

# National Information Technology Development Levy and Financial Performance of Telecommunication Companies in Nigeria

Ezechukwu Beatrice O<sup>1</sup>, Amahalu Nestor Ndubuisi<sup>2</sup>, Okudo, Chijioke Louis<sup>3</sup>

<sup>1</sup>Department of Accountancy, Federal Polytechnic, Oko, Anambra State

<sup>2</sup>Department of Accountancy, Nnamdi Azikiwe University, Awka, Anambra State

<sup>3</sup>Department of Law, Olabisi Onabanjo University, Ago-Iwoye, Ogun State, Nigeria

[beatriceezchukwu@gmail.com](mailto:beatriceezchukwu@gmail.com), [nn.amahalu@unizik.edu.ng](mailto:nn.amahalu@unizik.edu.ng)

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**Abstract:** *This study examined the nexus between national information technology development levy and financial performance of telecommunication companies in Nigeria. Three hypotheses were formulated and statistically tested at 5 per cent level of significance. Four (4) quoted telecommunication companies constituted the sample size of this study between 2010 and 2021. Ex-Post facto research design was adopted while secondary data were extracted from the annual reports and accounts of the sampled companies and were analysed using E-Views 10 statistical software. The study employed inferential statistics using Pearson correlation and Panel Least Square (PLS) regression analysis. Specific findings from the empirical analysis showed that national information technology development levy has a significant but negative effect on Return on Assets ( $\beta = -0.010872$ ;  $P\text{-value} = 0.0000 < 0.05$ ); national information technology development levy has a significant and positive effect on return on equity ( $\beta = 4.189737$ ;  $P\text{-value} = 0.0000 < 0.05$ ); national information technology development levy has a significant but negative effect on return on capital employed ( $\beta = -0.001466$ ;  $P\text{-value} = 0.0019 < 0.05$ ) of quoted telecommunication companies in Nigeria at 5% level of significance respectively. It was recommended that Government at all levels should institute tax cuts during the periods of economic hardship to encourage savings, growth and investment*

**Keywords:** *Information Technology, Return on Assets, Return on Equity, Return on Capital Employed.*

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## I. Introduction

The emergence of information and communication technologies (ICT) spawned the beginning of the digital economy in contemporary times. This has heavily affected the opportunities and efficiency of how firms produce and provide goods and services. In the current highly competitive environment, business and other forms of organizations need to act in a fast manner in order to secure both their financial and market positions. Thus, firms are always in search of mechanisms and ways that will help them attain a sustainable competitive advantage. Therefore, they need to enhance their internal distinguished strengths with an aim of providing more added customer value, strong differentiation and extendibility; thus focusing more on their core competences. In the telecommunication sector, digital technologies are being innovated at an unprecedented rate. These advances and robust technological upgrades are influencing consumer behavior and the way businesses operate in the global sphere. Hence, an increasing number of businesses today rely on coherent digital strategies to retain existing customers and entice new clients. Several businesses and telecommunication firms have launched digital business initiatives, which is likely to stoke digital transformation in the nearest future. Chief executive officers (CEO) of organizations are making concerted efforts to integrate latest digital initiatives with their businesses and generate revenue from digital experiences (Amahalu & Ezechukwu, 2017). Monitoring financial performance creates more certainty and confidence in making both short and long term decisions. This in turn leads to a healthier business and faster growth rate. It also allows a firm to outperform and outmaneuver competitors who fail in this regard. The financial performance of an organization can be calculated by its economic outcome and by its size of earnings.

Taxation is a main source of revenue to governments across the world; thus tax becomes a burden that every citizen must bear to support government expenditure. Taxation generates funds to finance public

goods, regulate production and consumption of goods and services, control adverse economic conditions. Collecting taxes and fees is a fundamental way for countries to generate public revenues that make it possible to finance investments in human capital, infrastructure, and the provision of services for citizens and businesses. The tax and levy revenue collection in Nigeria faces some formidable problems which includes lack of accountability, embezzlement, poor accounting records, deficit of empowerment programs, absence of awareness, inadequate and ineffective databases, complexity of the tax system, audit effectiveness, trust in authorities, perceived corruption and the supply of public goods, strained power, and the fiscal relationship between central and sub national governments. Okonkwo, Amahalu and Obi (2022) posit that Governments use tax revenue to carry out their traditional functions such as the provision of public goods and services; maintenance of law and order; defence against external aggression; and regulation of trade and business to ensure social and economic maintenance. Similarly, Ashiedu, Okafor, Amahalu and Obi (2022) maintain tax reform can reduce tax evasion and avoidance, and allow for more efficient and fair tax collection that can finance public goods and services. On the other hand, Aruna, Oshiole and Amahalu (2020), found a negative relationship between tax and firm performance. It is against this backdrop, that this study sought to determine the effect of national information technology development levy and financial performance of telecommunication companies in Nigeria.

### **Objectives of the Study**

The main objective is to ascertain the effect of National Information Technology Development (NITD) Levy on Financial Performance of Telecommunication Companies in Nigeria.

The specific objectives of this study are to:

- i. Determine the effect of National Information Technology Development Levy on Return on Assets of quoted telecommunication companies in Nigeria.
- ii. Ascertain the effect of National Information Technology Development Levy on Return on Equity of quoted telecommunication companies in Nigeria.
- iii. Evaluate the effect of National Information Technology Development Levy on Return on Capital Employed of quoted telecommunication companies in Nigeria.

### **Research Hypotheses**

The following null hypotheses were investigated:

**Ho<sub>1</sub>:** National Information Technology Development Levy has no significant effect on Return on Assets of quoted telecommunication companies in Nigeria.

**Ho<sub>2</sub>:** National Information Technology Development Levy has no significant effect on Return on Equity of quoted telecommunication companies in Nigeria.

**Ho<sub>3</sub>:** National Information Technology Development Levy has no significant effect on Return on Capital Employed of quoted telecommunication companies in Nigeria

## **II. Conceptual Review**

### **National Information Technology Development (NITD) Levy**

The National Information Technology Development Agency Act was enacted in 2007 and has two broad roles. Firstly, it encourages government departments to transition to digital technology systems. Secondly, it also guides the private sector on standards for digitizing the economy. The National Information Technology Development (NITD) levy is payable by companies in Nigeria that have an annual turnover of at least 100 million Nigerian naira. It is calculated as 1% of the profit before tax (PBT) of liable companies (Yusuf, 2022). The National Information Technology Development Agency (NITDA) Act (NITDA is an agency of the Federal Government of Nigeria, with the primary mandate to foster the development and growth of information technology in Nigeria) imposes the levy and requires the tax administration authority, the Federal Inland Revenue Service (FIRS), to administer it. The NITDA Act became effective in 2007, and the NITD levy has been in force since then. The levy is a major source for financing NITDA's activities.

### **Financial Performance**

Financial performance is a quantitative measure of how well a company uses its business assets to generate revenues. Financial performance refers to the degree to which financial objectives being or has been accomplished (Eze, Okoye, Amahalu & Obi, 2022). It is the process of measuring the results of a firm's policies and operations in monetary terms. It is used to measure firm's overall financial health over a given period of time and can also be used to compare similar firms across the same industry or to compare industries or sectors in aggregation (Hartill, 2021). Financial performance analysis includes analysis and interpretation of financial

statements in such a way that it undertakes a full diagnosis of the profitability and financial soundness of the business.

#### **Return on Assets**

Return on assets is a profitability ratio that provides how much profit a company can generate from its assets. In other words, return on assets (ROA) measures how efficient a company's management is in earning a profit from their economic resources or assets on their balance sheet (Boyte-White, 2022). The return on assets (ROA) is a profitability metric that measures the efficiency at which a company can utilize its assets to generate more net earnings. Return on assets (ROA) refers to a financial ratio that indicates how profitable a company is in relation to its total assets (Otti, Udeh, Amahalu & Obi, 2022). Corporate management, analysts, and investors can use ROA to determine how efficiently a company uses its assets to generate a profit. A higher ROA means a company is more efficient and productive at managing its statement of financial position to generate profits while a lower ROA indicates there is room for improvement. ROA is expressed in percentage, the result of dividing the net profit by the average total assets should be multiplied by 100 (Tamplin, 2022).

#### **Return on Equity**

Return on equity (ROE) is a ratio that provides investors with insight into how efficiently a company (or more specifically, its management team) is handling the money that shareholders have contributed to it. Return on equity measures the profitability of a corporation in relation to stockholders' equity. Return on equity (ROE) is the measure of a company's net income divided by its shareholders' equity (Furhmann, 2022). ROE is a gauge of a corporation's profitability and how efficiently it generates those profits. The higher the ROE, the better a company is at converting its equity financing into profits. The return on equity ratio essentially measures the rate of return that the owners of common stock of a company receive on their shareholdings. Return on equity signifies how good the company is in generating returns on the investment it received from its shareholders (Okocha, Okoye, Amahalu & Obi, 2022). The higher the ROE, the more efficient a company's management is at generating income and growth from its equity financing.

#### **Return on Capital Employed**

Return on Capital Employed (ROCE) is a profitability ratio that measures how efficiently a company is using its capital to generate profits. The return on capital employed metric is considered one of the best profitability ratios and is commonly used by investors to determine whether a company is suitable to invest in or not (Hayes, 2022; Amahalu & Obi, 2020). The Return on Capital Employed (ROCE) metric measures the efficiency of a company at deploying capital to generate profits

$ROCE = \text{Earnings before interest and tax (EBIT)} / \text{capital employed}$

Capital employed is the total amount of equity invested in a business. Capital employed is commonly calculated as total assets less current liabilities or fixed assets plus working capital.

### **National Information Technology Development Levy and Financial Performance**

It is evident that increasingly firms are faced with more complex IT investment decisions. The contribution of information technology to transform traditional hierarchies into networks consists of reducing the number of management levels, facilitating the direct communication between people and organizations and increasing organizational flexibility (Karim, Nahar & Demirbag, 2022). For many industries and firms, the network form has become critical for survival and continued competitive advantage. The rapid growth of platforms has significant implications for all economic actors as it changes the structure of markets and the ensuing economic and social exchanges between them (Gnana, 2022; Bennee, Okoye & Amahalu, 2021). In recent times, the world has witnessed significant developments in ICT in terms of the inclusion of new and more advanced tools which have come to be increasingly used in business. One stream of prior research has reported that ICT acts as a means of achieving a competitive advantage by integrating a firm's process, products, and services (Shahzad, Chin, Altaf & Bajwa, 2020). ICT use has also been described as an advantage-seeking entrepreneurial activity (Purusothaman, Meena, Nagajothim & Muthukumaravel, 2019). However, Khayer, Talukder, Bao and Hossain (2020) submit that ICT is an essential element of a firm's survival and growth.

## **III. Theoretical Review**

### **Agency Theory**

Agency theory was developed by Jensen and Meckling (1976). They suggested a theory of how the governance of a company is based on the conflicts of interest between the company's owners (shareholders), its managers and major providers of debt finance. Each of these groups has different interests and objectives. Jensen and Meckling defined the agency relationship as a form of contract between a company's owners and its managers,

where the owners (as principal) appoint an agent (the managers) to manage the company on their behalf. As a part of this arrangement, the owners must delegate decision-making authority to the management. The owners expect the agents to act in the best interests of the owners. Ideally, the ‘contract’ between the owners and the managers should ensure that the managers always act in the best interests of the owners.

**Empirical Review**

Alam, Ali, Erdiaw-Kwasie, Shahiduzzaman, Velayutham, Murray and Wiesner (2022) examined the impact of information, communication and technology on Innovation and performance of firms in Australia. The survey included 54 questions on access to and use of ICTs, innovation, firm characteristics, as well as the participants demographics, of which 11 factors were analyzed as part of this study. The study found compelling evidence to support the positive effects of ICTs on firm-level innovation and performance based on the primary survey data of 270 small and medium enterprises (SMEs) operating in an Australian regional area. Moreover, the study found that ICT strategies and skills are important factors that drive innovation and the overall performance of SMEs.

Mitić, Popović, Poštin, Čilerdžić and Szabó (2021) examined the impact of information technology (IT) on individual and organizational performances in companies in Serbia. The variables used include job satisfaction (JS), communication satisfaction (CS), organizational commitment (OCM), organizational trust (ITW), organizational learning (OL) and financial performance (FP). The data were obtained from a questionnaire completed by N = 380 middle managers from 102 companies in Serbia. The methods used for statistical data processing were: descriptive statistics, correlation analysis and the t-test. The main conclusions of the study were that information technology items in companies in Serbia are slightly above average values; the level of information technology in the company is an indicator of the level of organizational performance in the company; The level of information technology in the company has direct and indirect positive impacts on the level of a number of organizational performances in the company.

Akinwale, Sanusi and Surujlal (2018) examined the relationship and impact of ICT on economic growth in Nigeria. Using a secure internet server per 1 million, mobile cellular subscription per 100 people, and investment in telecoms with private sector participation (in current USD) as proxies for ICT, and GDP as proxy for economic growth for the period 1997 to 2016, the outcome of the autoregressive distributed lag (ARDL) revealed that there is a cointegration between ICT and economic growth, which established the existence of a long-run relationship between them. In the short run, only secure internet server per 1 million and mobile cellular subscription per 100 people have a positive and significant impact on economic growth, whereas investment in telecoms with private sector participation was not significant. The Granger causality test showed the bidirectional causality between secure internet server per 1 million and economic growth.

**IV. Methodology**

**Research Design**

The research design employed in this study is the *ex-post facto* research design. The population of the study consisted of the four (4) major telecommunication companies in Nigeria as at 31<sup>st</sup> December, 2021: MTN, Globacom, Airtel and 9Mobile. Purposive sampling technique was adopted n sampling the four (4) telecommunication companies for a period of twelve years covering from 2010-2021. This study primarily made use of secondary data. The data were sourced from publications of the Nigerian stock exchange (NSE), fact books and the annual report and accounts of the sampled telecommunication companies.

**Table 1: Variables Definition and Measurement Units**

Variable Type	Indicators	Variable Symbols	Variables Explanation
<b>Dependent Variable (Financial Performance)</b>			
	Return on Assets	ROA	(net profit/average total assets) x 100
	Return on Equity	ROE	net income/ shareholders' equity
	Return on Capital Employed	ROCE	earnings before interest and tax (EBIT) capital employed
<b>Independent Variable</b>			
	National Information Technology Development Levy	NITDL	1% x profit before tax

**Model Specification**

In constructing the model of this study, the model of Ezechukwu & Amahalu (2019) was followed:  $ROA = \alpha + \beta_1 BIND + \mu$

Where:

$\alpha$  = Constant

BIND = Board independence

Thus,

$$ROA_{it} = \beta_0 + \beta_1 NITDL_{it} + \mu_{it} \quad - \quad - \quad - \quad \text{model (1)}$$

$$ROE_{it} = \beta_0 + \beta_1 NITDL_{it} + \mu_{it} \quad - \quad - \quad - \quad \text{model (2)}$$

$$ROCE_{it} = \beta_0 + \beta_1 NITDL_{it} + \mu_{it} \quad - \quad - \quad - \quad \text{model (3)}$$

**Where:**

$\beta_0$  = Constant term (intercept) of the study model

$\beta_1$  = Coefficient of the independent variable

$\mu_{i,t}$  = Component of unobserved error term of company *i* in period *t*

$NITDL_{it}$  = National Information Technology Development Levy of company *i* in period *t*

$ROA_{it}$  = Return on assets of company *i* in period *t*

$ROE_{it}$  = Return on equity of company *i* in period *t*

$ROCE_{it}$  = Return on capital employed of company *i* in period *t*

**Presentation and analysis of Data**

**Table 2: Pearson Correlation**

	ROA	ROE	ROCE	NITDL
ROA	1.0000	0.4956	-0.0373	-0.3491
ROE	0.4956	1.0000	-0.1281	0.0100
ROCE	-0.0373	-0.1281	1.0000	-0.2759
NITDL	-0.3491	0.0100	-0.2759	1.0000

Source: E-views 10.0 output, 2022

The output of correlation analysis in table 2 delineates that NITDL negatively correlates with ROA (-0.3491) and ROCE (-0.2759). In a similar vein, NITDL positively associates with ROE (0.0100).

**Table 3: Panel Least Square (PLS) Regression Analysis between NITDL and ROA**

Dependent Variable: ROA

Method: Panel Least Squares

Date: 08/02/22 Time: 16:43

Sample: 2010 2021

Periods included: 12

Cross-sections included: 12

Total panel (balanced) observations: 144

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.153298	0.006674	22.96997	0.0000
NITDL	-0.010872	0.002572	-4.227319	0.0000
R-squared	0.111780	Mean dependent var		0.132567
Adjusted R-squared	0.105524	S.D. dependent var		0.057434
S.E. of regression	0.054320	Akaike info criterion		-2.974071
Sum squared resid	0.418988	Schwarz criterion		-2.932824
Log likelihood	216.1331	Hannan-Quinn criter.		-2.957311
F-statistic	17.87022	Durbin-Watson stat		1.118616
Prob(F-statistic)	0.000042			

Source: E-Views Regression Output, 2022

The panel least square regression result in table 3 depicts the existence of a negative but significant relationship between NITDL and ROA as denoted by the Beta coefficient ( $\beta$ ) of -0.010872 and the probability value of 0.0000. The implication of the relationship is that for there to be an increase in ROA, NITDL has to reduce by 1.1% on the average. The r-squared of 0.111780 demonstrates that NITDL determines up to 11.18 percent of the systematic variation that occurs in ROA. The Durbin Watson statistics of 1.118616 is an indication that the model is free from auto-correlation.

**Table 4: Panel Least Square (PLS) Regression Analysis between NITDL and ROE**

Dependent Variable: ROE

Method: Panel Least Squares

Date: 08/02/22 Time: 16:46

Sample: 2010 2021

Periods included: 12

Cross-sections included: 12

Total panel (balanced) observations: 144

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.715197	0.047351	15.10411	0.0000
NITDL	4.189737	0.425954	9.836119	0.0000
R-squared	0.184421	Mean dependent var		1.906821
Adjusted R-squared	0.172853	S.D. dependent var		1.766220
S.E. of regression	0.385400	Akaike info criterion		3.806402
Sum squared resid	21.09175	Schwarz criterion		3.868273
Log likelihood	-66.02010	Hannan-Quinn criter.		3.831543
F-statistic	15.94166	Durbin-Watson stat		2.350548
Prob(F-statistic)	0.000001			

Source: E-Views Regression Output, 2022

In table 4, the r-squared of 0.184421 infers that NITDL has 18.44 percent influence on ROE. The value of the Beta coefficient ( $\beta$ ) equals to 4.189737 and the probability value at 0.0000 shows the existence of a positive and significant relationship NITDL and ROE. The Durbin-Watson statistic value at 2.350548 accentuates the absence of serial correlation in the model.

**Table 5: Panel Least Square (PLS) Regression Analysis between NITDL and ROCE**

Dependent Variable: ROCE

Method: Panel Least Squares

Date: 08/02/22 Time: 16:47

Sample: 2010 2021

Periods included: 12

Cross-sections included: 12

Total panel (balanced) observations: 144

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.021398	0.001203	17.78895	0.0000
NITDL	-0.001466	0.000464	-3.162977	0.0019
R-squared	0.065817	Mean dependent var		0.018602
Adjusted R-squared	0.059238	S.D. dependent var		0.010094
S.E. of regression	0.009790	Akaike info criterion		-6.401049
Sum squared resid	0.013611	Schwarz criterion		-6.359802
Log likelihood	462.8756	Hannan-Quinn criter.		-6.384289

F-statistic	10.00443	Durbin-Watson stat	2.299947
Prob(F-statistic)	0.001910		

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Source: E-Views Regression Output, 2022

The panel least square regression result in table 5 depicts the existence of a negative but significant relationship between NITDL and ROCE as denoted by the Beta coefficient ( $\beta$ ) of -0.001466 and the probability value of 0.0019. The implication of the relationship is that for there to be one naira increase in ROCE, NITDL has to reduce by 0.001466 units, holding other factors constant. The r-squared of 0.065817 shows the 6.58% changes that occur in ROCE is influenced by NITDL.

## V. Findings and Recommendations

### Findings:

- i. National Information Technology Development Levy has a significant but negative effect on Return on Assets of quoted telecommunication companies in Nigeria at 5% level of significance ( $\beta = -0.010872$ ; P-value =  $0.0000 < 0.05$ ).
- ii. National Information Technology Development Levy has a significant and positive effect on Return on Equity of quoted telecommunication companies in Nigeria at 5% level of significance ( $\beta = 4.189737$ ; P-value =  $0.0000 < 0.05$ ).
- iii. National Information Technology Development Levy has a significant but negative effect on Return on Capital Employed of quoted telecommunication companies in Nigeria at 5% level of significance ( $\beta = -0.001466$ ; P-value =  $0.0019 < 0.05$ ).

### Recommendations

- i. The inverse relationship between NITDL and ROA could be reversed by reducing percentage of tax paid by firms because higher tax rates are associated with fewer formal businesses and lower private investment, invariably adversely affecting the firms earnings and profitability.
- ii. Since NITDL has a positive effect on ROE, government should grant incentives to firms in order to avoid tax evasion and avoidance which in the long run bolster the firm performance and also leads to the development of the nation.
- iii. In order to address the negative relationship between NITDL and ROCE, Government at all levels should institute tax cuts during periods of economic hardship to encourage savings, growth and investment.

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