

International Journal of **Finance**

(IJF)

**INFLUENCE OF CAPITAL STRUCTURE ON FINANCIAL
PERFORMANCE OF CONSTRUCTION AND ALLIED FIRMS LISTED IN
NAIROBI SECURITIES EXCHANGE IN KENYA**



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INFLUENCE OF CAPITAL STRUCTURE ON FINANCIAL PERFORMANCE OF CONSTRUCTION AND ALLIED FIRMS LISTED IN NAIROBI SECURITIES EXCHANGE IN KENYA

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Abstract

Purpose: The overall objective of this study was to examine the influence of capital structure on financial performance of construction and allied firms listed in Nairobi Securities Exchange in Kenya.

Methodology: This research study adopted a descriptive research design approach. The researcher preferred this method because it allowed an in-depth study of the subject. Structured questionnaires were used to collect data. The target population of this study was the five (5) construction and allied firms listed at the Nairobi Stocks Exchange in Kenya as per the NSE Directory 2021. The unit of analysis was the individual construction and allied firms, while the unit of observation was the one hundred and seventy-two (172) employees in finance departments and operations departments in each of the five (5) construction and allied firms listed at the Nairobi Stocks Exchange. Data was analyzed using descriptive and inferential statistics. Quantitative data was analyzed using multiple regression analysis. The qualitative data generated was analyzed by use of Statistical Package of Social Sciences (SPSS) version 22.

Results and conclusion: The findings demonstrated the important capital structure aspects to financial performance of construction and allied firms listed in Nairobi Securities Exchange to include; long-term assets ratio, debt to assets ratio, debt to equity ratio and equity to capital ratio. The current study obtained an R² of 64.7% and should therefore be expanded further in future in order to include other capital structure that may as well have a positive significance to performance of construction and allied firms. The findings of the study indicated that long-term assets ratio, debt to assets ratio, debt to equity ratio and equity to capital ratio have a positive relationship with performance of construction and allied firms in Kenya

Policy recommendation: the study recommended that construction and allied firms should embrace optimal capital structure so as to improve financial performance and further researches should to be carried out in other sectors to find out if the same results can be obtained..

Keywords: *long-term assets ratio, debt to assets ratio, debt to equity ratio and equity to capital ratio*

1.1 Introduction

Capital structure decisions involves deciding the debt level and equity amount to use to attain the optimal capital structure. The long term sources of finance which form the firm's capital structure include debt capital, preference share capital, and ordinary share capital (Dunn, 2018). Use of each source come with cost therefore a firm has to ensure that the cost is minimized as much as possible. Capital structure decisions is a very debatable topic in finance mainly in regard to the optimal capital structure that will result to maximum value of a firm.

Modigliani and Miller (2018) developed proposition that capital structure irrelevance proposition which initiated further research on the topic. Other researchers have developed several capital structure theories. These include Pecking order theory which holds that financing decisions follow a hierarchy which starts with internal sources of finance (retained earnings) followed by external financing which starts with debt and finally issuance of new equity. Trade off theory holds that optimal capital structure exists at a point where benefits for debt financing are offset by the costs of using debt, resulting in the lowest cost of capital. Finally market timing theory holds that there is that best time to issue new equity in the market, therefore managers are always on the look for that time (Dunn, 2018).

According to Vijayakumar and Karunaiathal (2019) assets financing is a challenge faced by all businesses and can be solved by having a proper combination of equity and debt capital. In designing the capital structure, it is important to be guided by the goal of maximizing firm's value as well as the propositions of the various theories on capital structure. Construction sector is a key pillar to the economy of Kenya as a developing economy. Government stimulates economic activities through development of infrastructures such as roads, railways, airports etc. The government has been undertaking very mega infrastructural projects on its road to attainment of the vision 2030).

1.2 Statement of the Problem

Capital structure plays an important role in firms financial performance provided it is utilized efficiently and in an effective manner at its optimal level. However, the question of what constitute an optimal capital structure remains unanswered and the most controversial issue in the finance circles (World Bank, 2021). Numerous companies listed in the NSE have embarked on massive use of debt in their capital structure with expectation of improving their financial performance. Debt finance offers an opportunity for the firm increase its performance by facilitating acquisition of the productive assets (Anyanzwa, 2020).

Financial analyst have argued in the support of debt use and considers debt finance as good in enhancing firms performance provided its acquired at the favorable rate and its proceeds utilized in a good way. Kenya's vision 2030 emphasizes the need for appropriate cost structure strategy for efficient and sustainable performance (KNBS, 2020). Nevertheless, most construction and allied firms in Kenya operate at a technical efficiency of about 52% compared to their counterparts in Malaysia that average about 88% (KIPPR, 2018) raising doubts about the sector's capacity to meet the goals of Vision 2030 (PPRA, 2018).The construction industry has recorded dismal performance when it comes to the underlying factors that contribute to successful completion of projects (UNDP, 2020). Cost management in the construction industry is a major indicator of performance especially in cases where banks have financed it (Murutu, 2019). In most cases the

developers invite investors to buy the units while still under construction to increase their liquidity. Poor cost management may arise due to improper financial plans made in the initial stages which may result in stalling of construction.

Globally, studies have been done on the capital structure decisions. Abor (2021) did a research study on the effects of firms capital structure on the profitability of companies quoted on the New York Stock Exchange and he established that both short-term liabilities and long-term debt obligations have a positive relationship with firm profitability. Saeedi and Mahmoodi (2017) did the study on the effects of capital structure on performance of firms in the Tehran Stock Exchange and concluded that capital structure has no effects on the performance of firms.

Locally, Chepkemoi (2021) did a research study on the effect of capital structure on firm financial performance of SMEs and indicated that capital structure is negatively related with the profitability of the firm although it has positive effect on growth of sales. Karanja, (2019) assessed the effect of capital structure on the profitability of the SMEs in dairy in Kiambu and determined that capital structure is negatively related with firm financial performance of SMEs. All these studies have been done in the first world or in other sectors other than the construction sector. It is against this backdrop that this study intends to look at the influence of capital structure on financial performance of construction and allied firms listed in Nairobi Securities Exchange in Kenya..

1.3 Objectives of the Study

- i. To assess the influence of long-term assets ratio on financial performance of construction and allied firms listed in Nairobi Securities Exchange in Kenya.
- ii. To establish the influence of debt to assets ratio on financial performance of construction and allied firms listed in Nairobi Securities Exchange in Kenya.
- iii. To determine the influence of debt-to-equity ratio on financial performance of construction and allied firms listed in Nairobi Securities Exchange in Kenya.
- iv. To evaluate the influence of equity to capital ratio on financial performance of construction and allied firms listed in Nairobi Securities Exchange in Kenya.

2.0 LITERATURE REVIEW

2.1 Information Signaling Theory

This theory contends that the choice of firm's capital structure signals to outside investors the information of insiders (Graham & Harvey, 2019). It further notes that the problem of asymmetric or incomplete information in firms makes it difficult for lenders to accurately assess the level of risk. Managers are motivated to communicate insider information about a firms value to the public stock market and their willingness or undertake costly capital structure reorganization change programs act as validated signal of this information.

Ross (1977) argues that a firm signals an increase in the firm's asset value by increasing its leverage (debt) while Leland and Pyle (2017) however posits that a firm signals the increase in firm's value by reducing it leverage (debt). Arising from the two signaling hypothesis above, increase in debt will lead to increases in price based on the Ross (2019) model while based on Leland and Pyle (2017) increase in debt will lead to reduced prices.

2.2 CAPITAL STRUCTURE

2.2.1 Long-Term Assets Ratio and Performance of Construction and Allied Firms

Assets structure has been defined using various aspects by different scholars based on the direction of the study. According to ZhengSheng and NuoZhi (2021), asset structure is the allocation of the resources diversely. It can be broken down into 3 components namely: turnover assets, production assets and wasting assets.

According to Scott (2017), a firm can increase the value of equity by issuing collateralized debt when the current creditors do not have such guarantee. Hence, firms have an incentive to do so, and one would expect a positive relation between the importance of tangible assets and the degree of leverage. Based on the agency problems between managers and shareholders.

2.2.2 Debt to Assets Ratio and Performance of Construction and Allied Firms

According to the pecking order theory, the option to consider debt financing is the last option after internal financing and equity options have been exhausted (Afrasiabishani, Ahmadiania and Hesami, 2021). Under the pecking order, Chen et al., (2017) contend that, optimal capital structure does not hold. This is due to the fact that the cumulative pecking order financing outcome overtime is what constitutes a debt ratio.

2.1.3 Debt to Equity Ratio and Performance of Construction and Allied Firms

According to Brealey and Myers (2021), in most years in a business' life there is a gap between the cash that the company needs and the cash it can generate internally for its operations and this is called the financing gap. To make up this gap, companies must sell new equity or borrow.

They are faced with a decision on what proportion of the deficit must be financed by borrowing and how much by internal funds. This assumes that the borrowings at a fixed charge can be obtained at a cost lower than the firm's rate of return on its total assets, and the surplus of the return after paying off the interest will be distributed to the shareholders, then the earnings per share or the return on equity will rise. However, return on equity will fall if the company obtains the fixed charge funds at a cost higher than the rate of return on its total assets as the interest charged will erode the profits.

2.1.4 Equity to Capital Ratio and Performance of Construction and Allied Firms

According John (2018) equity is the residual claim or interest of the most junior class of investors in assets, after all liabilities are paid. If liability exceeds assets, negative equity exists. In an accounting context, Shareholders' equity (or stockholders' equity, shareholders' funds, shareholders' capital or similar terms) represents the remaining interest in assets of a company, spread among individual shareholders of common or preferred stock.

At the start of a business, owners put some funding into the business to finance operations. This creates a liability on the business in the shape of capital as the business is a separate entity from its owners. Businesses can be considered to be, for accounting purposes, sums of liabilities and assets; this is the accounting equation. After liabilities have been accounted for, the positive remainder is deemed the owner's interest in the business. Thus owners' equity can be reduced to zero. Ownership equity is also known as risk capital or liable capital.

2.3 Conceptual Framework

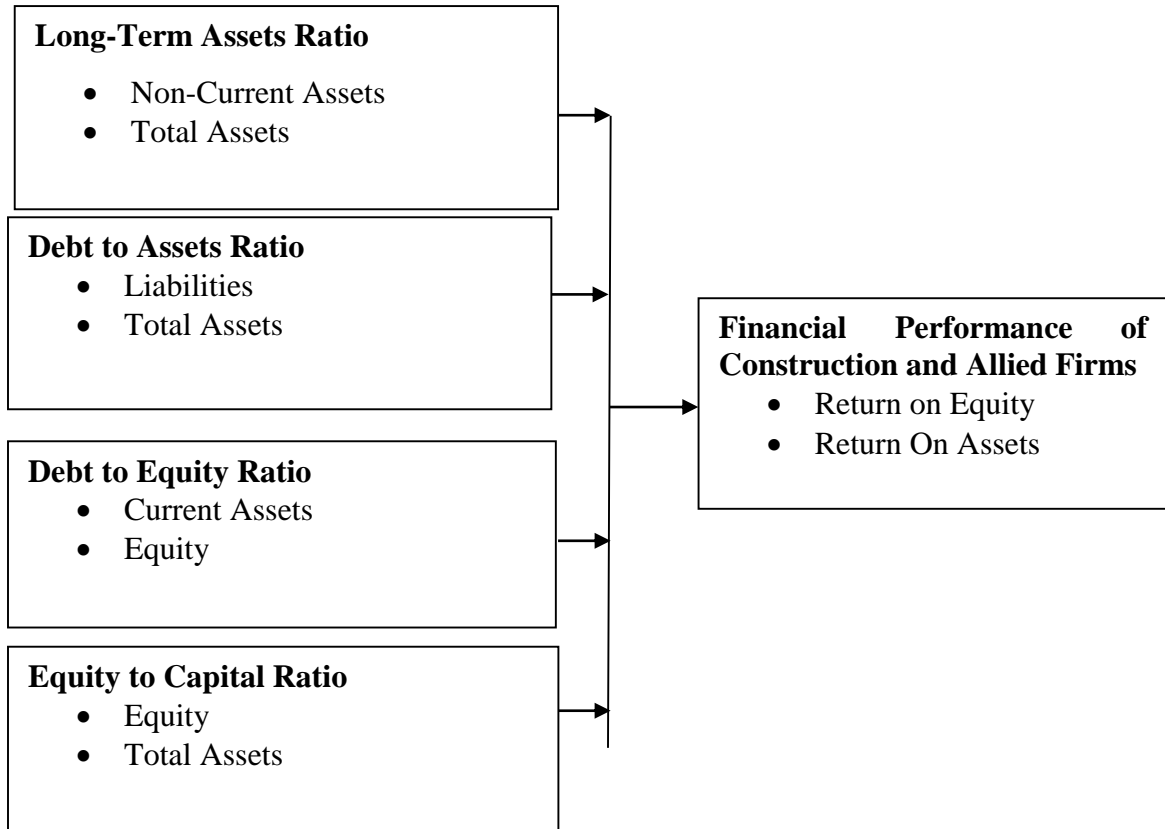


Figure 1: Conceptual Framework

3.0 METHODOLOGY

This research study adopted a descriptive research design approach. The researcher preferred this method because it allowed an in-depth study of the subject. Structured questionnaires were used to collect data. The target population of this study was the five (5) construction and allied firms listed at the Nairobi Stocks Exchange in Kenya as per the NSE Directory 2021. The unit of analysis was the individual construction and allied firms, while the unit of observation was the one hundred and seventy-two (172) employees in finance departments and operations departments in each of the five (5) construction and allied firms listed at the Nairobi Stocks Exchange. Data was analyzed using descriptive and inferential statistics. Quantitative data was analyzed using multiple regression analysis. The qualitative data generated was analyzed by use of Statistical Package of Social Sciences (SPSS) version 22.

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

Where:

Y = Performance of Construction and Allied Firms

β_0 = Constant

$\beta_1, \beta_2, \beta_3, \beta_4$ = Beta Coefficients

X1 = Long-Term Assets Ratio

X2 = Debt to Assets Ratio

X3 = Debt to Equity Ratio

X4 = Equity to Capital Ratio

ε = Error Term

4.0 RESULTS FINDINGS

4.1 Introduction

4.2 Response Rate

A sample of respondents were interviewed using questionnaires that allowed the researcher to drop the questionnaire to the respondents and then collect them at a later date when they had filled the questionnaires. A total of 172 questionnaires were distributed to employees in finance departments and operations departments. Out of the population covered, 152 were responsive representing a response rate of 89%. This was above the 50% which is considered adequate in descriptive statistics according to (Dunn, 2018).

Table 1: Response Rate of Respondents

Response	Frequency	Percentage
Actual Response	152	89
Non-Response	20	11
Total	172	100%

4.3 Pilot Study

The cronbach's alpha was computed in terms of the average inter-correlations among the items measuring the concepts. The rule of thumb for cronbach's alpha is that the closer the alpha is to 1 the higher the reliability (Isaac & Michael, 2018). A value of at least 0.7 is recommended.

Cronbach’s alpha is the most commonly used coefficient of internal consistency and stability. Consistency indicated how well the items measuring the concepts hang together as a set. Cronbach’s alpha was used to measure reliability. This was done on the four objectives of the study. The higher the coefficient, the more reliable is the test.

Table 2 Reliability Results

Variable	No. of Items	Respondents	α =Alpha	Comment
Long-Term Assets Ratio	4	17	0.893	Reliable
Debt to Assets Ratio	4	17	0.987	Reliable
Debt to Equity Ratio	4	17	0.974	Reliable
Equity to Capital Ratio	4	17	0.976	Reliable

4.4 Demographic Information

4.4.1 Distribution of Respondents by Gender

The study determined the gender distribution of the respondents. The results summarized in the figure below. The results revealed that majority of the respondent (56%) indicated that they were male, while only (44%) of the respondent indicated that they were female. The percentages may raise the issue of gender equity in construction and allied firms, but that is outside the scope of this study. A study on UK companies found that women and men do not differ in their ability to perform operational tasks, but rather bring a different perspective to capital structure (John & Johnson, 2021).

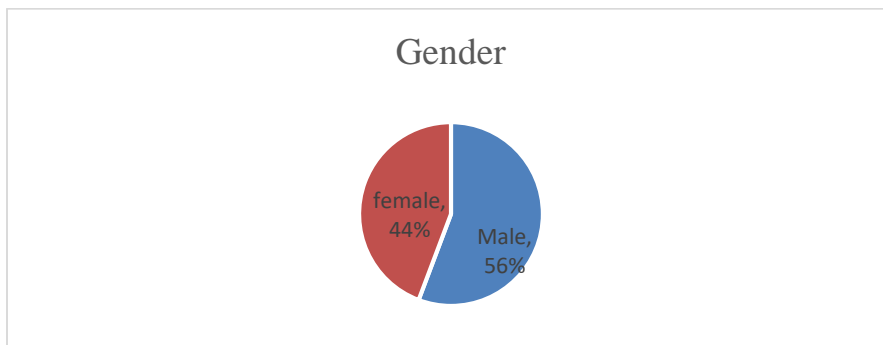


Figure 2: Distribution of Respondents by Gender

4.4.2 Distribution of Respondents by Age

The study determined the distribution of respondents by age. The results summarized in the table below. The results revealed that majority of the respondent (34%) were 31-40 years, (20%) were 18-30 years old, while (25.6%) were between 41-50 years. Above 50 years were (21%). The findings are in agreement with those of Kasomo (2019) who established that there are two natural age peaks of the early 30s and mid 40s which correlated to employee performance and consequently influencing firm performance.

Table 3: Distribution of Respondents by Age

Years	Frequency	Percent
18-30 Years	30	20.0
31-40 Years	52	34.2
41-50 Years	39	25.6
50 Years and above	31	21.0
Total	152	100.00

4.4.3 Distribution of Respondents by Level of Education

The respondents were asked to state their highest level of education and the results revealed that majority of the respondent (53%) indicated that their academic qualification was up to undergraduate level. The result further revealed that (20%) of the respondent indicated that their academic qualification was up to diploma level. Masters level was at (28%). With majority respondents having degree and above, it is expected that their level of understanding of performance of construction and allied firms is good. This is an indication that the results obtained from respondents interviewed in the present study can be relied upon. These findings concur those of Kaynak (2018) who established that majority of who run construction and allied firms are highly educated and that there is evidence linking education and performance in construction and allied firms.

Table 4: Distribution of Respondents by Level of Education

Education Level	Frequency	Percent
Diploma	30	20.0
Undergraduate	80	52.6
Post-Graduate	42	28.0
Total	152	100.00

4.4.4 Distribution of Respondents by Length of Service

The study determined the number of years the respondents had worked in their current office. The respondents were asked to indicate their work duration. The result showed that (31.6%) of the respondent indicated that their work duration was 3-5 years. The result revealed that majority of the respondents (38.4%) indicated that their work duration was 6-8 years. The result also showed that (30.0%) of the respondent indicated that their work duration was 9 and above years above. The findings of the study are in tandem with literature review by Kennedy and Brian (2019) who indicated that a duration and experience of employee helps him or her to have better knowledge and skills which contribute to performance of construction and allied firms.

Table 5: Distribution of Respondents by Length of Service

Length of Service	Frequency	Percent
3-5 Years	48	31.6
6-8 Years	59	38.4
9 Years and above	45	30.0
Total	152	100.0

4.5 Descriptive Statistics

4.5.1 Long-Term Assets Ratio

The first objective of the study was to assess the influence of long-term assets ratio on performance of construction and allied firms in Kenya. The respondents were asked to indicate to what extent long-term assets ratio had an influence on performance of construction and allied firms. Results indicated that majority of the respondents 27% agreed that it was to a very effective, 25% said that it was effective, 29% said it was somehow effective, while ineffective was at 19%.

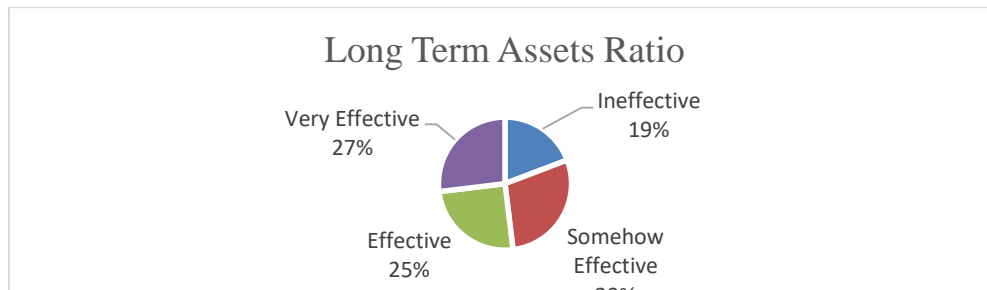


Figure 3: Long-Term Assets Ratio

The respondents were also asked to comment on statements regarding long-term assets ratio on performance of construction and allied firms in Kenya. The responses were rated on a likert scale and the results presented in Table 4.6 below. It was rated on a 5 point likert scale ranging from; 1 = strongly disagree to 5 = strongly agree. The scores of ‘strongly disagree’ and ‘disagree’ have been taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of ‘neutral’ has been taken to represent a statement agreed upon, equivalent to a mean score of 2.6 to 3.4. The score of ‘agree’ and ‘strongly agree’ have been taken to represent a statement highly agreed upon equivalent to a mean score of 3.5 to 5.

The respondents were asked to indicate their responses on influence of long-term assets ratio on performance of construction and allied firms in Kenya. The results revealed that majority of the respondent with a mean of (4.13) agreed with the statement that non-current assets plays a significant role in return on equity. The measure of dispersion around the mean of the statements was 0.94 indicating the responses were varied. The result revealed that majority of the respondent as indicated by a mean of (4.27) agreed with the statement total assets plays a significant role in return on equity. The standard deviation for was 0.968 showing a variation.

The average response for the statements on non-current assets plays a significant role in attaining higher return on assets was (4.22). The results were varied as shown by a standard deviation of 0.955. The average response for the statements on total assets plays a significant role in attaining higher return on assets was (4.4). The results were varied as shown by a standard deviation of 0.704.

The average mean of all the statements was 4.01 indicating that majority of the respondents agreed on long-term assets ratio having an influence on performance of construction and allied firms. However the variations in the responses were varied as shown by a standard deviation of 0.81. These findings imply that long-term assets ratio were at the heart of the organizations. The findings agree with Lembke (2021) that using long-term assets ratio as a capital structure best practice is a smart move.

Table 6: Long-Term Assets Ratio

Statements	Mean	Std. Deviation
Non-current assets plays a significant role in return on equity	4.10	0.94
Total assets plays a significant role in return on equity	4.27	0.968
Non-current assets plays a significant role in attaining higher return on assets	4.22	0.955
Total assets plays a significant role in attaining higher return on assets	4.41	0.704
Average	4.01	0.81

4.5.2 Debt to Assets Ratio

The second objective of the study was to establish the influence of debt to assets ratio on performance of construction and allied firms in Kenya. The respondents were asked to indicate to what extent debt to assets ratio influenced performance of construction and allied firms in Kenya. Results indicated that majority of the respondents 25% agreed that it was to a very great extent, 27% said that it was to a great extent, 35% said it was moderate, while little extent and not all were at 5 and 8% respectively.

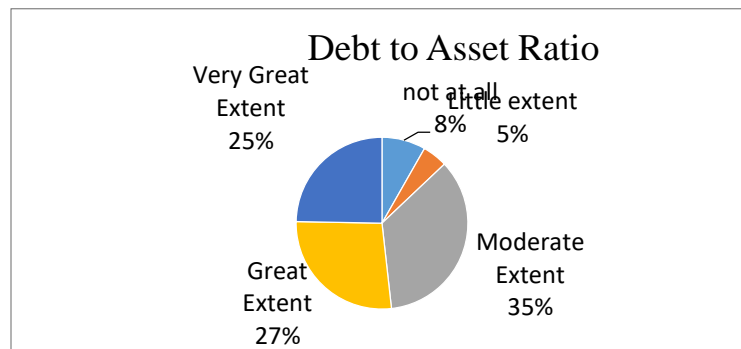


Figure 4: Debt to Assets Ratio

The respondents were also asked to comment on statements regarding debt to assets ratio on performance of construction and allied firms in Kenya. The results revealed that majority of the respondent with a mean of (3.58) agreed with the statement that liabilities plays a significant role in return on equity. The measure of dispersion around the mean of the statements was 1.0 indicating the responses were varied. The result revealed that majority of the respondent as indicated by a

mean of (3.63) agreed with the statement total assets plays a significant role in return on equity. The standard deviation for was 0.9 showing a variation.

The average response for the statements on liabilities plays a significant role in attaining higher return on assets was (3.45). The results were varied as shown by a standard deviation of 1.2. The average responses for the statements on total assets plays a significant role in attaining higher return on assets was (3.5). The results were varied as shown by a standard deviation of 1.0.

The average mean of all the statements was 3.77 indicating that majority of the respondents agreed on debt to assets ratio having an influence on performance of construction and allied firms in Kenya. However the variations in the responses were varied as shown by a standard deviation of 1.134. These findings agree with Maghanga (2017) that through debt to assets ratio, companies can improve competitive positioning.

Table 7: Debt to Assets Ratio

Statements	Mean	Std. Deviation
Liabilities plays a significant role in return on equity	3.58	1.0
Total assets plays a significant role in return on equity	3.63	0.9
Liabilities plays a significant role in attaining higher return on assets	3.45	1.2
Total assets plays a significant role in attaining higher return on assets	3.5	1.0
Average	3.77	1.134

4.5.3 Debt to Equity Ratio

There was also need to establish influence of debt to equity ratio on performance of construction and allied firms in Kenya as the third objective. Results indicated that majority of the respondents 47% agreed that it was to a very great extent, 45% said that it was to a great extent, 2% said it was moderate; little extent was 2% and not all at 4%.

Debt to Equity

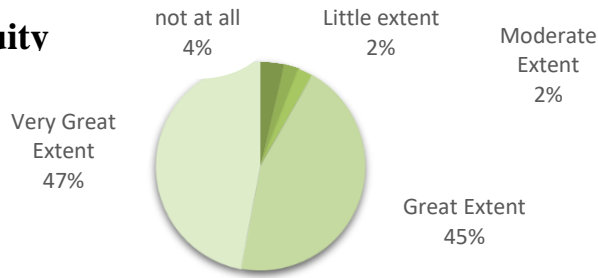


Figure 5: Debt to Equity Ratio

The respondents were asked to indicate their levels of agreement on statements regarding debt to equity ratio. The results revealed that majority of the respondent with a mean of (3.8) agreed with the statement that current assets play a significant role in return on equity. The measure of dispersion around the mean of the statements was 0.9 indicating the responses were varied. The result revealed that majority of the respondent as indicated by a mean of (4.9) agreed with the statement equity play a significant role in return on equity. The standard deviation for was 0.9 showing a variation.

The average response for the statements on current assets play a significant role in attaining higher return on assets was (3.6). The results were varied as shown by a standard deviation of 1.2. The average response for the statements on equity play a significant role in attaining higher return on assets was (4.1). The results were varied as shown by a standard deviation 0.8.

Average mean of all the statements was 3.8 indicating that majority of the respondents agreed on debt to equity ratio having an influence on performance of construction and allied firms in Kenya. However the variations in the responses were varied as shown by a standard deviation of 0.9. The results are in tandem with Parkhe (2021) who opine that an organization benefits greatly when debt to equity ratio is embraced.

Table 8: Debt to Equity Ratio

Statements	Mean	Std. Deviation
Current assets play a significant role in return on equity	3.8	0.9
Equity play a significant role in return on equity	4.9	0.9
Current assets play a significant role in attaining higher return on assets	3.6	1.2
Equity play a significant role in attaining higher return on assets	4.1	0.8
Average	3.8	0.9

4.5.4 Equity to Capital Ratio

There was also need to establish the influence of equity to capital ratio on performance of construction and allied firms in Kenya. Results also showed that 3% of respondents indicated to very great extent, great extent was at 12%, moderate extent was 37%, while little extent was at 27% and not at all was at 21%.

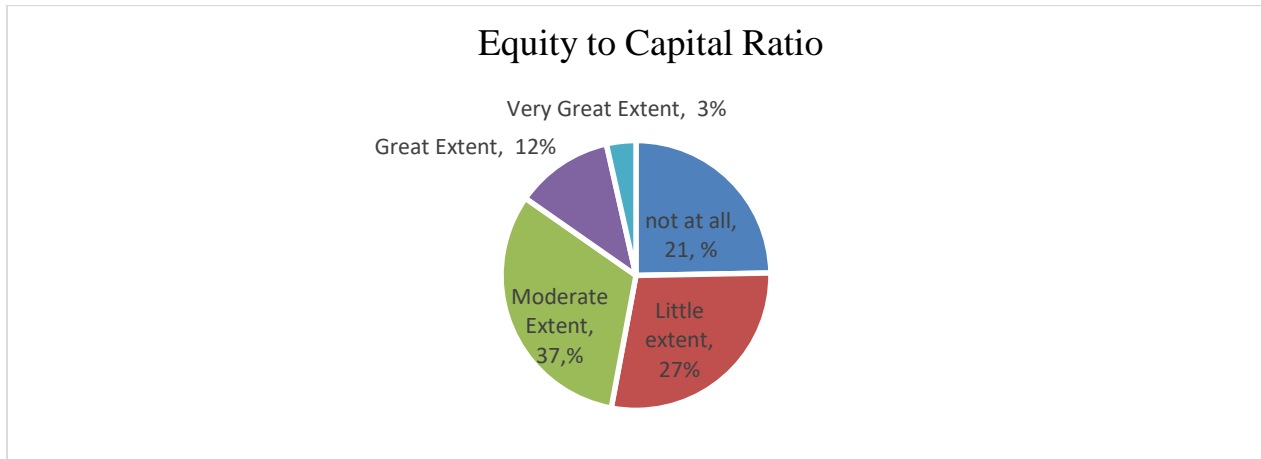


Figure 6: Equity to Capital Ratio

The respondents were asked to indicate their views on equity to capital ratio. The results revealed that majority of the respondent with a mean of (4.5) agreed with the statement that equity plays a significant role in return on equity. The measure of dispersion around the mean of the statements was 0.5. The result revealed that majority of the respondent as indicated by a mean of (3.9) agreed with the statement total assets plays a significant role in return on equity the standard deviation for was 0.8 showing a variation.

The average response for the statements on equity plays a significant role in attaining higher return on assets was (4.5). The results were varied as shown by a standard deviation of 0.5. The average response for the statements on total assets plays a significant role in attaining higher return on assets was (4.4). The results were varied as shown by a standard deviation 0.6.

Average mean of all the statements was 4.2 indicating that majority of the respondents agreed on equity to capital ratio having an influence on performance of construction and allied firms in Kenya. However the variations in the responses were varied as shown by a standard deviation of 0.8. The results agree with Gordon (2019) that an organization that embraces equity to capital ratio benefits greatly in its operations management.

Table 9: Equity to Capital Ratio

Statements	Mean	Std. Deviation
Equity plays a significant role in return on equity	4.5	0.5
Total assets plays a significant role in return on equity	3.9	0.8
Equity plays a significant role in attaining higher return on assets	4.5	0.5
Total assets plays a significant role in attaining higher return on assets	4.4	0.6
Average	4.2	0.8

4.6 Correlation Analysis

Correlation analysis was used to determine both the significance and degree of association of the variables and also predict the level of variation in the dependent variable caused by the independent variables. The correlation summary shown in Table 10 indicates that the associations between each of the independent variables and the dependent variable were all significant at the 95% confidence level. The correlation analysis to determine the relationship between capital structure influencing of construction and allied firms in Kenya, Pearson correlation coefficient computed and tested at 5% significance level.

The results indicate that there is a positive relationship ($r=.509$) between long-term assets ratio and performance of construction and allied firms in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level ($p=0.000, <0.05$). The results also indicate that there is a positive relationship ($r=.398$) between debt to assets ratio and performance of construction and allied firms in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level ($p=0.000, <0.05$).

The results indicate that there is a positive relationship ($r=.678$) between debt to equity ratio and performance of construction and allied firms in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level ($p=0.000, <0.05$). The results indicate that there is a positive relationship ($r=.685$) between equity to capital ratio and performance of construction and allied firms in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level ($p=0.000, <0.05$). Hence, it is evident that all the independent variables could explain the changes in implementation of performance of construction and allied firms in Kenya, on the basis of the correlation analysis.

Table 10: Summary of Pearson's Correlations

Correlations		Long-Term Assets Ratio	Debt Assets Ratio	To Debt To Equity Ratio	Equity To Capital Ratio	Performance of Firms
Long-Term Assets Ratio	Pearson Correlation	1				
	Sig.(2-Tailed)					
Debt To Assets Ratio	Pearson Correlation	.263**	1			
	Sig.(2-Tailed)	0.007				
Debt To Equity Ratio	Pearson Correlation	.350**	.346**	1		
	Sig.(2-Tailed)	0	0			
Equity To Capital Ratio	Pearson Correlation	.363**	.516**	.543**	1	
	Sig.(2-Tailed)	0	0	0		
Performance of Firms	Pearson Correlation	.509**	.398**	.678**	.685**	1
	Sig.(2-Tailed)	0	0	0	0	

** Correlation is Significant at the 0.05 Level (2-Tailed).

4.7 Regression Analysis

In this study multivariate regression analysis was used to determine the significance of the relationship between the dependent variable and all the independent variables pooled together. Regression analysis was conducted to find the proportion in the dependent variable (performance of construction and allied firms in Kenya) which can be predicted from the independent variables (long-term assets ratio, debt to assets ratio, debt to equity ratio and equity to capital ratio).

Table 4.11 presents the regression coefficient of independent variables against dependent variable. The results of regression analysis revealed there is a significant positive relationship between dependent variable and the independent variable. The independent variables reported R value of .805a indicating that there is perfect relationship between dependent variable and independent variables. R square value of 0.647 means that 64.7% of the corresponding variation in performance of construction and allied firms in Kenya can be explained or predicted by (long-term assets ratio, debt to assets ratio, debt to equity ratio and equity to capital ratio) which indicated that the model fitted the study data. The results of regression analysis revealed that there was a significant positive relationship between dependent variable and independent variable at ($\beta = 0.647$), $p=0.000 < 0.05$).

Table 11: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.805 ^a	.647	.633	.166295

Predictors: (Constant), Long-Term Assets Ratio, Debt to Assets Ratio, Debt to Equity Ratio, Equity to Capital Ratio

Dependent Variable: Performance of Construction and Allied Firms

Table 12: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.027	4	1.257	66.158	.000 ^b
	Residual	2.738	147	0.019		
	Total	7.765	151			

Predictors: (Constant), Long-Term Assets Ratio, Debt to Assets Ratio, Debt to Equity Ratio, Equity to Capital Ratio

Dependent Variable: Performance of Construction and Allied Firms

The significance value is 0.000 which is less than 0.05 thus the model is statistically significance in predicting how long-term assets ratio, debt to assets ratio, debt to equity ratio and equity to capital ratio influence performance of construction and allied firms in Kenya. The F critical at 5% level of significance was 36.8. Since F calculated which can be noted from the ANOVA table above is 66.158 which is greater than the F critical (value= 36.8), this shows that the overall model

was significant. The study therefore establishes that; long-term assets ratio, debt to assets ratio, debt to equity ratio and equity to capital ratio were all important capital structure aspects influencing performance of construction and allied firms. These results agree with Kazemi and Hooshyar (2019) results which indicated a positive and significant influence of capital structure on performance of construction and allied firms.

Table 13: Coefficients of Determination

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.353	0.202		11.619	0.000
	Equity to Capital Ratio	0.183	0.037	0.392	4.948	0.000
	Long-Term Assets Ratio	0.158	0.045	0.232	3.546	0.001
	Debt to Equity Ratio	0.121	0.023	0.383	5.272	0.000
	Debt to Assets Ratio	0.001	0.036	0.027	0.021	0.040

Predictors: (Constant), Long-Term Assets Ratio, Debt to Assets Ratio, Debt to Equity Ratio, Equity to Capital Ratio

Dependent Variable: Performance of Construction and Allied Firms

The research used a multiple regression model

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

The regression equation will be;

$$Y = 2.353 + 0.183X_1 + 0.158X_2 + 0.121X_3 + 0.001X_4$$

The regression equation above has established that taking all factors into account (long-term assets ratio, debt to assets ratio, debt to equity ratio and equity to capital ratio) constant at zero, performance of construction and allied firms will be an index of 2.353.

The findings presented also shows that taking all other independent variables at zero, a unit increase in long-term assets ratio will lead to a 0.158 increase in performance of construction and allied firms. The P-value was 0.001 which is less 0.05 and thus the relationship was significant.

The study also found that a unit increase in debt to assets ratio will lead to a 0.001 increase in performance of construction and allied firms. The P-value was 0.04 and thus the relationship was

significant. In addition, the study found that a unit increase in debt to equity ratio will lead to a 0.121 increase in performance of construction and allied firms. The P-value was 0.000 and thus the relationship was significant.

Lastly, the study found that equity to capital ratio will lead to a 0.183 increase in performance of construction and allied firms. The P-value was 0.000 and hence the relationship was significant since the p-value was lower than 0.05. The findings of the study show that, equity to capital ratio contributed most to performance of construction and allied firms.

5. 0 CONCLUSION AND RECOMMENDATIONS

Based on the study findings, the study concludes that performance of construction and allied firms can be improved by long-term assets ratio, debt to assets ratio, debt to equity ratio and equity to capital ratio.

First, in regard to equity to capital ratio, the regression coefficients of the study show that it has a significant influence of 0.183 on performance of construction and allied firms. This implies that increasing levels of equity to capital ratio by a unit would increase the levels of performance of construction and allied firms by 0.183. This shows that equity to capital ratio has a positive influence on performance of construction and allied firms.

Second in regard to long-term assets ratio, the regression coefficients of the study show that it has a significant influence of 0.158 on performance of construction and allied firms. This implies that increasing levels of long-term assets ratio by a unit would increase the levels of performance of construction and allied firms by 0.158. This shows that long-term assets ratio has a positive influence on performance of construction and allied firms.

With regard to debt to equity ratio, the regression coefficients of the study show that it has a significant influence of 0.121 on performance of construction and allied firms. This implies that increasing levels of debt to equity ratio by a unit would increase the levels of performance of construction and allied firms by 0.121. This shows that debt to equity ratio have a positive influence on performance of construction and allied firms.

Lastly, in regard to the fourth objective, the regression coefficients of the study show that it has a significant influence of 0.001 on performance of construction and allied firms. This implies that increasing levels of debt to assets ratio by a unit would increase the levels of performance of construction and allied firms by 0.001. This shows that debt to assets ratio have a positive influence on performance of construction and allied firms.

Drawing on this research, lack of long-term assets ratio, debt to assets ratio, debt to equity ratio and equity to capital ratio in construction and allied firms is leading to poor financial performance. Though the construction and allied firms are striving hard to improve their performance there are still issues of poor quality products, long lead time and high cost of projects/products. It was articulated that the current phenomenon of poor performance in the construction and allied firms can be reversed if the government and other stakeholders ensure; long-term assets ratio, debt to assets ratio, debt to equity ratio and equity to capital ratio are embraced.

To ensure that construction and allied firms have better performance they should focus more on using their long-term assets ratio so as to ascertain their non current assets. In the same regard, they should ascertain their total assets. With regard to the second objective, it would be constructive for construction and allied firms to invest more in debt to assets ratio to reduce their vulnerability give them competitive advantage in their operations. In relation to debt to equity ratio, the organizations should embrace having more current assets; they should also embrace raising their equity. If construction and allied firms embrace raising their debt to equity ratio then there will be return on equity and return on assets will improve.

Concerning equity to capital ratio, there is need for construction and allied firms to always set aside a substantial part of their resources for activities that spend a huge amount of total resources, and this involves among many other issues equity to capital ratio. This is because decisions made here have major effects on the rest of the organizational processes. In the same regard, they should embrace equity and total assets to enable them to come up with cost efficient strategies that enable them operate sustainably.

The study is a milestone for further research in the field of performance of construction and allied firms in Africa and particularly in Kenya. The findings demonstrated the important capital structure aspects to financial performance of construction and allied firms listed in Nairobi Securities Exchange to include; long-term assets ratio, debt to assets ratio, debt to equity ratio and equity to capital ratio. The current study obtained an R^2 of 64.7% and should therefore be expanded further in future in order to include other capital structure that may as well have a positive significance to performance of construction and allied firms. Existing literature indicates that as a future avenue of research, there is need to undertake similar research in other institutions in Kenya and other countries in order to establish whether the explored capital structure aspects herein can be generalized to affect performance in other institutions

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