

# Determinants Of Internet Financial Reporting: Evidence From Selected Companies Listed On Nigeria Stock Exchange (NSE)

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*Abstract: The uses of Internet applications has created the alternative way of reporting financial information by corporate entities. A number of studies have examined factors influencing reporting choice by corporate managers. This study extends the literature by examining foreign ownership, institutional ownership, firm size and profitability. From a sample of 125 companies listed on the Nigeria Stock Exchange. The secondary data are collected by examining the Investor Relations sections of each sample firm's corporate website and annual reports of the sample companies using panel data for five years period from 2010-2014. Multiple regression was employed in data analysis. The results reveal that internet financial reporting has significant positive relationship with foreign ownership, institutional ownership, firm size whereas significant negative relationship with the firm's profitability. The study recommends that regulatory bodies should provide incentives that will encourage institutional investors to increase investment in Nigerian companies. To provide deeper insight, a comparison of characteristics of corporate web owners and non-web owners is suggested for future study.*

**Keywords:** Foreign Ownership, Firm Size, Internet Financial Reporting, Voluntary Disclosure.

## I. INTRODUCTION

The arrival of web reporting has paved ways for the users to have access to financial information published by corporate entities. Before the advent of web, the mode of disseminating financial statement was through the printed annual reports (Ali Khan & Ismail, 2011a). Currently, companies can disseminate their financial statements either by using printed annual reports or electronic means (Momany & Pillai, 2013). Among various potential electronic facilities, Internet has become a popular way of reaching the stakeholders (Yap & Saleh, 2011). Published financial information reduces the possible issues linked with information asymmetry and agency problems (Momany & Pillai, 2013). Corporate organisations are striving for more transparency in communicating company information, by making sure that all stakeholders have access to company information by (Yap & Saleh, 2011). Publishing of material information helps investors in their investment making decision and encourage potential investors to invest in

the company (Yap & Saleh, 2011), and is also a signal of good corporate governance (Momany & Pillai, 2013).

Many researches have been conducted on the factors influencing the voluntary disclosure of financial information on the web but there are a number of inconsistency results on the factors determining the internet financial reporting. A number of studies found that foreign ownership, institutional ownership, company size, profitability, and leverage are the key predictors of internet financial reporting (Pham & Do Thi, 2015; AbuGhazaleh, 2012; Al-Shammari, 2007; Marston, 2003; Marston & Polei, 2004; Aly Simon & Hussain, 2010). While others found that profitability, liquidity, company size and leverage have no relationship with internet financial reporting (Allam & Lymer, 2003; Hossain, Momin & Leo, 2012; Agyei-Mensah, 2012). Like other countries, internet financial reporting has attracted interest of researchers in Nigeria. Studies conducted in the country assert that profitability, auditor type and company age were not found to be significant variables for internet financial reporting (IFR) index (Adebimpe & Ikenna, 2013; Yusuf, 2013). Other

researches on the same subject found that firm size, auditor type, gearing and board composition have significant and positive relationship with voluntary internet disclosure quality (Agboola & Salawu, 2012; Monday & Nancy, 2016). The conflicting and inconsistent findings on the determinants of internet financial reporting have serious research implications.

Internet financial reporting may influence the resources allocation of the economy. This is even more important to countries seeking direct foreign investment like Nigeria as larger number of potential investors may have access to information for investment decision making. Despite the significance of inflow of investment fund to the country, only a limited research effort on determinants of internet financial reporting in Nigeria has been directed to relationship between factors like foreign ownership, and institutional ownership on internet financial reporting. Therefore, this study attempts to fill this gap. The fact that findings from developed countries revealed a very strong influence of company size, and profitability on internet financial reporting (IFR) by the company, it is considered appropriate to include the two variables in the model for the current study. Therefore, the study aims to determine the influence of foreign ownership, institutional ownership, company size and profitability on the disclosure of financial statements via the Internet.

## II. LITERATURE REVIEW

The level of the studies on entity web reporting can be grouped into different categories. There are studies that emphasize on the benefits of using web for reporting Oyelere, Laswad and Fisher (2003). Others compare corporate entities within a country and across countries (Khan & Ismail, 2012). There a reasonable number that focus on corporate characteristics associated with policy on disclosure of financial information on the internet. The review of literature will explore the factors influencing web-based disclosure of financial information

### A. FACTORS DETERMINING INTERNET DISCLOSURE OF FINANCIAL INFORMATION

Craven and Marston (1999) conducted the study of internet financial reporting practices by UK companies and found out that size is a major determinant of the use web-based reporting, but found that industry type has no significant relationship with internet financial reporting. Ettredge, Richardson and Scholz (2002) also studied whether internet financial reporting can be explained by voluntary disclosure theories. It was found that size and information asymmetry have significant relationship with internet financial reporting, while voluntary information item disclosure is associated with variables size, information asymmetry, demand for external capital, and companies' traditional disclosure reputations.

Allam and Lymer (2003) investigated the factors determining web reporting practices in five countries. The study found no significant relationship between size and internet financial reporting levels in any of the five countries except Australia. The study also, found significant differences

in internet financial reporting practices between the countries except in the case of US, UK and Canada.

Oyelere, Laswad and Fisher (2003) studied the factors influencing the voluntary internet financial reporting practices by New Zealand companies and found that size, liquidity, industrial sector and spread of shareholding determine voluntary adoption of internet financial reporting. However, other factors, such as leverage, profitability and internationalization, do not have significant relationship with internet financial reporting practices.

Marston (2003) investigated the IFR practices of top Japanese companies in 1998 and 2001, and it was found that a large number of these companies (about 79%) had a website in English, with about 69% reporting some financial information on their website in 1998. She also found size to be the main factor influencing the existence of a corporate website.

Marston and Polei (2004) studied the practices internet financial reporting of companies in Germany between years 2000 and 2003 and found better performance on the presentation level of financial information at corporate Websites. The study also found firm size the main determinant factor for the amount of information disclosed for both periods. Foreign listing status and free float were found to be significant explanatory in years 2003 and 2000 respectively.

Abdulhamid and MD Salleh (2005) examined the factors influencing the investor relations financial information in Malaysian companies' website. The study found that company size and industry classification have significant positive relationship with the existence of investor information in the corporate website. Moreso, profitability and foreign ownership variables, have no significant relationship with existence of investor information in the corporate website.

In the study conducted by Momany and Al-Shorman (2006) on the extent of internet financial reporting by Jordanian companies listed on the Amman Stock Exchange (ASE). The study found that, companies that publish financial information on their websites are larger, more leveraged, with concentrated ownership, having more international investors and are more recently incorporated than non-IFR companies. A lot of companies also provide timely information on stock prices and trading history.

Celik and Karabacak (2006) carried out the study on the effect of firm characteristics on the internet financial reporting practices of the companies listed in Turkey. This study focuses on the financial market of a developing country and investigated the relationship between the internet financial reporting and the firm specific factors. The study sampled 253 listed companies on the Istanbul Stock Exchange (ISE). The results found that size, industry classification and internalization have positive significant relationship with the level of information disclosed by the firms while ownership structure, institutional investors and intangibles have no significant relationship with the internet reporting behavior.

Al-Shammari (2007) examined web-based financial information disclosure by Kuwaiti-listed companies for year 2005 and found that 77% of them had websites and 70% use their websites for internet financial reporting. The study also, found company size, liquidity, auditor and industry to be the key determinants of internet financial reporting by Kuwaiti-listed companies. Large corporate entities with lower levels of

liquidity, and audited Big Four audit firms' affiliates were more likely to engage in internet financial reporting. Also, insurance companies were more likely to engage in web-based financial reporting.

Aly, Simon and Hussainey (2010) carried out the on determinants of corporate web-based reporting by Egyptian listed companies. The content analysis approach was employed to examine the information cited by the largest Egyptian companies is used in their web sites. The study employed Ordinary least square multiple regression analysis to investigate the determinants of the internet reporting. The study found that 56 per cent of Egyptian companies published a substantial portion of information on their web sites. Moreover, the study found that some financial characteristics explain the variation in the degree of internet reporting between Egyptian listed companies. It was also found that profitability, foreign listing and industrial type (communications and financial services) are the predictors of the amount and presentation formatting of information disclosed on Egyptian companies' web sites. However, other firm characteristics, such as firm size, leverage, liquidity and auditor size, do not explain corporate internet reporting.

Rouf and Harun (2011) examined the relationship between ownership structure and voluntary disclosure levels in the 2007 annual reports of 94 samples of Bangladeshi listed companies. The agency theory argued that companies with higher management of ownership structure may disclose less information and higher institutional ownership structure may disclose more information to shareholders through voluntary disclosure. This is because the determined ownership structure provides companies with lower incentives to voluntarily disclose information to meet the needs of non-dispersed shareholders. The study found that the extent of corporate voluntary disclosures is negatively significant with a higher management of ownership structure and the level of corporate voluntary disclosures is positively significant with a higher institutional ownership structure.

The study of Sukthomya (2011) who investigated the SET100 listed companies over the period from 1995 to 2005 and the result showed that there is a positive relationship between foreign ownership and the extent of voluntary disclosure.

The study of Hossain, Momin and Leo (2012) investigated the level of voluntary disclosure of both financial and non-financial information on the web-based by Qatar. The forty-two (42) listed companies on the Qatar Exchange (the only stock Exchange in Qatar) were sampled. An ordinary least regression was employed to examine whether voluntary publication of information on the web-based was associated to firm age, size, profitability, complexity, assets in place, and liquidity. It was found that firm size, assets in-place, and business complexity are factors which influence the level of voluntary internet financial reporting disclosure in Qatar, meanwhile, age, profitability, and liquidity are insignificant with internet financial reporting disclosure.

Agyei-Mensah (2012) investigated all the firms listed on the Ghana stock exchange (GSE) on the extent of communicating both financial and non-financial information using the internet as the channel. The findings revealed that 77.14% had web sites while the 22.86% did not have websites

or the websites were not accessible. The output of the multiple regression analysis revealed that profitability as well as leverage are key factors influencing the internet financial reporting. The study also found that firm size, liquidity and auditor size have no significant relationship with internet reporting index.

AbuGhazaleh (2012) focused his study on the determinants of corporate internet financial reporting for companies listed on Amman Stock Exchange. The study employed the logistic, ranked and normal scores ordinary least squares (OLS) regression analyses to identify ten factors that may influence level of internet reporting disclosure; company size, profitability, government ownership, institutional ownership, number of shareholders, growth prospects, age, industry type, auditor type, and equity need. The study found the existence of web sites is positively associated with company size and finance industry while the level of internet reporting disclosure is positively significant with size, governmental ownership, institutional ownership, number of shareholders, and industrial type (Financials); while the company age is negatively related with web-based financial reporting.

Pham and Do Thi (2015) carried out the study on factors determining the voluntary internet financial disclosure of Vietnamese listed companies. The study found that the companies with large foreign ownership have a greater level of voluntary disclosure while the company size increased level of voluntary disclosure in annual reports of Vietnamese listed companies. Moreover, no significant relationship are found between profitability, leverage, state ownership, managerial ownership, board independence, role duality, and type of external auditors with level of voluntary web-based reporting.

Agboola and Salawu (2012) examined the factors affecting the extent of voluntary internet financial reporting in Nigeria. The study extracted secondary data from the annual report and accounts of the seventy-seven (77) sample firms and annual publications of the Nigerian Stock Exchange. It found the two key factors as determinants of internet financial reporting in Nigeria. The firm's size was found to be positively and significantly associated with the internet financial reporting practice meaning that the larger the firms the more utilization of internet financial reporting. The study also found the type of auditor as another main factor influencing internet financial reporting practices for all the firms.

Adebimpe and Ikenna (2013) carried out the study on the web-based financial reporting and company characteristics. The study found that 80.8% of listed companies in Nigeria possess websites while 19.2% did not have websites or their websites was not accessible. It was also found that the financial sector has the largest number of companies (55) with official websites while the manufacturing sector has the largest number of companies (14) without official websites. The regression results revealed that company size and industrial sector are significantly related with internet financial reporting. Nevertheless, profitability, auditor type and company age were found to be insignificant with internet financial reporting.

Yusuf (2013) studied the level of internet corporate reporting quoted companies on the Nigerian Stock Exchange.

The study employed multiple regression analysis to examine the association between internet financial reporting and profitability, leverage, size, foreign listing and industry type. The study found the company size as the only factor that significantly determines the level of internet financial reporting.

Monday and Nancy (2016) carried out study on the factors influencing the level of voluntary disclosure quality in emerging economies. The secondary data were extracted from seven hundred and ninety-three (793) corporate annual reports of listed companies on the Nigeria stock exchange for five years financial periods starting from 2000 to 2014. The study findings showed that the firm size and Board composition have significant and positive association with quality of voluntary disclosure. However, profitability and gearing were found to be negatively significant with the voluntary disclosure quality of listed firms in Nigeria.

### III. CONCEPTUAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

#### A. FOREIGN OWNERSHIP

Chow and Bore (1987) stated that foreign ownership may determine the level of voluntary disclosure by the firm. Web-based reporting will assist the foreign owners to monitor their economic interest in the firm. This is highly necessary because as the firm expands, foreign investors may be asked to invest in the company (Ettredge, Richardson & Scholz, 2002). Moreover, a larger dissemination of investor related information through the web can boost transparency level that may encourage foreign investors.

The agency theory states that corporate entity with foreign ownership would publish more information. The study of Haniffa and Cooke (2002) found a significant positive association between foreign ownership and the level of paper-based financial information disclosure. The findings affirm that the more foreign investors is in an organization, the more information asymmetry will be. This prompt foreign owners to request for more information, which is initially not required by the regulations, and eventually result to more disclosure (Leung, Morris & Gray 2005). A critical review of past studies has led to the development of testable hypothesis.

H<sub>0</sub>1: There is no significant relationship between foreign ownership and IFR.

#### B. INSTITUTIONAL OWNERSHIP

Institutional ownership is referred to as the percentage of shares that is owned by institutions. Based on the agency theory, it argues that the existence of institutions reduces the conflict between shareholders and management as they encourage entities to publish more information to reduce information asymmetry. The study of Diamond and Verrecchia (1991) stated that companies with a large percentage of shares own by institutional shareholders is prone to adopt the web-based to disclose the necessary information. According to Ettredge, Richardson, and Scholz (2002), the reason for using the internet for publishing

information is the different information needs for the various stakeholders which corporate entity should provide. Also, Guan, Sheu, and Chu (2007) stated that institutional shareholders are more equipped and own enough technical expertise to monitor the managers. Researches that investigated the relationship between institutional shareholders and web-based reporting are inconclusive. The findings of Sriram and Lakshmana, (2006) showed that companies with more institutional shareholders disclose few information on their website. Meanwhile, the study of Celik, Ecer, and Karabacak (2006) found that institutional ownership does not significantly influence internet financial reporting. This study therefore, developed a testable hypothesis from prior studies.

H<sub>0</sub>2: There is a negative relationship between institutional ownership and IFR.

#### C. COMPANY SIZE

A number of studies investigated the relationship between firm size and voluntary disclosure (Malone, Fries, & Jones 1993; Ahmed & Nicholls, 1994; Raffournier, 1995; Haniffa & Cooke, 2002; Almilia & Surabaya 2009; Aly, Simon & Hussainey, 2010). It is proved that stock market pressure made large business organisations to publish more information on their websites to assist them in increasing their outside capital to improve their performance. Moreover, large business organisations are tend to have access to financial markets through disclosing more information online (Bonson & Escobar, 2002). Large business organisations may disclose information on the web for lower costs as they have the resources to do so. The agency theory stated that large business organisations disclose higher agency costs due to the information asymmetry between market participants (Jensen & Meckling, 1976). In order to reduce the agency costs, larger business organisations publish a large flow of corporate information. The relevant hypothesis derived from the above discussion is:

H<sub>0</sub>3: There is no significant relationship between company size and IFR.

#### D. PROFITABILITY

It is alluded that corporate entity profitability can be regarded as an indicator to good management, as management tends to publish more information when there is high rate of return. Profitable business organisations have extra financial resources to publish financial information and have more encouragements to disclose to both the stakeholders and public that they are more profitable than their counterparts in the same industry. This can be supported by the agency theory, where managers of the highly profitable firms publish more information on their companies' website to achieve personal interest (Singhvi & Desai, 1971; Wallace, Naser, & Mora, 1994; Haniffa & Cooke, 2002). Moreso, signalling theory stated that profitable entities have an incentive to disclose more information, to signal the firm's profitability to investors and to raise capital at the lowest price (Oyelere, Laswad, & Fisher, 2003; Marston & Polei, 2004). However, there are controversial findings with some studies revealing significant association between firm profitability and web-

based financial disclosure (Ashbaugh, Johnstone, & Warfield, 1999; Ismail, 2002; Debreceeny & Rahman, 2005), while other studies find no significant relationship between profitability and online financial disclosure (Larra'n & Giner, 2002; Oyelere, Laswad, & Fisher, 2003; Marston and Polei, 2004; Xiao, Yang, & Chow, 2004; Momany & Al-Shorman, 2006; Ezat & El-Masry, 2008). A review of prior studies has resulted to the development of testable hypothesis.

H<sub>04</sub>: There is no significant relationship between profitability and IFR

#### IV. METHODOLOGY

The study adopted ex-post facto research design. The population for this study consists of all listed companies on the Nigerian Stock Exchange (NSE). As at 5<sup>th</sup> of August, 2016, the total listed companies in Nigerian Stock Exchange (NSE) is one hundred and seventy-eight (178). The population is stratified based on sector and the sample is drawn systematically from the population. 125 out of 178 listed companies are selected as our sample representative. This was done using random sampling techniques. The study employed panel data which were collected from selected 125 companies listed on Nigeria Stock Exchange. The websites of the sample companies were browsed for collecting data related to financial reporting on the internet. Also, the data sourced from annual report and accounts of the sample companies for the periods of 2010 – 2014 accounting years. The study employs Descriptive statistics; to know the characteristics of the variables, Pearson product moment correlation; to know the relationship among the variables and multiple regression analysis (OLS) to test relationships among theoretically related variables and estimating the effects of one variable on the other with the aid of statistical package (STATA 13).

##### A. MODEL SPECIFICATION

The model employed internet reporting disclosure index (INTRPI) as dependent variable and four independent variables, which include Foreign Ownership, Institutional Ownership, Firm Size and Profitability. The pool ordinary regression model as adopted from Yusuf (2013) as below;

$$INTRPI_{it} = \beta_0 + \beta_1 FGOWN_{it} + \beta_2 INSTOWN_{it} + \beta_3 FMZ_{it} + \beta_4 ROA_{it} + \varepsilon_i$$

Where:

INTRPI<sub>it</sub> = internet financial reporting disclosure index

β<sub>0</sub> = Coefficient of the constant variable

FGOWN<sub>it</sub> = foreign ownership for company in *i* year *t*

INSTOWN<sub>it</sub> = institutional ownership for company in *i* year *t*

FMZ<sub>it</sub> = company size for company in *i* year *t*

ROA<sub>it</sub> = profitability for company in *i* year *t*

β<sub>1</sub>, β<sub>2</sub>, β<sub>3</sub>, β<sub>4</sub> = Regression coefficients of independent variables

ε<sub>i</sub> = error term.

##### B. DEPENDENT VARIABLE

For the purpose of this study, the dependent variable is internet financial reporting (IFR). Mangena, (2004) argued that the dependent variable could be measured using either website content analysis or a disclosure index. Studies that have used either of these two approaches did not have any significant difference in their regression results (Hackstone & Milne, 1996). To this end, this study employs internet financial disclosure index to measure internet financial disclosure (IFD) in the same way as Al Arussi, Selamat, and Hanefah, (2011). The internet financial reporting disclosure index (INTRPI) is computed by means of a checklist, which contains 37 items (see Appendix 1A). The data are collected by examining the Investor Relations sections of each sample firm's corporate website for the presence of each of the 37 IFR measurement items Each item disclosed is scored 1. Finally, the total score is divided by 37 to get the INTRPI, (Khan & Ismail, 2011a). The following model is used to compute the IFR disclosure index:

$$INTRPI = \frac{\sum \text{Real Score obtained by the Individual Company}}{\sum \text{Maximum Available Score (i.e., 37)}} \times 100$$

##### C. INDEPENDENT VARIABLES

Based on the literature review, the study determines foreign ownership, institutional ownership, company size and profitability as determinants of internet financial reporting for listed companies in Nigeria.

Independent variables	Measurement
Foreign ownership (FGOWN)	Percentage of shares owned by foreigners to total number of shares issued
Institutional ownership (INSTOWN)	Percentage of shares owned by institutional investors to total number of shares issued
Company size (FMZ)	The natural logarithm of total asset
Profitability (ROA)	Return on Asset (EBIT/Total Assets)

Summary of Independent Variables

#### V. FINDINGS

##### A. DESCRIPTIVE STATISTICS

The descriptive statistics for the dependent and independent variables are displayed in Table 4.1 below. The summary statistics shown in Table 4.1 reveal the mean, standard deviation, minimum and maximum values of the dependent and independent variables. As can be seen from Panel A of table 4.1, the level of average disclosure in the 125 sample companies is 77.72 with maximum of 91.89 and minimum of 64.86. The mean value for web reports (77.72%) reveals that more than half of the companies publish their reports on-line. It is consistent with Monday and Nancy (2016) in Nigeria (55.81). The descriptive statistics of the explanatory variables in Panel B also indicates that the foreign ownership has a minimum of 24.21 and maximum of 60.01

with a mean value of 40.48. Institutional ownership has a mean of 25.47 with minimum of 12.66 and maximum of 47.21. The firm size (log of assets) ranged from 9.03 and 11.7, with a mean value of 10.09. The profitability has a minimum value of Return on Assets (ROA) as 3.15 and a maximum of 39.31 with a mean of 12.31.

Panel A. Descriptive statistics for the dependent variable							
	Number of Observation	Mean	Standard Deviation	Max	Min.	Skewness	Kurtosis
Disclosure	625	77.72	8.4871	91.89	64.86	.1292564	1.970745
Foreign Ownership	625	40.48	10.3113	60.01	24.21	.2389115	2.237428
Institutional Ownership	625	25.47	8.141	47.21	12.66	.5780618	3.154009
Firm Size	625	10.09	.7908575	11.7	9.03	.318031	1.658407
Profitability	625	12.31	8.450597	39.31	3.15	1.194752	4.050728

Source: STATA 13 Output, 2016

Table 1: Descriptive Statistics of the Variables

### B. CORRELATION ANALYSIS

Since multiple regression analysis is based on the assumption that the independent variables are not correlated with another, it is therefore necessary to verify the correlation between the independent variables before running the regression analysis.

	INTRPI	FGNOWN	INSTOWN	FMZ	ROA
INTRPI	1				
FGNOWN	0.5229	1			
INSTOWN	0.017	0.1264	1		
FMZ	0.2243	0.4027	-0.4176	1	
ROA	-0.3681	0.0627	0.0379	0.545	1

Source: STATA 13 Output, 2016

Table 2: Correlation Matrix of Dependent and Independent Variables

Table 2 presents the correlation matrix of the dependent and independent variables, from which it can be observed that three explanatory variables Foreign ownership (FGNOWN), Institutional ownership (INSTOWN), and Firm size (FMZ) are significantly correlated with the level of disclosing mandatory information on the internet under both the Spearman and Pearson correlation test. While ROA (profitability) is significantly negatively correlated with disclosure level on the internet. The highest correlation between dependent variables is 0.54 and that occurred between FZ (firm size) and ROA (profitability). Judge, Griffiths, Hill, Luthepohl and Lee (1985) suggest that simple correlation between independent variables should not be considered harmful until they exceed 0.8 or 0.9.

### C. REGRESSION DIAGNOSTICS

Multiple regression assumptions are related to the current study and will be checked before running the model. These assumptions are linearity, normality, homoscedasticity, and

multicollinearity. If any of the latter assumptions is violated, the results of the multiple regression model may be misleading and inefficient to the study, so they need to be treated appropriately, (Gujarati & Porter, 2009).

#### a. NORMALITY OF RESIDUAL

Variables	N	W	V	Z	Prob > z
INTRPI	625	0.98731	5.222	4.013	0.00003
FGNOWN	625	0.95944	16.69	6.834	0.0000
INSTOWN	625	0.9545	18.725	7.113	0.0000
FMZ	625	0.88299	48.151	9.406	0.0000
ROA	625	0.88437	47.582	9.377	0.0000

Source: STATA 13 Output, 2016

Table 3: Results of Normality Test

The variables of the study are subjected to Shapiro-Wilk (W) test for data normality; the technique test the null hypothesis (that the data is normal), that is, the variable came from a normally distributed population. Table 3 indicates that the data for all the variables are not normally distributed, because the P-values are significant at 1% level of significance (INTRPI, FGNOWN, INSTOWN, FMZ and ROA, from Prob>Z value of 0.0003, 0.0000, 0.0000, 0.0000, and 0.0000 respectively). Thus, the null hypothesis (that, the data is normally distributed) is rejected.

#### b. MULTICOLLINEARITY TEST

To be sure that there is no multicollinearity among the independent variables included in the regression model, multicollinearity was diagnosed. Multicollinearity is a high degree of correlations (linear dependency) among the independent variables in a regression model (Gujarati & Porter, 2009). Multicollinearity can be assessed through correlation matrix and through variation inflation factor (VIF). Based on the result from table 4 below, it is obvious that the tolerance value for this study is in the amount of 0.328 to 0.630 which is above the threshold value of 0.10. While the highest VIF value is 3.05 which is less than the threshold value of 10, (Gujarati & Porter, 2009). Since all of the VIF value is below 4, there is no evidence of significant multicollinearity in the result of the study. Thus, the independent variables in this study do not seem to be severely affected by collinearity and so standard interpretation of the regression coefficient can be made.

Variables	VIF	Tolerance
FMZ	3.05	0.328200
ROA	1.88	0.531285
INSTOWN	1.76	0.569442
FGNOWN	1.59	0.630304

Mean VIF 2.07

Source: STATA 13 Output, 2016

Table 4: Results of Multicollinearity Test

#### c. HETEROSKEDASTICITY TEST

One of the important assumptions of multiple regression is that, there should be no heteroskedasticity of residuals (errors). Heteroskedasticity is a systematic pattern in the errors

where the variances of the errors are not constant. This study employs Breusch-Pagan test to test for the heteroskedasticity of residuals. If the p-value is (preferably) 0.05 or smaller, then the null hypothesis is rejected and there is significant evidence that there is heteroskedasticity. A large chi-square would indicate that heteroskedasticity was present, (Gujarati & Porter, 2009). Based on the results on table 4.5 below, there is a problem of heteroskedasticity because the probability value is significant (less than 0.05).

Test	Chi-square	Prob>chi2
Breusch-Pagan / Cook-Weisberg	3.86	0.0494

Source: STATA 13 Output, 2016

Table 5: Breusch-Pagan / Cook-Weisberg test for Heteroskedasticity

#### d. REMEDIES TO HETEROSKEDASTICITY

The two methods of correcting heteroskedasticity are by robust standard errors and weighted least square (WLS), (Gujarati & Porter, 2009).

#### e. ROBUST STANDARD ERRORS

This address the problem of errors that are not independent and identically distributed. The use of robust standard errors will not change the coefficient estimates provided by ordinary least square (OLS), but they will change the standard errors and significance tests, (Gujarati & Porter, 2009). As Gujarati and Porter, 2009 point out, the use of robust standard errors does not change coefficients of estimates, but (because the standard errors are changed) the test statistics will give you reasonably accurate p-values. This study, therefore, runs robust standard errors to correct the problem of heteroskedasticity in the study.

### D. REGRESSION RESULTS

Mode Summary	
No. of Observation	625
F-statistic	261.34
Prob. > F	0.000
R-square	0.5638
Adj. R-squared	0.5610
Root MSE	5.6235

Variables	Coefficient	Robust Std. Err.	t-statistic	Sig.
FGNOWN (Foreign Ownership)	0.2337508	0.0241586	9.68	0.0000
INSTOWN (Institutional Ownership)	0.2807888	0.0279393	10.05	0.0000
FMZ (Firm Size)	6.690401	0.4074412	16.42	0.0000
ROA (Profitability)	0.739068	0.0322131	-22.94	0.0000
(Constant)	2.703921	3.798655	0.71	0.477

Source: STATA 13 Output, 2016.

Table 6b: Regression Results with Robust Standard Errors

The results of the multiple regression analysis before and after robust standard errors for the voluntary internet financial disclosure are presented in table 4.6a and table 4.6b respectively. This study, therefore bases its findings and discussions on Table 4.6b. We use Adj. R<sup>2</sup> to assess the proportion or percentage of the variance in the dependent variable that is explained by the independent variables within the model. The coefficients of the variables indicate the extent to which the dependent variable will change following any change in independent variables while other independent variables are held constant. The R-square of this regression is 0.5638 which means that 56.38% of the changes in internet financial disclosure is explained by the variables foreign ownership, institutional ownership, firm size, and profitability. Based on the results of the regression with a significance value of 0.000 (p < 0.01), this research shows that foreign ownership (FGNOWN), institutional ownership (INSTOWN), and firm size (FMZ), have positive relationship with the accessibility of internet financial reporting (IFR) provided in the company website while profitability measured with proxy ROA shows a negative significant relationship with voluntary internet financial reporting.

## VI. DISCUSSION

This study bases its discussion of findings on multiple regression results with robust standard errors (Table 6b).

### A. FOREIGN OWNERSHIP AND INTERNET FINANCIAL REPORTING

Foreign ownership is statistically significant at the 0.01 level of significance. The result shows that every one unit increase in foreign ownership will lead to 0.23 increase in internet financial reporting practice for Nigerian listed companies. The result shows that companies with foreign ownership are tend to disclose financial information on the internet. The finding is consistent with findings of Momany and Al-Shorman (2006); Sukthomya (2011); Pham and Do Thi (2015) while the result is inconsistent with the finding of Abdul Hamid and MD Saleh (2005). Based on the statistical finding, the current study rejects hypothesis H<sub>01</sub>.

### B. INSTITUTIONAL OWNERSHIP AND INTERNET FINANCIAL REPORTING

The regression results show that institutional ownership has positive relationship with internet financial reporting, which means that as institutional ownership increases with one unit, the internet financial reporting also increases by 0.28. This implies that Nigerian listed companies with high proportion of institutional ownership tend to increase their level of financial disclosure on the internet. The finding is consistent with the findings of Rouf and Harun (2011); AbuGhazaleh (2012). However, the finding contradicts the finding of Celik and Karabacak (2006). Based on the statistical finding of the current study, the hypothesis H<sub>02</sub> is rejected.

**C. FIRM SIZE AND INTERNET FINANCIAL REPORTING**

Firm size is significant at the 0.01 level of significance and is positively associated with the internet financial reporting. Based on the regression results, it shows that a one unit increase in firm size will lead to 6.69 increase in internet financial reporting practice for all the sampled firms. The results show that large firms tend to disclose more financial information in order to reduce information asymmetry and also reduce agency costs. Also, the more exposure large firms are subjected to leads to the firms being under higher pressure to disclose information. Large corporations seem to disclose information on the internet due to the fact they can benefit from the lower cost that results from these firms having the resources to do so. The result proves to be consistent with the findings of Yusuf (2013); Agboola and Salawu (2012); Ettredge, Richardson and Scholz (2002); Oyelere, Laswad and Fisher (2003); Al-Shammari (2007); Craven and Marston (1999). However, the finding contradicts finding of Allam and Lymer (2003); Aly, Simon and Hussainey (2010). Based on the statistical finding of the current study, the hypothesis H<sub>0,3</sub> is rejected.

**D. PROFITABILITY AND INTERNET FINANCIAL REPORTING**

The profitability is negatively significant at the 0.01 level of significance and has negative association with the voluntary internet financial reporting practice. The result shows that every one unit increase in profitability will lead to 0.739 decrease in internet financial reporting practice for all the sampled firms. This negative significant can be justified in the context of management’s decision not to disclose the positive returns and favourable liquidity position forecasting a surge in demand of dividends from stakeholders. Fear of potential investors into the industry due to high returns can also be a factor dissuading the companies from reporting their financial results. The other side of the coin is that when the liquidity position or ROA is low, this will prompt the companies to disclose their results in order to make the request for additional funds genuine and to avert potential failures which can be detrimental to the stakeholders in the future. Moreover, highly profitable firms in Nigeria tend to disclose less information to avoid political attention in the form of pressure for the exercise of social responsibility and greater regulations such as price control and higher corporate taxes. The result proves to be consistent with the findings of Monday and Nancy (2016) while the finding is inconsistent with the findings of Aly, Simon and Hussainey (2010). Based on the statistical finding of the current study, the hypothesis H<sub>0,4</sub> is rejected.

**VII. CONCLUSION**

Based on the key findings of this research, the study concludes that a significant relationship exists between foreign ownership and internet financial reporting. Thus, the amount of internet financial reporting and disclosure is affected by

foreign ownership. Therefore, the larger the foreign ownership, the greater the likelihood to disclose financial information on the website. The study also concludes that institutional ownership has significant positive effect on the internet financial reporting. This implies that companies with high institutional ownership tend to increase their level of financial disclosure on the internet. Moreover, the study concludes that firm size has a positive significant relationship with internet financial reporting. This indicates that large firms tend to disclose more financial information on the internet in order to reduce information asymmetry and also reduce agency costs. The multiple regression results lead to the conclusion that profitability of a company negatively significant with internet financial disclosure. This implies that highly profitable firms in Nigeria tend to disclose less information to avoid investors from demanding for high dividend and political attention in the form of pressure for the exercise of social responsibility and greater regulations such as price control and higher corporate taxes.

**APPENDIX 1**

**A. Financial Information Disclosure Checklist**

S/N	Content
1	Quarterly report of current year
2	Quarterly report of past years
3	Half-year report of current year (interim statements)
4	Half-year report of past years (interim statements)
5	Annual report of current year(full text)
6	Annual report of past years (full test)
7	Annual report of current year (excerpt)
8	Annual report of past years (excerpt)
9	Auditor report of current year
10	Auditor’s report of past years
11	Statement of Financial Position (Balance Sheet) of current year
12	Statement of Financial Position (Balance Sheet) of past years
13	Income statement of current year (Profit and loss account)
14	Income statement of past years
15	Cash flow statement of current year
16	Cash flow statement of past years
17	Notes to financial statements for current year
18	Notes to financial statements of past years
19	Segmental reporting by line of business in current year annual Report
20	Summary of key ratio over at least three years
21	Five Years Financial Summary
22	Accounting policies
23	Information providing a dividend reinvestment plan
24	Value Added Statement
25	Chairman’s Report
26	Annual Report in PDF format
27	Annual Report in HTML format
28	Members of the Board of Directors



29	Statement of Changes in Shareholders' Equity
30	Corporate Social Responsibility Report
31	Historical share prices
32	Code of conduct and ethics for directors, officers and employee
33	Shareholder information
34	Directors shareholding information
35	Annual general meetings information
36	Link to Nigeria Stock Exchange websites
37	Projected information

Source: Adapted from Salawu (2012)

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