

Exploring the Effect of Capital Structure on Firm Value in Information and Communication Technology Listed on the Nigeria Exchange Group (Ngx).

Afolabi, Chukwudi Segun¹, Ogunleye, Joshua Kehinde², Akinleye, Bilikis Olayemi³, Odetayo, Tajudeen Adewale⁴, Oladeji, Felicia Oluremi⁵

¹Department, Business Education, Osun State college of Education, Ila-orangun, Nigeria.

^{2,4,5}Department of Accounting, University of Ilesa, Ilesa, Nigeria.

³Department of Accounting, Adeleke University Ede, Nigeria.

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ABSTRACT

This study examined the effect of total debt to assets equity, total debt to assets, long-term debt to assets, and short-term debt to assets on the valuation of publicly listed Information and Communication Technology (ICT) firms in Nigeria from 2014 to 2023. Size was utilized as a moderating variable. The study population comprises seven (7) information and communication technology firms. The sample selection was conducted utilizing the census sampling method. As a result, we collected all seven samples. Secondary data was obtained from the annual reports of the selected companies, and panel data analysis was conducted using fixed effects, random effects, and pooled ordinary least squares methods. Hausman's Chi-square statistics were employed to analyze the data. The research analyzed three categories of debt: total debt, long-term debt, and short-term debt. Each of the three factors demonstrated a positive impact on the company's value, with statistical values of $t = 2.6102$ ($P < 0.05$), $t = 2.7710$ ($P < 0.05$), and $t = 2.9254$ ($P < 0.05$). The debt-to-equity ratio negatively impacted Tobin's Q ($t = -2.1227$, $P < 0.05$). The study recommended that ICT firm management reduce the debt-to-equity ratio, achievable through a decrease in debt and an increase in equity. ICT companies listed on the stock market should aim to replace a minimum of 75% of their debt with equity by utilizing bonus issues, rights issues, and increasing retained earnings to enhance the company's value.

Keywords: Capital structure, Debt to equity, Total debt, Long term debt, short term debt, firm size, firm value.

INTRODUCTION

The relationship between capital structure and firm performance has been a topic of significant discussion in corporate finance. The main theories used in financial management research to look at the link between capital structure and firm performance are the pecking order theory, the trade-off theory, and the agency cost theory. In developing economies like Nigeria, this relationship is even more important because businesses try to find the best balance between equity and debt financing (both short- and long-term) to meet the needs of all stakeholders. This balance represents the primary claims on a firm's assets, supports growth, and enhances overall financial performance (Fakunle, Omole & Adewumi, 2024; Ogunsola & Oghereoparabo, 2022). Capital structure is quantifiable via the debt-to-asset ratio and the debt-to-equity ratio. An increase in total asset debt correlates with heightened financial risk for the company, potentially diminishing firm value (Ibthia, Muda & Rujiman, 2024). Decisions regarding a company's capital structure are essential for its long-term sustainability and competitive positioning, ultimately benefiting shareholders through wealth distribution. To maximize owner wealth, a company must effectively manage its capital structure by selecting an appropriate capital mix. Integrating both debt and equity financing into a company's capital structure aims to minimize the overall cost of capital (Haron, 2018). The value of a firm is independent of its capital structure under conditions of frictionless capital markets, absence of taxes, and lack of asymmetric information, as posited by the Modigliani and Miller theory (MM) of

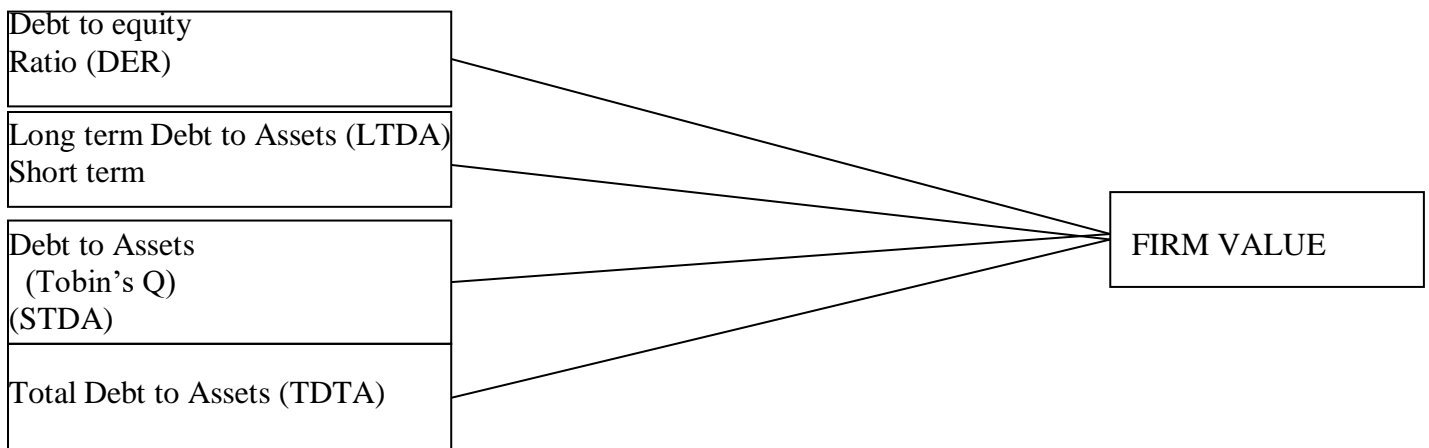
1963. The theory of capital structure and its association with firm value has garnered significant attention since the Modigliani-Miller theorem. According to MM theory, capital structure decisions are irrelevant, as a company's value is determined solely by its future earning potential, which reveals various aspects associated with capital structure. The choice of capital structure was found to have a significant impact on firm value and, consequently, on shareholders' wealth (Atta Ullah, Saif Ullah, Zaman, & Hashmi, 2020; Baker & Martin, 2021; Boshnak, 2022; Chaudhary, Iqbal & Hussain, 2023). Researchers have developed the pecking order theory, trade-off theory, and agency cost theory to explain a company's capital structure. The Pecking Order Theory posits that firms favor internally generated funds, leading to the observation that highly profitable firms typically exhibit lower debt ratios. As a result of many empirical studies (Abu-Abbas, Alhmoud & Algazo, 2019; Gharadallou, 2022; Kalantonis, Kallandranis & Setiropoulos, 2021; Chaudhary, Iqbal & Hussain, 2023), this idea showed that borrowing money can hurt your profits. According to Chaudhary, Iqbal, and Hussain (2023), the capital structure may improve performance and value by providing tax benefits. Conversely, capital structure can negatively affect firms due to information gaps, agency costs, financial stress, and bankruptcy costs. To enhance the firm's value, managers should structure and utilize it effectively (Kijkasiwat, Hussain, & Mumtax, 2022). Firm value reflects investors' perceptions of the company's resource management effectiveness (Nabilatuttaqiyya & Muhadjir, 2024). The value of a firm indicates its prospective worth. Methods for assessing firm value differ based on the diverse objectives of business operations. This study will measure a firm's value using Tobin's Q. Ibthia, Muda, and Rujiman (2024) say that firm size is a moderating variable that affects firm value because it gives managers chances to increase the firm's assets, make shareholders happier, and make funding decisions that aim to maximize firm value. Researchers have conducted several studies to evaluate the influence of capital structure on firm value. Previous studies predominantly utilized accounting measures, including return on assets, equity, return on capital employed, and earnings per share, in developed and developing countries, such as Nigeria. The results of previous studies are inconsistent and inconclusive. Some authors, including Dinh & Cuong (2020), David, Oluoch & Joshua (2020), Evbayiro-Osagie & Enadeghe (2022), and Aliyu & Eliphus (2022), identified a significant and positive relationship between capital structure and firm performance. In contrast, other researchers such as Kasasbah (2021), Ogunsola & Ogheneoparobo (2022), Michael & Babajide (2022), Tasema (2024), and Julius & Lucky (2020), along with Ibithia, Muda & Rujiman (2024), did not find similar results. Researchers identified a negative association. The two variables are not strongly linked, as shown by many studies (Marigu & Ojiegbe, 2020; Ihejirika, Ndugbu, Nbagwu & Ojiegbe, 2020; Eyong, Ebieri, Adanna & Oti, 2021; Fakunle, Omole & Adewumi, 2024; Sebil, 2024). The impact of the structure is minimal. To fill the gaps in our knowledge, this study used Tobin's Q as a proxy for firm value to examine how capital structure affects Nigerian listed information and communication firms. The study's goals are to look into how the debt-to-equity ratio (DER) affects the value of listed ICT companies in Nigeria; how total debt to assets (TDTA) affects the value of listed ICT companies in Nigeria; how long-term debt to assets (LTDA) affects the value of listed ICT companies in Nigeria; and how short-term debt to assets (STDA) affects the value of listed ICT companies in Nigeria.

LITERATURE REVIEW

Capital Structure

The relationship between capital structure and firm performance has been a topic of significant discussion in corporate finance. The main theories used in financial management research to look at the link between capital structure and firm performance are the pecking order theory, the trade-off theory, and the agency cost theory. This relationship is even more important in developing economies like Nigeria, where businesses try to find the best balance between equity and debt financing (both short-term and long-term) to meet the needs of all their stakeholders, who have the most important claims on their assets, help them grow, and improve their overall financial performance (Fakunle, Omole & Adewumi, 2024; Ogunsola & Oghereoparabo, 2022). The capital structure is quantifiable via the debt-to-asset ratio and the debt-to-equity ratio. Increased total asset debt correlates with heightened financial risk for the company, potentially diminishing firm value (Ibithia, Muda & Rujiman, 2024). Decisions regarding a company's capital structure are essential for its long-term sustainability and competitive advantage, ultimately benefiting shareholders through wealth distribution. To maximize owner wealth, a company must effectively manage its capital structure by selecting an appropriate capital mix. The combination of debt and equity financing within a company's capital structure aims to minimize the overall cost

of capital (Haron, 2018). The value of a company doesn't change based on its capital structure in capital markets that don't have friction, taxes, or unequal information, as the Modigliani and Miller theory (MM) of 1963 says. The theory of capital structure and its association with firm value has garnered significant attention since the Modigliani-Miller theorem. According to MM theory, capital structure decisions are deemed irrelevant, as a company's value is determined solely by its future earning potential, which reveals various facets associated with capital structure. The choice of capital structure has a significant impact on firm value and, consequently, on shareholder wealth (Atta Ullah, Saif Ullah, Zaman, & Hashmi, 2020; Baker & Martin, 2021; Boshnak, 2022; Chaudhary, Iqbal & Hussain, 2023). Scholars have developed the pecking order theory, trade-off theory, and agency cost theory to elucidate a company's capital structure. The Pecking Order Theory posits that firms favor internally generated funds, leading to the observation that highly profitable firms typically exhibit lower debt ratios. As a result of many empirical studies (Abu-Abbas, Alhmoud & Algazo, 2019; Gharadallou, 2022; Kalantonis, Kallandranis & Setiropoulos, 2021; Chaudhary, Iqbal & Hussain, 2023), this idea showed that borrowing money can hurt your profits. According to Chaudhary, Iqbal, and Hussain (2023), capital structure can improve performance and value by providing tax benefits. On the other hand, it can have negative effects due to information gaps, agency costs, financial stress, and bankruptcy costs. To enhance the firm's value, managers should structure and utilize it effectively (Kijkasiwat, Hussain, & Mumtax, 2022). Firm value reflects investors' perceptions regarding a company's effectiveness in resource management (Nabilatuttaqiyya & Muhadjir, 2024). The value of a firm indicates its prospective worth. Methods for measuring firm value vary due to differing business purposes. This study will measure a firm's value using Tobin's Q. Ibithia, Muda, and Rujiman (2024) say that firm size affects firm value by giving managers chances to increase the firm's assets, make shareholders happier, and make funding decisions that aim to maximize firm value. Researchers have conducted several studies to evaluate the influence of capital structure on firm value. Previous studies predominantly employed accounting measures, including return on assets, equity, return on capital employed, and earnings per share, in developed and developing countries, such as Nigeria. The results of previous studies are inconsistent and inconclusive. Some authors, including Dinh & Cuong (2020), David, Oluoch & Joshua (2020), Evbayiro-Osagie & Enadeghe (2022), and Aliyu & Eliphus (2022), identified a significant and positive relationship between capital structure and firm performance. In contrast, others such as Kasasbah (2021), Ogunsola & Ogheneoparobo (2022), Michael & Babajide (2022), Tasema (2024), Julius & Lucky (2020), and Ibithia, Muda & Rujiman (2024) did not find similar results. Researchers identified a negative association. The two variables are not strongly linked, as shown by many studies (Marigu & Ojiegbe, 2020; Ihejirika, Ndugbu, Nbagwu & Ojiegbe, 2020; Eyong, Ebieri, Adanna & Oti, 2021; Fakunle, Omole & Adewumi, 2024; Sebil, 2024). The cashless policy has not had a big effect. To fill in the gaps in our knowledge, this study will use Tobin's Q as a stand-in for firm value to examine how capital structure affects Nigerian listed information and communication firms. The study's goals are to look into how the debt-to-equity ratio (DER) affects the value of listed ICT companies in Nigeria; how total debt to assets (TDTA) affects the value of listed ICT companies in Nigeria; how long-term debt to assets (LTDA) affects the value of listed ICT companies in Nigeria; and how short-term debt to assets (STDA) affects the value of listed ICT companies in Nigeria.



Developed by the researchers, 2025.

Figure 1: The relationship between the independent and the dependent variables as conceived in the study.

THEORETICAL REVIEW

Pecking order Theory

The pecking order theory, in relation to capital structure and financial performance, offers insights into the decision-making processes of firms when it comes to financing their operations. The theory, which was created by Myers and Majluf in 1984, says that firms prefer internal financing sources, like retained earnings, over external financing sources, like debt or equity issuance, because they worry about unfair selection and lack of information.

Under the pecking order theory, firms prioritize using retained earnings to fund their investments and operations. This preference stems from the idea that internal financing does not signal negative information to investors, unlike external financing. By relying on retained earnings, companies avoid the costs associated with issuing new securities and the potential signal of undervaluation or lack of investment opportunities (Ulum, Adriyana, Mahmudah, & Mahirun, 2022).

Capital structure decisions play a crucial role within the framework of the pecking order theory (Georgakopoulos, Toudas, Poutos, Kounadeas, & Tsavalias, 2022). Firms tend to prefer to maintain low levels of debt, as higher debt levels may signal financial distress or limited internal financing capacity. This preference for lower leverage ratios fits with the idea that companies prefer to get money from within the company over getting money from outside sources (Georgakopoulos, Toudas, Poutos, Kounadeas, & Tsavalias, 2022).

Empirical Review

There is no doubt that many empirical studies have examined the complex relationship between a company's capital structure and its performance, shedding light on the dynamics in various settings and coming to various conclusions. Factors such as the industry, country-specific conditions, and the specific performance measures used influence the outcomes. In a recent study, Olusola, Mengze, Chimezie, and Chinedum (2022) examined the impact of capital structure on the firm performance of some large companies in the Hong Kong stock exchange. However, the findings were inconclusive. In another context, Luo and Jiang (2022) evaluated the impact of capital structure on financial performance based on an evolutionary neural network model. The study revealed that a poor capital structure can negatively impact a company's finances. In Saudi Arabia, Alzomania's (2021) research found a strong positive link between leverage and firm performance, specifically in terms of return on assets (ROA) and return on equity (ROE). This result suggests that in Saudi Arabia, increasing leverage can improve firm performance. Similarly, Mollah and Matin's research in the pharmaceutical industry in Bangladesh in 2021 found a U-shaped relationship between capital structure and firm performance. The result means that companies in this sector can do best by keeping their level of debt moderate. Bhattacharya's (2020) study by Bhattacharyya and Bhattacharya (2020) on Indian manufacturing companies found a link between borrowing money and the performance of the company. The finding showed that debt financing could help the Indian manufacturing sector do better financially. study on Indian ma

Bhattarai (2020) examined the effect of capital structure on the financial performance of insurance companies in Nepal. The study collected data from the annual reports available on the respective insurance companies' websites. We collected panel data from 14 insurance companies in Nepal from 2007/08 to 2015/16, resulting in a total of 126 observations. We used the pooled OLS model, random effect model, and fixed effect model for data analysis. The study has a return on assets as the dependent variable, whereas total debt ratio, equity to total assets, leverage, firm size, liquidity ratio, and asset tangibility are the independent variables. The result concluded that equity to total assets, leverage, and asset tangibility had effects on the financial performance in Nepalese insurance companies' cases.

Pucheta-Martinez & Gallego-Alvarez (2020) examined how board size, board independence, CEO duality, female directors, and board compensation affect firm performance in a sample of international The panel data sample consists of 34 countries, totaling 10,314 firm-year observations used in this study, and they are divided into six geographic zones: Africa, Asia, Nigeria, Latin America, North America, and Oceania. Africa, Asia,

Nigeria, Latin America, North America, and Oceania. The results revealed that some board characteristics, such as board size, board independence, and having a female director, are positively associated with firm performance, whereas CEO duality, contrary to their expectations, also impacts positive firm performance. Moreover, board compensation is not associated with firm performance.

Mazanec (2023) analyzed the impact of the capital structure of 4,000 transport companies in Central Europe. According to him, the results demonstrate that a high debt ratio and a large proportion of non-current assets in total assets have a negative impact on company performance when compared with the current ratio and the share of cash and cash equivalents in total assets. Anozie, Muritala, and Yisau (2023) investigate the impact of capital structure on the performance of Nigerian oil and gas companies. They used descriptive statistics and panel regression analysis to examine the period 2011-2020. The results of the research demonstrate that, whereas long-term debt has a significant negative effect on return on assets, short-term debt has positive but insignificant impacts (Anozie, Muritala, Ininm, & Yisau, 2023). They recommended that managers of Nigerian companies use lower long-term debt since it harms their performance. Authors Ganiyu, Adelopo, Rodionova, and Samuel (2019) concluded the opposite during a study of 115 companies in Nigeria. Their findings demonstrate that short-term debt financing, as compared with long-term debt financing, provided the majority of company financing in Nigeria (Ganiyu, Adelopo, Rodionova, & Samuel, 2019).

Ahmed & Bhuyan (2020) examined the relationship between capital structure and firm performance of service sector firms from the Australian stock market using cross-sectional panel data over eleven years (2009-2019), or 1001 firm-year observations. Unlike other studies, in this study directional causalities of all performance measures were used to identify the cause of firm performance. The study finds that long-term debt dominates the debt choices of Australian service sector companies. Although the finding is to some extent similar to trends in debt-financed operations observed in companies in developed and developing countries, it is unexpected because the sectoral and institutional borrowing rules and regulations in Australia are different from those in other parts of the world.

In their 2021 study of the Indian auto industry, Gupta and Jain also discovered a positive correlation between leverage and firm performance, especially in terms of return on assets (ROA) and return on equity (ROE). This evidence indicates that debt can have a positive effect on firms in this industry. On the other hand, Chen and Li's (2021) study on Chinese listed companies found a non-linear relationship between capital structure and firm performance, with an optimal level of leverage. Oztekin's (2021) global panel data analysis, on the other hand, showed a significant negative relationship between leverage and firm performance on a global scale, suggesting that too much debt may hurt firms in all countries and industries. These different empirical findings help us get a better sense of how capital structure choices affect how well a business does in a range of economic and geographical conditions. Cuevas-Vargas et al. (2022) used a PLS-SEM method to look at how capital structure and new ideas affect the performance of small and medium-sized (SMEs) manufacturing companies in Mexico. The result of the study indicates that capital structure has a significant direct effect on innovation and an indirect effect on firm performance. In another vein Similarly, we used OLS regression to examine the impact of capital structure on 2018 and 2018 performance. The results showed a negative and significant impact of all measurements of capital structure on ROE, ROA, and Tobin's Q. In contrast Avci (2016) found a strong negative link between capital structure and the performance of manufacturing firms in Borsa Istanbul between 2003 and 2015. Avci (2016) obtained a significant negative relationship in the examination of the impact of capital structure and firm performance of manufacturing firms in Borsa Istanbul during the period of 2003 and 2015.

Owen and Luis (2019) utilized panel data analysis to investigate the moderating role of profitability in the relationship between capital structure and firm value in Jordan. The results revealed an adverse relationship between capital structure and firm value. As expected, the study finds that capital structure has a complicated effect that is difficult to study without taking into account how profitability affects things as one of the main factors. The current study specifically focused on ACTT firms in Nigeria.

Using an ordinary regression model, Mai (2020) researched the impact of capital structure on the value of capital structure on the value of firms in the plastic and packaging industry listed on the stock exchange in the period 2012-2018, and the results indicated that the capital structure measured by DA and SDA harms the firm value

(Tobin's Q). Also, ROA as a measure of performance, performance and size have a positive impact on firm value. The current study was conducted in the listed ICT firms in Nigeria.

Similarly, Muhammad, Bala, and Abdullahi (2020) conducted an empirical study on the moderating role played by environmental dynamism in the relationship between leverage and profitability in the Nigerian information and communication technology (ICT) sector between 2010 and 2015. Using STATA software Version 13 to do a multiple regression analysis of the data, the results showed that there is a negative significant relationship between leverage and return on investment (ROI), but that environmental dynamism has a positive moderating effect on this relationship. The study also found a significant positive link between leverage and return on equity (ROE), but environmental dynamism had a negative effect on the relationship. The study concluded that environmental dynamism moderates the relationship between capital structure and financial performance of listed ICT firms in Nigeria. The study recommended that the ICT companies should not blindly adopt debt as a means of improving their financial performance without giving due consideration to the environment within which they operate. The current study uses This study used ordinary least squares, fixed effect, and random effect regression models all together. Tobin's Q was used to measure firm value, and the time frame was expanded to 2020. The reviewed study looked at the role played by environmental dynamism on the relationship between leverage and profitability, while the current study considered the effect of capital structure on firm value. Using a regression model and a random effect model, Abubakar (2021) investigated the effect of financial leverage on financial performance over the period from 2005 to 2018. The regression model result indicated STDR and LTDR have no significant effect on the financial performance, and TDER has a negative but significant effect on the financial performance measured by ROE. The study concluded that higher financial leverage affects shareholders' wealth. The findings support the trade-off theory, while the findings of the current study support both the agency theory and the pecking order theory.

The listed ICT firms served as the study's subjects. The current study was conducted in the listed ICT firms. Similarly, Alhassan (2021) utilized a fixed effect regression model to test the impact of capital on the performance of Nigerian consumer goods companies from 2011 to 2020. Findings revealed that debt-to-equity ratio and long-term debt had a positive impact on financial performance, while short-term debt had a negative impact. The study concluded that consumer goods companies should adopt policies that encourage increased in profit after tax, retained earnings, and low-interest long-term debt. The listed ICT firm in Nigeria conducted the current study. The current study proxies performance using Tobin's Q and adds TD to the proxy capital structure.

Employing a different approach, Asen, Nwude, Idamoyibo, Ufodiana, and Udo (2021) investigated the impact The results showed that performance, as measured by ROE and Tobin's Q, has a big effect on SDTA, SIZE, LDTA, and TDTA. On the other hand, ROA harms LDTA, DE, and TDTA. The results also showed that performance, as measured by ROE and Tobin's Q, has a big effect on SDTA, SIZE, LDTA, and TDTA. On the other hand, ROA harms LDTA, DE, and TDTA. Findings also revealed a robust relationship between Tobin's Q and financial performance compared to other book values. Tobin's Q was a better measure of performance within the period under review. The study revealed that Nigerian firms are keenly financed by short-term debt supporting the pecking order theory. The study concluded that no single theory can sufficiently explain the capital structure effect on firm performance. The study examined the non-financial sector using annualized panel data and Tobin's Q to measure firm value. The current study focused on the listed ICT sector and used ROA and ROE to measure performance. The researchers used ordinary least squares to test performance. The researchers employed ordinary least squares in their multiple regression analyses. The results indicated that capital structure could explain 65% of changes in firm value.

Over a nine-year period, Okeke (2019) conducted an empirical study on the effect of capital structure on firm value. To test their ideas, the researchers used ordinary least squares regression. The outcome showed that capital structure could account for 65% of changes in firm value. support the trade-off theory. The study therefore concluded that capital structure concerning long-term debt was negatively but statistically significant to firm value. The study recommended a closer relationship between firms and their value. The listed ICT firms were the focus of the current study. The findings of the current study support the pecking order theory.

In the same way, Ai and Dihin's (2021) more recent study used simultaneous tests to look at how return on assets, debt-to-equity ratio, and company size changed the value of food and drink manufacturing companies on the IDX over five years, from 2014 to 2018. The study found that return on assets, debt-to-equity ratio, and company size all had an impact on the value of the company. However, return on assets had a positive and significant effect on company value on its own, while debt-to-equity ratio did not. The company size did not have a significant effect. The study concluded that size is not a factor that investors consider in their investment. We conducted the current study in Nigeria, specifically focusing on listed ICT firms.

Using multiple regression analyses Success, Ibrahim, and Blessing (2022) examined the effect of leverage on the profitability of information and communication technology companies listed on the Nigeria Stock Exchange for the period 2012 to 2020. The results showed that there is no significant relationship between leverage (TDR) and profitability measured by ROA. The study recommended that ICT companies should watch carefully their continued use of leverage in their operations to ensure the continued survival of the company. The two studies differ as a result of the inclusion of Tobin's Q, LTDA, LTDA, and DER that were not previously examined. Olaoeye and Adesina (2022) used descriptive and inferential statistical tools to examine the impact of capital structure on financial performance. The results revealed that DER has an insignificant negative effect on ROA and a direct insignificant effect on NPM. Contrarily, DER has a direct significant effect on ROE of the sampled manufacturing companies. TDTA has a positive but insignificant effect on ROA, ROE, and NPM, while SDTA and LDTA have a negative effect. This implies that the management of these companies should always be guided in their capital structure decisions to optimize their financial performance. This research was carried out in Nigeria, specifically in the publicly traded ICT companies. The current study analyzed data by using a panel data regression technique and a proxy firm value, Tobin's Q.

In another more recent study in Vietnam, Luu (2021) conducted a study on the impact of capital structure on firm value: A case study in Vietnam from 2012 to 2019. We analyzed the data collected from the respective 23 chemical firms using ordinary least square regression, FEM, and REM methods. Results indicate that capital structure has an inverse correlation with firm value proxies, according to Tobin's Q. Furthermore, firms with greater asset turnover, business size, and number of years of operation have lower firm value. The study concluded that chemical firms should adjust their capital structure in the direction of decreasing the debt ratio and increasing equity. The current study limited its scope to the listed ICT firms and measured firm value using Tobin's Q.

As I looked over the past research, I noticed that there were some conceptual and contextual research gaps in the discussion of how capital structure affects a company's financial performance. Taking into account the different and sometimes contradictory views of the scholars, it is possible to say that the relationship between them and empirical evidence shows that capital structure depends a lot on the specifics.

METHODOLOGY

This study employed an ex post facto research design. The population is made up of all information and communication technology firms that are listed on the floor of the Nigeria Exchange Group (NGX) market for the period between 2013 and 2023. As of 31st December, 2023, the total number of listed information and communication firms was eight (8). However, to obtain our sample size, this study focused on those firms that joined the Nigerian Exchange Group before 2013 and remained on the exchange until 2023. To this end, firms listed after the start period (2014) of this study were rejected, bringing the final sample size to seven (7) information and communication technology firms. Data collection was from published annual reports of the selected listed ICT firms on both the dependent variables (DER, TDTA, LTDA, STDA) and the dependent variables (ROA and ROE). We obtained the published financial records of the selected listed firms over a ten-year period, from 2014 to 2023. Multiple regression analysis, testing for model specification errors, testing for heteroscedasticity, and multicollinearity testing using the variance inflation factor (VIF) were all parts of the study. We also carried out a test for fixed and random There were both random and fixed effects in the results. We used the Hausman specification test to identify the best model, which in this case was the fixed effect model. There were both random and fixed effects in the results. The Hausman specification test was used to find the best model, which in this case was the fixed effect model.

Model Specification

This study adopts the Ogunleye (2023) model and expresses it economically as follows:

$$FV = f\{DER_{it}, TDTA_{it}, LDTA_{it}, STDA_{it}, SIZE_{it} + \varepsilon_{it} \dots\dots\dots 1$$

Where:

FV = Firm Value (Tobin's Q)

DER = Debt to Equity Ratio

TDTA = Total Debt to Assets Ratio

LTDA = Long Term Debt to Assets Ratio

STDA = Short Term Debt to Assets Ratio

SIZE = Firm Size

i = Cross Section (Sampled firms)

t = Time Period (2014 to 2023)

ε_{it} = Error Term

RESULTS AND DISCUSSION

This section examined the effect of capital structure on the value of listed ICT firms in Nigeria. Table 4.1 displays the model's result. The study obtained the Hausman test to test the best model assumption between random effect and fixed effect. The result of the test indicated that the fixed effect is the best model because the p-value of the test was less than 0.05. Furthermore, the fixed effect as presented in Table 4.1 revealed that the fixed effect is better than the pooled OLS. Firm value was proxied by TOBQ, and capital structure was proxied by DER, TDA, LTD, and STDA. The result indicated all four variables of capital structure were statistically significant at the five percent level of significance. When we looked at the model as a whole, the coefficient of determination showed that the independent variables explained 75.48% of the variation in TOBQ. The f-value of 41.26 also showed that the model is statistically significant.

DER had a negative relationship with the firm value of the ICT firms (-0.1286). It exhibited statistical significance at the 5% level ($t = -2.1227$, $p < 0.05$). In the same line, TDA had a positive relationship with the firm value of the ICT firms (0.4123). The variables reported a 5% level of significance ($t=2.6101$, $p<0.05$). In like manner, LTDA had a positive effect on the firm value with an effect coefficient of 0.148790 and a t-value of 2.771003. The result showed that STDA induces the firm value with a coefficient of 0.336268 ($t=2.925436$, $p<0.05$). Also, SIZE showed a negative effect on the firm value with a coefficient of -0.0362 and a t-value of -0.6568.

Table 4.1 Regression Estimate of the effect of capital structure on TOBQ of listed ICT firms in Nigeria

Dependent Variable: TOBQ						
	Random Effect Model		Fixed Effect Model		Polled OLS	
	Coeff.	t-value	Coeff.	t-value	Coeff.	t-value
DER	-0.2679	-0.3379	-0.1286	-2.1227*	-0.262710	-0.260605
TDA	0.5116	2.1475*	0.4123	2.6102*	4.231613	0.884839
LTDA	0.1414	2.7669*	0.1487	2.7710*	0.082274	0.591360
STDA	0.3556	2.1227*	0.3362	2.9254*	0.276557	2.636765

SIZE	0.0354	1.1984	-0.0362	-0.6568	-0.044650	-0.924065
C	0.8700	4.1734*	0.8663	2.4616*	0.548275	3.218011
R-squared	0.512181		0.754896		0.312181	
Adjusted R-squared	0.453534		0.606528		0.263534	
F-statistic	19.13719		41.26283		9.137197	
Prob(F-statistic)	0.000000		0.0000000		0.000008	
Hausman Test	42.8237, p=0.0000					
Lagrange Multiplier Test	20.0031P= (0.0000)					
Redundant Fixed Effect Test	31.8001(p=0.0000)					

DISCUSSION OF FINDINGS

In this discussion of findings, the study investigated the effect of the capital structure on the value of listed ICT firms. It is, however, intriguing to note that the empirical evidence indicated that capital structure measured by TDA, LDTA, and SDTA had significant and positive effects on firm value. The results suggest that higher debt would lead to an increase in firm value. The implication of this result is that firms can increase their value by increasing their debt value. The static trade-off theory of capital structure is supported by the fact that it has a positive and significant effect on the value of ICT firms. This goes against what Mai (2020), Deng & Wang (2021), Luu (2021), and Rosink (2020) say about how capital structure lowers the value of a company. On the other hand, it supports what Igwe (2024), Asen, Nwude, and Idamoyibo and Udo (2021), Nwafor (2023), and Larasati, Rivai, and Suharto (2020) say about how capital structure greatly raises the value of a company.

Based on the study, it was also reported that capital structure has a significant effect on the value of listed ICT firms in Nigeria as measured by Tobin's Q, as the probability level is less than 0.05, but a partial analysis of the capital structure revealed that DER harms firm value measured by Tobin's Q. The implication of this result is that listed ICT firms in Nigeria can increase their value by reducing their debt-to-equity ratio. Furthermore, the greater the level of debt to equity compared to its capital, the greater the risk borne by the company, and this will increase the chance of the firm's financial difficulties. This reasoning is in line with the trade-off theory. This is because the trade-off theory can determine the optimal level of capital structure, thereby reducing the cost of the financial difficulties associated with adding debt.

ICT firms in Nigeria used debt in higher proportion than equity. This situation means that debt cannot affect firm value. This implies a decline in the firm's value, which could potentially mislead investors into believing the firm is unable to meet its financial obligations. In general, using debt instead of capital in ICT firms in Nigeria will slightly increase the firm's value. This conclusion is in accordance with the trade-off theory.

The result is consistent with the findings of Ai and Dihin (2021) that capital structure (DER) exerts a negative effect on the value of firms. However, findings reported by Asen, Nwude, Idamoyibo, and Udo (2021) failed to corroborate the findings of this current study. They concluded that the relationship between capital structure and firm value is positive and significant.

CONCLUSIONS AND RECOMMENDATIONS

The study examined the effect of capital structure on the value of listed information and communication technology in Nigeria for a period of ten (10) years (2014 to 2023). The study's results showed that total debt to assets, long-term debt to assets, and short-term debt to assets all had positive and statistically significant outcomes. This is a mathematically significant part of predicting Tobin's Q. However, the debt-to-equity ratio had a negative and significant effect on firm performance measured by Tobin's Q. This conclusion implies that ICT firms use debt greater than equity capital. The use of debt capital can cause bankruptcy costs, agency costs, increases in interest expense, and so on. The overall result indicates that capital structure has a significant effect on the value of ICT companies listed on the Nigerian Exchange Group (NGX). The study suggests that the management of listed ICT firms in Nigeria should lower the debt-equity ratio because of its findings on how capital structure affects their value. The management can achieve this by reducing debt and increasing equity. They should endeavor to substitute at least seventy-five percent (75%) of debt in the capital structure with equity

through bonus issues, right issues, and increases in retained earnings to enhance the firm's value. Furthermore, listed ICT firms should be cautious not to over-leverage, which can lead to increased financial risk. A successful capital structure should be tailored to the specific financial needs and risk tolerance of the organization. It is suggested that the subsequent studies on the topic should afford to extend the scope of the study to cover the non-listed ICT firms in Nigeria.

REFERENCES

1. Abu-Abbas, Ahmoud, & Algazo (2019), Bui,I.N.,Nguyen, X.H., & Pham, K.T. (2023). The effect of capital structure on firm value: A study companies listed on the Vietnamese stock market. *International Journal of Financial Studies*, 11(3), 100.
2. Abu-Abbas, B.M., Alhmoud, T., & Algazo, F.A. (2019). Financial leverage and firm performance evidence from Amman Stock Exchange. *The European Journal of Comparative Economics*, 16(2), 207-237.
3. Abubakar, A. (2021). Financial leverage and financial performance of oil and gas companies in Nigeria: A re-examination. *Turkish Journal of Computer and Mathematics Education*, 12(3), 4170-4180.
4. Ahmed, R., & Bhuyan, R. (2020). Capital structure and firm performance in Australian service sector firms: A panel analysis. *Journal of Risk and Financial Management*, 13(9), 214.
5. Ai, H., & Dihin, S, (2021). The effect of return on assets, debt to equity ratio and company size on company value in manufacturing companies in the food and beverage subsector on the IDX. *International Conference on Entrepreneurship (ICOEN)*, 681-693.
6. Akani, H.W. (2024). Debt financing and return on assets of quoted firms in Nigeria. *Indiana Journal of Economics and Business Management*, 4(1), 1-14.
7. Akani, H.W., & Lucky, A.L. (2019). Financial discipline and performance of deposit money banks: empirical evidence from Nigeria economy. *European Journal of Accounting, Finance and Investment*, 5(2), 100-123.
8. Akani, H.W., & Lucky, A.L., (2015). Econometric analysis of capital adequacy ratios and the impact on profitability of commercial banks in Nigeria. *IOSR Journal of Economics and Finance*, 6(6), 11-24.
9. Alhassan, I. (2021). Capital structure and financial performance of consumer goods companies in Nigeria. *IAR Journal of Tourism and Business Management*, 1, 28-38.
10. Aliyu, A.A. and Eliphus, J. (2022). Capital structure and financial performance of commercial banks in Nigeria. *Global Journal of Management and Business Research*, 22 (1), 33-39.
11. Alzomaia, A. (2021). The impact of capital structure on firm performance. Empirical evidence from Saudi Arabia. *International Journal of Finance and Economics*, 26(1), 158-173.
12. Anozie, O.R., Muritala, T.A., Ininm, V.E. and Yisau, N.S., (2023). Impact of capital structure on financial performance of oil and gas firms in Nigeria. *Future Business Journal*, 9, 11.
13. Anyam, N., Jato, T.P.J., Ayatse, F.O.A., & Anyam, D.I. (2024). The effect of capital structure on firm financial performance: Evidence from non- deposit financial institutions in Nigeria. *International Journal of Management Sciences*, 12(2), 237-255.
14. Ariekpar, O.A. (2020). Capital structure and firm performance: An empirical study of manufacturing companies in Nigeria. *World Journal of Finance and Investment Research*, 5(1), 1-12.
15. Asen, A., Nwude, C.E., Idamoyibo, H.R., Ufodiama, C.N. & Udo, E.S. (2021). Effect of capital structure on firms performance in Nigeria. *Universal Journal of Accounting and Finance*, 9(1), 15-23.
16. Asen, A., Nwude, C.E., Idamoyibo, H.R., Ufodiama, C.N., & Udo, E.S. (2021). Effect of capital structure on firm performance in Nigeria. *Universal Journal of Accounting and Finance*, 9(!), 15-23.
17. Atta Ullah, Pinglu, C., Saif Ullah, Zaman, M., & Hashmi, S.H. (2020). The nexus between capital structure, firm-specific factors, macroeconomic factors and financial performance in the textile sector of Pakistan. *Heliyon*, 6(8), 04741.
18. Avci, E. (2016). Capital structure and firm performance: An application on manufacturing industry. *Marmara Universities Iktisadi ve Idari Bilimler Dergisi*, 2149-1844, 15-30.
19. Baker, H.K., & Martin, G.S. (2021). Capital structure and corporate financing decisions: Theory, evidence and practice. John Wiley & Sons.

20. Bhattacharyya, A., & Bhattacharya, S. (2020). Impact of capital structure on firm performance: Evidence from Indian listed manufacturing companies. *Journal of Economics, Finance and Administrative Science*, 25(49), 17-28.
21. Bhattarai, B.P. (2020). Effect of capital structure on financial performance of insurance companies in Nepal. *International Journal of Accounting and Financial Reporting*, 10(3),35.
22. Boshnak, H. (2022). The impact of capital structure on firm performance: Evidence from Saudi-listed firms. *International Journal of Disclosure and Governance*, 20, 15-26.
23. Brigham, E.F., & Houston, J.F. (2019). *Fundamentals of financial management* 15th Edition.
24. Chaudhary, G.M., Iqbal, Z., & Hussain, H. (2023). Financial leverage, distress and firms performance. *Sustainable Business and Society in Emerging Economics*, 5(3), 205-214.
25. Chen, L., & Li, L. (2020). The impact of capital structure on firm performance: Evidence from Chinese listed companies. *Journal of Chinese Economic and Business Studies*, 18(3), 231-249.
26. Christianty, R., & Latuconsina, Z. (2023). The effect of current ratio, debt to equity ratio and total assets turnover on profit growth in property and real estate companies listed on the Indonesia Stock Exchange for the 2019-2021 Period. *The International Journal of Business Management and Technology*, 7(1), 12-24.
27. Cuevas-Vargas, H., Cortes-Palacios, H.A., & Lozano-Garda, J.J. (2022). Impact of capital structure and innovation on firm performance. Direct and indirect effects of capital structure. *Procedia computer science*, 199, 1082-1089.
28. David, H.S., Oluoch, O. & Joshua, M.W. (2020). Effect of long-term debt on the financial growth of non-financial firms listed at the Nairobi securities exchange. *IOSR Journal of Economics and Finance (IOSR-JEF)*, 11(5), 01-09.
29. Deng, X., & Wang, T. (2021). The impact of corporate financial structure on firm value: Evidence from A-share listed companies in China's manufacturing sector. *Proceedings of the 2021 3rd International Conference on Economic Management and Cultural Industry (ICEMCI)*, 2021.
30. Nabilatuttagiyya, N.M. (2024). The effect of capital structure and profitability on firm value with dividend policy as a moderating variable in property and real estate companies listed on The IDX. *International Journal Social Science and Education Research Studies*, 4(7), 714-723.
31. Dinh, H.T. & Pham, C.D. (2020). The effect of capital structure on financial performance Vietnamese listing pharmaceutical enterprises. *Journal of Asian Finance, Economics and Business*, 7(9), 329-340.
32. Do, T.H. (2020). Relationship between capital structure and firm performance: A comparative study. Unpublished Ph.D. Dissertation. Europa Universitas, Flensburg.
33. Emina, S. (2021). The impact of capital structure on firm performance: Evidence from British high-tech firms. Master Thesis – Financial Management, University of Twente.
34. Enalia, F., & Mustaruddin (2021). Analisis pengaruh profitabilitas, Stuktur Modal dan Likuiditas terhadap Nilai Perusahaan dengan ukuran perusahaan sebagai variable moderasi. *Proceeding Seminar Bisnis Seri V*, 428-442
35. Evbayiro-Osagie, E.I. & Enadeghe, I.B. (2022). Capital structure and performance of non-financial firms in sub-Sahara Africa. *International Journal of Finance Research*, 3 (1), 49-62.
36. Eyong, I.O., Ebieri, J., Adanna, J.N. & Oti, I. (2021). Effect of capital structure on financial performance of listed consumer goods companies on the Nigeria Stock Exchange. *International Journal of Social Sciences and Humanities Reviews*, 11(1), 251-258.
37. Fajaryani, N.L.G.S., & Suryani, E. (2018). Struktur Modal, Likuiditas, dan Ukuran persahaan terhadap kinerja keuangan perusahaan. *Jurnal Riset Akuntansi Kontemporer*, (2), ISSN 2597-6826.
38. Fakunle, I.O; Omole, I.I., & Adewumi, A.D. (2024). Capital structure and firm performance of listed non-financial companies on the Nigerian Stock exchange. *International Journal of Economics, Business and Management Rearch*, 8(2), 187-205.
39. Ganiyu, Y.O., Adelopo, I., Rodionova, Y. and Samuel, O.L., (2019). Capital structure and firm performance in Nigeria. *African Journal of Economic Review*, 7(1), 31-56.
40. Georgakopoulos, G., Toudas, K., Pouts, E.I., Kounadeas, T., & Tsavalias, S. (2022). Capital structure, corporate governance, equity ownership and their impact on firms' profitability and effectiveness in the energy sector. *Energies*, 15(10), 3625.

40. Ghardallou, W. (2022). The heterogeneous effect of leverage on firm performance: A quantile regression analysis. *International Journal of Islamic and Middle Easter Finance and Management*. 16(1). 210-225.
41. Gillan, S.L., Koch, a., & Starks, L.T. (2021). Firms and social responsibility: A review of ESG and CSR research in corporate finance. *Journal of Corporate Finance*, 66, 101889.
42. Gupta, S., & Jain, R. (2021). Capital structure and firm performance: A study of Indian automobile industry. *Journal of Management and Public Policy*, 13(1), 45-58.
43. Haron, H. (2018). Firm level, ownership concentration and industry level determinants of capital structure in an emerging market: Indonesia evidence. *Asian Academy of Management Journal of Accounting and Finance*, 14(1).
44. Hayes, A., Boyle, M.J., & Clarine, S. (2022). What is the debt ratio? <https://www.investopedia.com/terms/d/debratio.asp>.
45. Ibthia, D.M., Muda, I. & Rujiman, D. (2024). Analysis of debt structure and liquidity on company performance with firm size as a moderating variable: Sub-sector food and leverage listed on the IDX. *International Journal of Current Science Research Review*, 7(7), 4634-4642.
46. Ibthia, D.M., Muda, I & Rajiman, O. (2024), Analysis of Debt structure and liquidity on company performance with firm size as a moderating variable: Sub-sector food and beverage listed on the IDX in the period 2018-2022. *International Journal of Current Science Research Review*, 07(07), 4634-4642.
47. Igwe, A.O. (2024). Effect of debt financing on firm value of listed ICT firms in Nigeria Exchange Group (NGX). *International Journal of Management Technology*, 11(2), 52-68.
48. Ihejirika, P., Ndugbu, M., Mbagwu, I.G. & Ojiegbe, J. (2020). Capital structure decisions and financial viability of firms quoted on the premium board segment of the Nigeria Stock Exchange. *Journal of Asian Business Stragey*, 10(2), 192-203.
49. Julius, O.E. & Lucky, E.U. (2020). Effect of capital structure on corporate performance in Nigeria. *International Journal of Management and Marketing Systems* 13 (7), 29-47.
50. Kakande, A. (2020). Relationship of Organizational structure and capital structure on financial performance of banks (Doctoral dissertation, Walden University).
51. Kalantonis, P., Kallandranis, C., & Sotiropoulos, M. (2021). Leverage and firm performance: New evidence on the role of economic sentiment using accounting information. *Journal of Capital Markets Studies*, 5(1), 96-107.
52. Kasasbeh, F.I. (2021). Impact of financing decisions ratios on firm accounting-based performance: Evidence from Jordan listed companies. *Future Business Journal*, 7(15), 542-546.
53. Kholifah, S., Sumani, S., & Puspitasari, N. (2019). Determinan Stukur Modal dalam perspektif pecking order theory pada perusahaan sub sector makanadan minuman yang terdaftar di BEL BISMA: *Jurnal Bisnis dan Manajemen*, 13(1), 60-66.
54. Kijkasiwat, Hussain, & Mumtax, (2022), Suhaibu, I., & Abdul-Malik, A. (2021). Debt policy, firm value, and the macroeconomic environment nexus: Evidence from non-financial sector firms in Ghana. *International Journal of Finance and Economics*, 26(2), 2106 – 2117.
55. Kijkasiwat, P., Hussain, A., & Mumtaz, A. (2022). Corporate governance, firm performance and financial leverage across developed and emerging economies. *Risks*, 10(10), 185.
56. Kulikov, A., AlabedAlkader, N., Panaedova, G., Ogorodnikov, A., & Rebeda, E. (2023). Modelling optimal capital structure in gas and oil sector by applying simulation theory and programming language of Python (Qatar Gas Transport Company). *Energies*, 16(10), 4067.
57. Larasati, C., Rivai, A. & Suharto, S. (2020). Effect of debt to equity and return on assets on earnings per share with firm value as moderating variable in various industrial sub sector manufacturing companies in Indonesia. *Asian Business Research Journal*, 5, 39-47.
58. Luo, Y., & Jiang, C. (2022). The impact of corporate capital structure on financial performance based on convolutional neural network. *Computational intelligence and neuroscience*, 2022, 1-<https://doi.org/10.1155/2022/5895560>.
59. Luu, D.H. (2021). The impact of capital structure on firm value: A case study in Vietnam. *The Journal of Asian Finance, Economics and Business*, 8(5), 287-292.
60. Mai, T.G. (2020). The impact of capital structure on the value of firms in the plastic and packaging industry listed in Vietnam. *Economy and Development Journal*, 280, 59-67.

61. Marigu, L.M. & Gerald, K.A. (2020). Capital structure and financial performance of companies listed under manufacturing and Allied sector at Nairobi securities exchange in Kenya. *Stratford Peer Reviewed Journals and Book Publishing Journal of Finance and Accounting*, 4 (1), 24-38.
62. Mazanec, J., (2023). Capital structure and corporate performance: An empirical analysis from central Europe. *Mathematics*, 11(9), 1-19.
63. Michael, O.O. & Babajide, F.F. (2022). Capital structure and firm performance: Evidence from Nigerian consumer goods manufacturing firms. *Academy of Accounting and Financial Studies Journal*, 1(2), 149-167.
64. Mills, E.F.E.A., & Mwasambili, J.J. (2022). Capital structure and firm value nexus: the Ghanaian experience. *International Journal of Applied Decision Sciences*, 15(1), 46-67.
65. Mollah, M.S., & Matin, M.A. (2021). Capital structure and firm performance: Evidence from the pharmaceutical industry in Bangladesh. *International Journal of Business, Economics, and Management*, 8(1), 101-117.
66. Mubeen, R., Han, D., Abbas, J., & Hussain, I. (2020). The effects of market competition, capital structure, and CEO duality on firm performance: a mediation analysis by incorporating the GMM model technique. *Sustainability*, 12(8), 3480.
67. Muhammad, R., Syamsudin, S., & Prabu, W.S. (2019). The effect of ownership structure on firm value with profitability as a moderating variable. *International Journal Summit on Science, Technology and Humanity (ISETH)*, 413-427.
68. Muhammad, Y., Bala, A.K.M., & Abdullahi, B.A. (2020). Capital structure and financial performance of companies. The moderating role of environmental dynamism amongst listed Nigerian listed ICT firms. *Hi-Hikmah Management Review*, 5(1), 25-39.
69. Myers, S. C., & Majluf, N.S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of financial economics* 13(2), 187-221.
70. Nwafor, I.S. (2023). Effect of financial leverage on corporate performance of pharmaceutical industries in Nigeria. *Social sciential Journal of the Social Sciences and Humaniteis*, 8(4), 16-30.
71. Ogunleye, J.K. (2023). The effect of capital structure on performance of listed information and communication technology firms in Nigeria. Unpublished Ph. D. Dissertation. Ekiti State University, Ado-Ekiti, Nigeria.
72. Ogunsola, A. & Ogheneoparabo, A.D. (2022). Capital structure, asset liquidity and financial performance of listed deposit money banks in Nigeria, *African Journal of Accounting and Financial Research*, 5(2), 16-29.
73. Okeke, M.C., & Okeke, M.G.E. (2019). Capital structure and firm value in Nigeria: Evidence from selected quoted firms. *Journal of Banking Financial Services and Insurance Research*, 9(1), 1-26.
74. Olaoye, C.O., & Adesina, O.D. (2022). Capital structure and financial performance of manufacturing companies in Nigeria. *Journal of Applied and Theoretical Social Science*, 4(4), 471-491.
75. Olusola, B.E., Mengze, H., Chimezie, M.E., & Chinedum, A.P. (2022). The impact of capital structure on firm performance-Evidence from large companies in Hong Kong stock exchange. *Open Journal of Business and Management*, 10(03), 1332-1361.
76. Omotola, A.A., Phillips, S.A. & Nuga, K.A. (2021). Capital structure and corporate performance: An empirical study of selected telecommunication firms in Nigeria. *International Journal of Economics, Finance and Entrepreneurship (NIRA IJEFE)*, 6(3), 49-67.
77. Owen, E.C.M., & Luis, E.S.A. (2019). Capital structure and firm value nexus. The moderating role of profitability. *Fidanza's Y Political Economica*, 11(2), 375-386.
78. Oztekin, O. (2021). Capital structure and firm performance: Evidence from global panel data. *Journal of Financial and Quantitative Analysis*, 56(5), 1735-1760.
79. Pucheta-Martinez, M.C., & Gallego-Alvarez, I. (2020). Do board characteristics drive firm performance? An international perspective. *Review of Managerial Science*, 14(6), 1251-1297.
80. Rosink, N.I.F. (2020). The impact of capital structures on firm performance in Western Europe. Unpublished Master Thesis, Faculty of Behavioural Management and Social Science.
81. Smith, V. (2023). Managing in the corporate interest: Control and resistance in an American bank. Univ of California Press.

82. Success, J.M., Ibrahim, K.M., & Blessing, E.S. (2022). Effect of leverage on profitability of information and communication technology companies listed on the Nigeria stock exchange. *Journal of Positive School Psychology*, 6(6), 10386-10393.
83. Suhaibu, I., & Abdul-Malik, A. (2021). Debt policy, firm value, and the macroeconomic environment nexus: Evidence from non-financial sector firms in Ghana. *International Journal of Finance & Economics* 26(2), 2106-2117.
84. Tesema, T.N. (2024). The effect of capital structure on performance: Empirical evidence from manufacturing companies in Ethiopia. *Cogent Economics and Finance*, 12(1).
85. Ulum, A.S., Adriyana, R., Mahmudah, D.A., & Mahirun, M. (2022). Dividend policy as a supply of company financial flows in the perspective of information asymmetry and ownership structure. *Acta Logistica (Al)*, 9(3).
86. Wang, K.T., & Shailer, G. (2018). Does ownership identity matter? A meta-analysis of research on firm financial performance in relation to government versus private ownership. *Abacus*, 54(1), 1-35.