have significant positive effect on the relationship between capital structure and financial performance of medium-sized and large enterprises in Kenya'. The study used multiple regressions to establish the moderating effect of enterprise characteristics on the relationship between capital structure and financial performance. The regression model Y_S

$= \beta_0 + ZS(\beta_1X_1 + \beta_2X_2 + \beta_3X_3) + \varepsilon$ and $Y_A = \beta_0 + ZA(\beta_1X_1 + \beta_2X_2 + \beta_3X_3) + \varepsilon$ were fitted to the data and the models were found to be significant. The calculated F value revealed that the capital structure was statistically significant in improving the ability to predict returns on equity and assets. The critical F value was less than the calculated F values. This led to the acceptance of the alternative hypothesis H_1 'enterprise characteristics have significant positive moderating effect on the relationship between capital structure and financial performance of medium-sized and large enterprises in Kenya. The correlations showed positive and significant correlations between enterprise characteristics and the relationship between capital structure and financial performance. Before moderating the association between capital structure and financial performance, the R-squared was 0.049 for ROE and 0.062 for ROA. This changed to 0.040 and 0.078 for ROE and ROA respectively after introducing enterprise size as a moderating variable. This meant that the variability in return on equity accounted for by capital structure changed from 4.9% to 4.0% and that of return on assets changed from 6.2% to 7.8% due to moderating effect of enterprise size. Also the variability in returns on equity and assets changed from 0.049 to 0.034 and 0.062 to 0.092 due to the moderating effect of age of enterprise.

5.3 Conclusion

The objective of the study was to establish the moderating effect of enterprise characteristics on the relationship between capital structure and financial performance of medium-sized and large enterprises in Kenya. The study established that enterprise characteristics had statistically significant positive effect on the relationship between capital structure and financial performance of medium-sized and large enterprises in Kenya. However, the study revealed that size and age of enterprise weakened or decreased the explanatory power of capital structure in accounting for the variability in return on equity. Therefore, we conclude that organizational inertia operating in bigger and older enterprises tended to make them inflexible and unable to appreciate changes in the environment. On the other hand size and age of enterprise strengthened or increased the explanatory power of capital structure in accounting for the variability in return on assets. Therefore it was concluded that large scale and older enterprises attract more cheap funds and have experience that enable them to produce at much lower costs and enjoy better returns on assets. The explanatory power of moderated combined capital structure in explaining financial performance is very low than revealed in other studies. This shows that financial performance of medium-sized and large enterprises in Kenya are not mainly influenced by size and age of enterprise. Hence, it was concluded that the fundamental analysis of medium-sized and large enterprises' moderated combined capital structure plays little role in guiding investors in choosing enterprises with better financial performance in Kenya. However the study has given a better insight showing the importance of moderating effect of combined capital structure on the financial performance, from the owners' perspective (ROE), and from total enterprise perspective (ROA), of medium-sized and large enterprises in Kenya.

5.4 Recommendations

In order to enhance enterprise's size for future prosperity, we recommend that the enterprises should invest in quality tangible assets that are re-locatable and don't lose value when relocated to reduce finance costs thereby increasing returns on assets and equity. The moderating effect of firm characteristics on the relationship between capital structure and financial performance of medium-sized and large enterprises in Kenya was established to be significant and positive. From this finding, it was recommended that managers consider the other factors that account for the variability in financial performance, size and age of these enterprises when making capital structure decisions.

5.5 Recommendation for future studies

The study focused on size and age of enterprise as moderating variables and established very low explanatory powers. We recommend that future studies should focus on other enterprise characteristics such as enterprise growth opportunity, ownership structure, industry, and assets structure on the relationship between capital structures and financial performance of medium-sized and large enterprises.

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