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EFFECT OF FIRM SOLVENCY ON FINANCIAL PERFORMANCE OF ICT FIRMS LISTED ON THE NIGERIAN EXCHANGE GROUP

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ABSTRACT:

The study ascertained the effect of firm solvency on the financial performance of listed Information and Communication Technology firms in Nigeria. The specific objective of the study was to examine the extent to which debt ratio affects return on asset, return on equity and earnings per share of quoted Information and Communication Technology firms in Nigeria. This study deployed ex-post facto research design. Seven firms were selected from a population of nine Information and Communication Technology (ICT) firms on the Nigerian Exchange Group. The study focused on the collected data from the financial statements or annual reports of the selected listed ICT firms in Nigeria for the period of six (6) years from 2015 to 2020. Ordinary Least Square regression was used to test the hypothesis which revealed that: firm solvency does not significantly affect Return on Asset of listed ICT firms on the Nigerian Exchange Group (F = 0.14, Prob>F= 0.8657); firm solvency does not significantly affect return on equity of listed ICT firms on the Nigerian Exchange Group (F = 2.50, Prob>F= 0.0954); firm solvency significantly affects Earnings Per Share of listed ICT firms on the Nigerian Exchange Group (F = 4.81, Prob>F= 0.0136). It was recommended that the management of ICT firms should ensure their debt structure is optimum with a view to avoid being cash trapped and debt ridden.

Key words: *Corporate Performance, Firm Solvency, Information and Communication Technology*
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1. INTRODUCTION

The effect of firm solvency on the corporate performance of firms is essential and a regularly discussed matter in managerial finance. While firm solvency means the ability of a firm to pay off its liabilities with its assets and/or equity (Nwadialor, Akaji & Agubata, 2021), corporate performance measures the extent of financial success which a firm achieved during an accounting period. In other words, firm solvency shows how many assets the company must sell in order to pay off all of its liabilities. It entails the decision about the combination of the various sources of funds a firm uses to finance its operations and capital investments (Akaji, Nwadialor & Agubata, 2021). Debt financing offers an opportunity for the firm to increase its performance by facilitating acquisition of productive assets (Anyanzwa, 2015). Financial analysts have argued in support of use of debt financing and considers debt finance as good in enhancing firm's performance provided the debt is acquired at a favorable rate and its proceeds are utilised effectively and efficiently. However, in the recent past, companies with huge debts in their debt structure have reported huge losses and found themselves in serious debt crises owing creditors more than their net worth. These developments in addition to lack of universal theory motivated the researcher to undertake a study of this nature in order to uncover the effect of firm solvency on corporate performance. Suboptimal solvency ratio increases the financial risk of firms, threatens the long-term sustainability of the firm, increases cost of borrowing and reduces firm value.

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Accordingly, firm solvency is a measure of the financial debt standing of a company (Omaliko & Okpala, 2020). However, the relevance of firm solvency in enhancing corporate performance remains a debatable topic, which has continued to attract the attention of researchers since the study of Modigliani and Miller (1958) where he stated that firm value is independent of the financing choice adopted (Akaji, Nwadialor & Agubata, 2021). Over the years, such debate on firm solvency generally, and in particular debt financing and solvency ratio, have gained considerable attention from both academic researchers and practitioners in the field of corporate finance. Corporate finance literatures across both developed and developing markets provide contradictory theoretical results on the relationship between solvency ratio and financial performance. Studies such as Nwadialor, Akaji and Agubata (2021); Samuel and Oboro (2021); Edori, Ohaka and Ekweozor (2020); Fatoki and Kibunja (2020); Legotlo and Mamaro (2020); Ujuju and Edore (2020); Okpala and Omaliko (2020); Aziz and Abbas (2019); Uzokwe (2019); Kithandi (2019); Nweke and Ifechi (2019); Muturi, Omollo and Wanjare (2018); Osagie and Eriki (2017); Denis (2017) and others majorly utilised one model or a simple regression to examine the effect of firm solvency on corporate performance.

To this end, it is pertinent to state that one of the ways by which firms in the Information and Communication Technology sector try to improve their corporate performance is by investments. The problem lies in the fact that some ICT firms may not be financially buoyant to take up the investment that will help boost their corporate performance. It is in a bid to overcoming this financial limitation that ICT firms source for funds by borrowing from outsiders/lenders as a way of augmenting the capital contributed by the firms' shareholders. The combination of such debt and equity which are used to finance firm operation is known as capital structure which then represents the solvency of the firm (Akaji, Nwadialor & Agubata, 2021). A firm that is solvent maintains an optimal debt structure or an optimal solvency ratio in order to either reduce the cost of capital or maximise the value of the firm. The basis for the determination of the optimal solvency ratio of firms in Nigeria has resulted in a number of academic researches and inquiry which have sought to examine the relationship between firm solvency and corporate performance of firms.

Though firm's solvency plays an important role in firm's financial performance, inefficient and ineffective utilization of debt-equity mix results in sub-optimal level of capital structure (Mamro & Legotlo, 2020). Optimal debt structure refers to the level, which minimizes the cost of capital for the company and maximizes the performance of the firm (Oboro & Samuel, 2021). The use of debt

finance offers an opportunity to the firm to increase the scale of its operations and consequently increase its performance over time. However, debt finance has such effects on performance, if the return on the assets is greater than the cost of debt (Aziz & Abbas, 2019). However today, apart from investment decision, firm solvency decision has become one of the important financial decisions of business organizations (Ifechi & Nweke, 2019). This is because it has a long-term financial impact on its operations specifically on return maximization and value of the firm (Aziz & Abbas, 2019). Thus, the question of what constitutes an optimal solvency ratio remains unanswered and has been one of the most controversial issues in the finance circles, even till date (Okpala & Omaliko, 2020). Therefore, there is not yet an agreement on the nature of effects of firm solvency on the performance of firms from both the theoretical and different empirical studies (Samuel & Oboro, 2021). However, the little which prior literatures have been able to uncover is that the use of debt in the financing of firm's operation is optimal when such capital structure either reduces cost of capital or maximises firm value (Nwadialor, Akaji & Agubata, 2021; Edori, Ohaka & Ekweozor, 2020).

Solvency ratio which indicates the ability of a firm to meet its long-term financial obligations is beneficial to firm's financial progress when the investment made by the long-term debt earns returns more than the cost of debt. The disadvantages of use of debt seem to be relatively smaller as compared to the tax shield that associates the use of financial leverage. On the other hand, debt financing may have a negative impact if the investment that has been made fail to yield sufficient return (Aziz & Abbas, 2019). This case whereby the returns are lower than the cost of debt tends to make the ICT firm to be at a higher risk as a result of the level of debt they undertook. More often than not, this scenario results in reducing the overall value of the company and increasing the cost of borrowing (Uzokwe, 2019). Debates have centered on whether there is an optimal solvency ratio for an individual firm or whether the proportion of debt usage is relevant to the individual firm's value (Akaji, Nwadialor & Agubata, 2021). Although, there have been substantial research efforts devoted by different scholars in determining what seems to be an optimal solvency ratio for firms, there is no universally accepted theory throughout the literature explaining the debt-equity choice of firms.

In the last decade, a number of theories have emerged to explain firms' solvency and the resultant effects on their market values and corporate performance. Even Jensen and Meckling (1984) argued that debt has an influence on the quality of the investment opportunities that are undertaken by the management by forcing managers to invest in the projects, which add value to the shareholders. This in return minimizes agency and other related costs hence enhancing financial performance of the firms. To the best of the researcher's knowledge, existing studies are yet to use three linear models to determine the extent to which debt to asset ratio and debt to equity ratio affect Return on Equity, Return on Asset and Earnings Per Share of listed ICT firms in Nigeria. The present study seeks to address the identified gap in knowledge by investigating how firm solvency influences the corporate performance of listed ICT firms on the Nigerian Exchange Group.

1.1 Objectives of the Study

The broad objective of the study is to ascertain the effect of firm solvency on the corporate performance of quoted ICT firms in Nigeria. The specific objectives of the study are to:

a. Examine the extent to which firm solvency affects return on asset of quoted ICT firms in Nigeria.
b. Determine the effect of firm solvency on return on equity of quoted ICT firms in Nigeria.
c. Ascertain the extent to which firm solvency affects earnings per share of quoted ICT firms in Nigeria.

1.2 Hypotheses

$H_{O1:}$ Firm solvency (proxy by Debt-to-Asset Ratio and Debt-to-Equity Ratio) does not significantly affect return on assets of quoted ICT firms in Nigeria.

$H_{O2:}$ Firm solvency (proxy by Debt-to-Asset Ratio and Debt-to-Equity Ratio) has no significant effect on return on equity of quoted ICT firms in Nigeria.

H_{O3}: Firm solvency (proxy by Debt-to-Asset Ratio and Debt-to-Equity Ratio) does not significantly affect earnings per share of quoted ICT firms in Nigeria.

2. LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Firm Solvency

Firm solvency measures a firm's total liabilities as a percentage of its total assets and equity (Nweke & Ifechi, 2019). In a sense, the firm solvency ratio shows a company's ability to pay off its liabilities with its assets and/or equity (Nwadialor, Akaji & Agubata, 2021). In other words, this shows how many assets the company must sell in order to pay off all of its liabilities. This ratio also measures the financial debt of a company. Companies with higher levels of liabilities compared with assets are considered highly indebted and riskier for lenders (Samuel & Oboro, 2021). It helps investors and creditors analyses the overall debt burden on the company as well as a firm's ability to pay off its debt in the future especially during uncertain economic times. A Lower solvency ratio usually implies a more stable business with the potential of longevity because a company with lower solvency ratio also has a good overall debt posture. Each industry has its own benchmarks for debt, but 0.5 is reasonable ratio (Fatoki & Kibunja, 2020).

Firm solvency is a measure that indicates the amount of the total funds provided by creditors in relation to the total assets of the firm (Edori, Ohaka & Ekweozor, 2020). It is a metric used to gauge the proportion of debt to shareholders wealth which is utilised in total financing of a business. Solvency ratio indicates how much naira was raised as debt for N1 of equity or asset. Solvency ratio is a financial ratio that indicates the relative proportion of equity/asset and debt which was deployed to finance a company's assets. It indicates the firm's financial leverage (Fatoki & Kibunja, 2020) and it is a useful measure as it helps the investor see the way management has financed operations. A high debt to equity ratio generally means that a company has been aggressive in financing its growth with debt. This can result volatile earnings as a result of the additional interest expenses as well as volatile cash flow as principal payments on debt come due (Legotlo & Mamaro, 2020). If a lot of debt is used to finance increased operations (high debt to equity), the company could potentially generate more earring per share than it would have without this outside financing. If this were to increase earning by a greater amount than the interest on debt, then the shareholders benefit as more earning are being spread among the same amount of stock (Ujuju & Edore, 2020).

Solvency ratio is used to show the capital structure of a firm. A firm's capital structure refers to the proportion of debt and equity in the firm. It simply refers to the combination of long-term debt and equity financing (Okpala & Omaliko, 2020). Capital structure measures how much firms use equity and debt to finance its assets. A company can finance its investments by debt and equity. The company may also use preference capital. The rate of interest on debt is fixed irrespective of the company's rate of return on assets (Aziz & Abbas, 2019). The amount of debt employed by a company is intended to earn more on the fixed charges funds than their costs. It has been seen in different studies that the primary motive of a company in using debt financing is to magnify the shareholders' return under favourable economic conditions. The role of debt financing in maximizing the return of the shareholders is based on the assumptions that the fixed-charges funds (such as the loan from financial institutions and other sources or debentures) can be obtained at a cost lower than the firm's rate of return on net assets (Uzokwe, 2019).

2.1.2 Corporate Performance

Firm performance entails the ability of an organization to gain and manage its resources in several different ways in order to develop competitive advantage while generating financial benefits for its owners (Nweke& Ifechi, 2019). Samuel and Oboro (2021) simply defined corporate performance as a measure of the amount by which a company's revenues exceeds its relevant expenses. Corporate performance is analysed using profitability ratios in order to evaluate the management's ability to create earnings from revenue-generating bases within the firm (Kithandi, 2019). These profitability ratios indicate how effectively management can make profits from sales and show as well how much

room a company has to withstand a downturn, fend off competition and make mistakes (Nweke & Ifechi, 2019).

Current and potential investors are quite interested in dividends and appreciation in market price of stock; they often focus on profitability ratios while managers, on the other hand, are interested in measuring the operating performance in terms of profitability. Hence, a low profit margin would suggest ineffective management and investors would be hesitant to invest in the company. The understanding that corporate performance is the extent to which a firm increases its effectiveness and efficiency in transforming the usage of its assets into profits agreed to the submission of Nzewi (2015) that maximization of shareholders' wealth, of which profit maximization is one aspect, is the ultimate goal of organizations. Thus, all the policies designed and activities performed by the firm are meant to realize this grand objective. However, this does not mean that companies have no other goals. Profit is simply the excess of revenue generated over the cost in the production process within a definite period. It means the excess of revenue over net operating expenses. Corporate performance is a firm's ability to generate a satisfactory return on invested capital through which shareholders are happy and prospective investors are motivated to invest (Nwadialor, Akaji & Agubata, 2021). Corporate performance indicators satisfy shareholders' interest in the ability of the company to use their limited assets efficiently and effectively to produce the desired profits (Muturi, Omollo & Wanjare, 2018). Return is judged by assessing earnings relative to the level and sources of financing in that a profit is not made when the operating expenses are not yet covered (Osagie & Eriki, 2017). Firm performance is often measured using traditional accounting key profitability indicators such as return on assets, return on equity, return on investment, earnings per share, dividend per share, net asset per share, operating profit margin, earnings before interest and tax, economic value added or sales growth. However, this study utilized return on equity, dividend per share and earnings per share as the proxies for corporate performance.

2.1.3 Effect of Firm Solvency on Corporate Performance

There are numerous investments which a firm would like to partake in. However, financial constraints have been a major factor that adversely makes firms not to partake in some investments (Denis, 2017). In order to overcome such constraints, firms borrow from outsiders/lenders as a way of augmenting the capital contributed by the firms' shareholders (Muturi, Omollo & Wanjare, 2018). The combination of debt and equity which are used to finance firm operation is known as capital structure. Such capital structure need to be optimal in order to either reduce the cost of capital or maximise the value of the firm (Osagie & Eriki, 2017). The basis for the determination of such optimal capital structure of corporate sectors in Nigeria has resulted in a number of academic researches and inquiry which have sought to examine the relationship between solvency ratio and corporate performance of firms (Nwadialor, Akaji & Agubata, 2021).

The objective of debt ratio management is to mix the permanent sources of funds used by the firm in a manner that will maximize the value of the firm. Since, the objective of a firm on one hand is to maximize the value of the firm, then, firm solvency or leverage decision should be examined from the view of its impact on the corporate performance of the firm (Mutegui, 2016). Therefore, the initial debt ratio decision should be designed very careful.

It is so important for the financial managers of the firms to set a target solvency ratio and subsequently financing should be made with a view to achieve the target solvency ratio. According to Samuel and Oboro (2021) proper planning of the composition of debt and equity is a sine qua non for sound financial management, since the debt-equity mix has implication on shareholder's earnings and risk, which in turn will affect the cost of capital and the market value of the firm. Agu, Enekwe and Eziedo (2014) believes that an appropriate solvency ratio decision may improve the value of the firm as well as solvency position of the firm. Moreover, solvency ratio decision can affect the value of the firm either by changing the expected earnings or the cost of capital or both. The actual effect of debt ratio or leverage on the cost of capital is not very clear. Conflicting opinions have been expressed on the issue. Meanwhile, if leverage affects the cost of capital and the

value of the firm, an optimum debt ratio would be obtained at that combination of debt and equity that maximize the total value of the firm or minimize the weighted average cost of capital (WACC). However today, apart from investment decision, firm solvency decision has become one of the important financial decisions of business organizations (Okpala & Omaliko, 2020). This is because it has a long-term financial impact on its operations specifically on return maximization and value of the firm. A firm can issue a large amount of debt or a large amount of equity; hence, it is important for a firm to deploy the appropriate mix of debt and equity that can maximize its overall market value (Denis, 2017). One of the strategies used by corporate managers to improve their corporate performance is through utilization of debt and equity levels (Aziz & Abbas, 2019). This, therefore, requires much attention by corporate entities on their solvency ratio contents to achieve a reasonable corporate performance. This underscores the motivation of the present study to examine the effect of firm solvency on the corporate performance of ICT firms in Nigeria.

2.2 Theoretical Review

2.2.1 Trade-Off Theory

Trade-off theory was proposed by Myers (1984). The theory postulates that there is an optimal capital structure for every firm, which can be determined by balancing the costs and benefits of use of debt financing (Mutegui, 2016). The theory posits that it is left for a firm to decide on how much debt capital and how much equity capital to include in their capital structure after balancing off the costs and benefits of each source (Anyanzwa, 2015). Trade-off theory considers that benefits of debt financing which encompasses tax shied (Juma, 2016). More also, the theory considers that high debt levels in the capital structure tends to increase the chances of bankruptcy and agency expenses (Kithandi, 2019).

Furthermore, the theory further assert that as firms increase debt in their capital structure, the marginal cost associated with debt increases while the marginal benefits associated with debt decreases until an optimal point is reached (Nwadialor, Akaji & Agubata, 2021). Beyond that point, the marginal costs of debt exceed the marginal benefits resulting to reduced firm value (Juma, 2016). In this regard, the firm should set an optimal financial structure in order to enhance its corporate performance (Uzokwe, 2019).

Under this theory, firms are expected to assess the various costs and benefits of each debt level in order to ascertain an optimal debt structure which can comfortably balance off debt tax shields against costs of bankruptcy, i.e. the marginal costs and marginal benefits (Juma, 2016). The relevance of the theory to the hypotheses of the current study is that the theory proposes that firms should continue using debt financing when an optimal debt structure has been determined as this would maximise the corporate value of the firm.

2.3 Empirical Review

Nwadialor, Akaji and Agubata (2021) determined how debt ratio affects the performance of firms in Nigeria. The research design used was Ex Post Facto design and data for the study were obtained from the NSE Fact book, Annual Reports and Accounts. The study measured ratio using the variables of equity financing (EF) and debt equity financing (DEF) while Firms Performance on the other hand was measured using Return on equity (ROE). Based on this, a total of 26 firms formed our sample size with 208 observations with data spanning from 2013-2020. Two hypotheses were formulated to guide the investigation and the statistical test of parameter estimates was conducted using OLS Regression Model. The findings of the study showed that debt ratio has significant and positive effect on Firms Performance in Nigeria at 5% level of significance.

Samuel and Oboro (2021) ascertained the effect of debt ratio on performance of firms. The population of the study was made up of ten (10) multinationals from 2010 to 2019. The study made use of Total debt to Equity Ratio (TDER), Total debt to Total Asset Ratio (TDAR), Short-term Debt to Asset Ratio (SDAR), and Long term debt to Total Asset ratio (LDAR) as components of debt

ratio while return on equity (ROE) was used to proxy the performance of the sampled companies. Data for the study was derived from the annual reports of the sampled multinationals over the studied period. Using the panel data methodology, the study supported the fixed effect model as suggested by the Hausman test. Result emanating from the fixed effect model established that TDER exerts negative yet significant impact on the ROE of multi-nationals in Nigeria. Meanwhile, both TDAR and SDAR exert positive yet insignificant impact on the ROE of multinationals in Nigeria. However, LDAR ratio exerts negative yet insignificant impact on the ROE of multi-nationals in Nigeria. It was concluded that the judicious mix of TDAR and TDER can achieve optimal performance of firms in multinationals in Nigeria.

Edori, Ohaka and Ekweozor (2020) assessed the effect of debt ratio on firm's financial performance in Nigeria. The study adopted the random sampling techniques to arrive at the sample size of the study. The secondary data was used in the study. Panel econometric tools were used to analyze the panel data of various companies across sectors in the capital market. The data comprised eight years (2011–2018) financial statements of three quoted firms categorized into three different sectors in the stock market (banking, insurance and industrial goods); the different sectors were selected on the basis of recent reforms conducted on the sectors. The impact of debt ratio on the performance of firm was analyzed differently by various scholars in time past; however, in performing such analytical techniques, various econometric tools such as panel least square, random and fixed effect, Huasman statistic were employed to produce results that can be relied upon in making forecasting for future references. The results of the analysis revealed that, size of the firm; short term debt and long-term debt ratio have positive and significance impact on the financial performance of listed firms in Nigeria capital market.

Okpala and Omaliko (2020) examined the effect of debt ratio on financial performance of firms. The research design used was Ex Post Facto design and data for the study were obtained from the published annual financial reports of the entire 9 firms listed under health care sector of NSE with data spanning from 2014-2018. The population of the study consists of all the firms quoted under health care sector of NSE as at 2020 business list spanning from 2015-2019. Four hypotheses were formulated to guide the investigation and the statistical test of parameter estimates was conducted using multiple regression model. The findings generally indicated that equity financing, debt financing and debt equity financing have significantly influenced firms' performance. Preferred stock financing was found negatively and insignificantly related with firms' performance. It was concluded that financing mix of firms have exerted significant influence on firm's performance over the years.

3. MATERIAL AND METHOD

This study deployed ex-post facto research design because already existing secondary data were applied in the study to test the relationship between debt ratio and corporate performance. The population of the study is made up of the entire quoted firms under Information and Communication Technology (ICT) sector of the Nigerian Exchange Group, as at 31st December 2020. According to NGX Factsheet of December 31, 2021, the population of the firms that are quoted under the Nigerian ICT sector was nine (9). The population was used as the sample size, except for Airtel Africa Plc. and MTN Nigeria Communications Plc., which were listed after 2015. The rest of the seven firms made up the sample size, comprising: Courteville Business Solutions Plc., Chams Plc. ,CWG Plc. E-tranzact International Plc., NCR Nigeria Plc., OMATEK Ventures Plc. and Tripple Gee and Company Plc. This study utilises secondary data that were extracted from published financial statements and accounts of ICT firms listed on the Nigerian Exchange Group for a period of six (6) years 2015-2020. The data are deemed to be reliable and valid because they have been signed by relevant authorities and an external audit have been carried out on the financial statements of the firms in question. The data collected for the study through secondary sources were descriptively analysed using mean, standard deviation, minimum and maximum value. The test of

hypothesis was conducted using multiple regression analysis. The analytical technique was Ordinary Least Square regression analysis which was computed with the use of Stata Version 14 statistical software.

Firm solvency is measured by debt to asset ratio and debt to equity ratio. Corporae performance is represented by Return on Equity, Return on Asset and Earnings Per Share. The linear models for the test of hypotheses are shown below:

$ROA_{it} = \alpha_0 + b_1DAR_{it} + \beta_2DER_{it} + \mu_{it}$ .....eqn (1) for H_1

$ROE_{it} = \alpha_0 + b_1DAR_{it} + \beta_2DER_{it} + \mu_{it}$ .....eqn (2) for H_2

$EPS_{it} = \alpha_0 + b_1DAR_{it} + \beta_2DER_{it} + \mu_{it}$ .....eqn (3) for H_3

Where,
μ = Disturbance
α = Constant
β = Coefficient of the Independent Variable
DAR = Debt to Asset Ratio
DER = Debt to Equity Ratio
ROA = Return on Assets
ROE = Return on Equity
EPS = Earnings Per Share

Table 1: Description of Operational Variables of the Study

Name of Variables	**Types of Variables**	**Description and Measurement**
Return on Equity	Dependent	$\frac{Earnings\ After\ Tax}{\text{Total Equity}}$
Return on Asset	Dependent	$\frac{Earnings\ After\ Tax}{\text{Total Assets}}$
Earnings Per Share	Dependent	$\frac{Earnings\ After\ Tax}{\text{Total Outstanding Number of Shares}}$
Debt to Equity Ratio	Independent	$\frac{Total\ Debt}{Total\ Equity}$
Debt to Asset Ratio	Independent	$\frac{Total\ Debt}{Total\ Assets}$

Source: Researcher's Concept, 2021

The Ordinary Least Square regression analysis that was deployed to test the hypotheses of the study was carried out at 5% level of significance. As a decision rule, the null hypothesis will be accepted if the p-value is greater than 0.05 while the alternate hypothesis will be rejected and vice versa.

4. RESULT AND DISCUSSIONS

4.1Data Analysis and Test of Hypotheses

4.1.1: Hypothesis One

$H_{O1:}$ Firm solvency (proxy by Debt-to-Asset Ratio and Debt-to-Equity Ratio) does not significantly affect return on assets of quoted ICT firms in Nigeria.

$ROA_{it} = \alpha_0 + b_1DAR_{it} + \beta_2DER_{it} + \mu_{it}$

Table 2: Regression Result for Hypothesis I

Source	SS	df	MS	
Model	.01157273	2	.005786365	Number of obs = 42
Residual	1.55952029	39	.0399877	F(2, 39) = 0.14
				Prob > F = 0.8657
				R-squared = 0.0074
				Adj R-squared = -0.0435
Total	1.57109302	41	.038319342	Root MSE = .19997

ROA	Coef.	Std. Err.	t	P>|t|	Beta
DAR	.0321717	.0668323	0.48	0.633	.0779759
DER	.0004099	.002676	0.15	0.879	.0248137
_cons	-.0903409	.0546603	-1.65	0.106	.

Source: Researcher's Computation Using Stata 14

4.1.1.1 Discussion of Result

Table.2 presents the relationship between firm solvency and Return on Asset of quoted ICT firms in Nigeria. The F-statistics value of 0.14 (P>0.05) shows that the independent variable is not statistically significant in explaining variations in Return on Asset of the firms of study. The Rsquare statistics value of 0.0074 further shows that the joint interaction of Debt to Asset Ratio (DAR) and Debt to Equity Ratio (DER) accounts for approximately 1% systematic variation on ROA. From the result presented above, a positive relationship exists between firm solvency and Return on Asset of quoted ICT firms. Thus, an increase in DAR by 1 unit will lead to an increase in ROA by 0.0779 and increasing DER by 1 unit will increase ROA by 0.0248.

4.1.1.2 Decision: This relationship is not statistically significant at 5% level since the *p*-value of the test is greater than 0.05. Therefore, the alternate hypothesis is rejected while the null hypothesis is accepted. This led to the conclusion that *firm solvency does not significantly affect Return on Asset of listed ICT firms on the Nigerian Exchange Group* (*F* = 0.14, *Prob*>F= 0.8657).

4.1.2 Hypothesis Two

$H_{O2:}$ Firm solvency (proxy by Debt-to-Asset Ratio and Debt-to-Equity Ratio) has no significant effect on return on equity of quoted ICT firms in Nigeria.

$ROE_{it} = \alpha_0 + b_1DAR_{it} + \beta_2DER_{it} + \mu_{it}$

Table 3: Regression Result for Hypothesis II

Source	SS	df	MS	
Model	46.5023071	2	23.2511535	Number of obs = 42
Residual	363.110679	39	9.31053024	F(2, 39) = 2.50
Total	409.612987	41	9.99056065	Prob > F = 0.0954
				R-squared = 0.1135
				Adj R-squared = 0.0681
				Root MSE = 3.0513

ROE	Coef.	Std. Err.	t	P>|t|	Beta
DAR	.2165621	1.019789	0.21	0.833	.0325075
DER	-.0909713	.0408326	-2.23	0.032	-.3410427
_cons	.0040589	.8340573	0.00	0.996	

Source: Researcher's Computation Using Stata 14

4.1.2.1 Discussion of Result

Table 3 presents the relationship between firm solvency and return on equity of quoted ICT firms in Nigeria. The F-statistics value of 2.50 (P>0.05) shows that the independent variables are not statistically significant in explaining variations in return on equity of the firms of study. The R-square statistics value of 0.1135 further shows that the joint interaction of Debt to Asset Ratio (DAR) and Debt to Equity Ratio (DER) accounts for approximately 11.35% systematic variation on ROE. From the result presented above, a positive and insignificant relationship exist between DAR and return on equity of quoted ICT firms (t_1 = 0.21, Pro>t_1 = 0.833) but a negative and significant relationship exists between DER and ROE of the firms under study (t_2 = -2.23, Pro>t_2 = 0.032). Thus, an increase in DAR by 1 unit will lead to an increase in ROE by 0.0325 but increasing DER by 1 unit will reduce ROE by 0.3410 significantly.

4.1.2.2 Decision: The relationship between DER and ROE is statistically significant at 5% level since the *p*-value of the test is less than 0.05. Therefore, for the general goodness of fit, the alternate hypothesis is rejected while the null hypothesis is accepted. This led to the conclusion that *firm solvency does not significantly affect return on equity of listed ICT firms on the Nigerian Exchange Group* (*F* = 2.50, *Prob*>F= 0.0954).

4.1.3 Hypothesis Three

$H_{O3:}$ Firm solvency (proxy by Debt-to-Asset Ratio and Debt-to-Equity Ratio) does not significantly affect earnings per share of quoted ICT firms in Nigeria.

$EPS_{it} = \alpha_0 + b_1DAR_{it} + \beta_2DER_{it} + \mu_{it}$

Table 4 Regression Result for Hypothesis III

Source	SS	df	MS	
Model	17.8045213	2	8.90226066	Number of obs = 42
Residual	72.2392623	39	1.85228878	F(2, 39) = 4.81
Total	90.0437836	41	2.19618984	Prob > F = 0.0136
				R-squared = 0.1977
				Adj R-squared = 0.1566
				Root MSE = 1.361

EPS	Coef.	Std. Err.	t	P>|t|	Beta
DAR	-.5797522	.4548598	-1.27	0.210	-.1856107
DER	.0547155	.0182127	3.00	0.005	.4374964
_cons	-.1500976	.3720172	-0.40	0.689	.

Source: Researcher's Computation Using Stata 14

4.1.3.1 Discussion of Result

Table 4 presents the relationship between firm solvency and Earnings Per Share of quoted ICT firms in Nigeria. The F-statistics value of 4.81 (P<0.05) shows that the independent variables are statistically significant in explaining variations in Earnings Per Share of the firms of study. The R-square statistics value of 0.1977 further shows that the joint interaction of Debt to Asset Ratio (DAR) and Debt to Equity Ratio (DER) accounts for approximately 19.77% systematic variation on EPS. From the result presented above, a negative relationship exists between DAR and Earnings Per Share of quoted ICT firms but a positive relationship exists between DER and EPS of the firms under study. Thus, an increase in DAR by 1 unit will lead to an insignificant decrease in EPS by 0.1856 (*p*-value > 0.05) but increasing DER by 1 unit will increase EPS by 0.4375 (*p*-value <0.05).

4.1.3.1 Decision: This relationship between DER and EPS is statistically significant at 5% level since the *p*-value of the test (0.005) is less than 0.05. Therefore, on the general goodness of fit, the alternate hypothesis is accepted while the null hypothesis is rejected. This led to the conclusion that *firm solvency significantly affects Earnings Per Share of listed ICT firms on the Nigerian Exchange Group* (*F* = 4.81, *Prob*>F= 0.0136).

CONCLUSION AND RECOMMENDATIONS

Having observed that firm solvency does not significantly affect Return on Asset and return on equity of listed ICT firms on the Nigerian Exchange Group, but significantly affects Earnings Per Share of listed ICT firms on the Nigerian Exchange Group, the objective of solvency management is to mix the permanent sources of funds used by the firm in a manner that will maximize the value of the firm. Since, the objective of a firm on one hand is to maximize the value of the firm, then, firm solvency or leverage decision should be examined from the view of its impact on the corporate performance of the firm. Therefore, the initial debt ratio decision should be designed very careful. It

is so important for the financial managers of the firms to set a target solvency ratio and subsequently financing should be made with a view to achieve the target solvency ratio. However, in the recent past, companies with huge debts in their debt structure have reported huge losses and found themselves in serious debt crises owing creditors more than their net worth.

These developments in addition to lack of universal theory motivated the researcher to undertake a study of this nature in order to uncover the effect of firm solvency on corporate performance.

Insolvency increases the financial risk of firms, threatens the long-term sustainability of the firm, increases cost of borrowing and reduces firm value. Be that as it may, high levels of debt discourage investments because of increased costs of financial distress. This study concludes that an increase in debt to asset ratio by 1 unit will significantly reduce earnings per share but an increase in debt to equity ratio significantly improves the earnings per share of quoted ICT firms in Nigeria.

The study therefore recommended that:

i. The management of ICT firms should ensure their debt structure is optimum with a view to avoid being cash strapped and debt ridden.
ii. Management of Nigerian ICT firms should increase their commitments into solvency issues in order to improve earnings from their business transaction.
iii. ICT firms should finance their businesses up to the point where profitability is maximized to mitigate against default risks associated with overleveraging.

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