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Corporate Attributes and Firm Growth: Empirical Evidence from Nigerian Listed Firms

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Abstract

Growth is a major index of performance, and investors usually watch out for indicators of growth when making investment decisions. The study aims at examining the effective factors in firm growth in Nigeria. The study uses ninety-one (91) observations of non-financial firms quoted on the Nigeria Stock Exchange. The ordinary least squares method of data analysis is used in estimating the parameters for the study and data were obtained from audited annual financial statements of selected firms, result estimation was done using STATA 14.0 statistical package. The variables examined in this study include firm age, firm size, innovativeness, management efficiency, capital intensity, profitability, institutional ownership, and international affiliation. The findings of the study show the following: a positive and significant causal relationship exists between firm innovativeness, management efficiency and firm growth; also a similar positive but insignificant relationship exists between leverage, firm size and growth; institutional ownership also positively but insignificantly affects firm growth, the same applies to the international affiliation of firms; firm age, capital intensity and all negatively but insignificantly affect firm growth. The study recommends that: firms should seek to base their growth strategies on variables that reflect positive performance, such as by mainstreaming innovativeness, foreign ownership, institutional ownership, and optimizing the ploughing back of retained earnings, Firms should seek to unbundle themselves to foster competitiveness, and innovativeness, particularly, older and larger firms that seem to have run out of steam, by the injection of new creative ideas which are attendant upon unbundling.

Keywords: firm size, institutional ownership, international affiliation, firm age

INTRODUCTION

In a world of dynamics and constant movements, nothing is expected to remain the same. They either grow by improvement or decline by being out-competed. Coad and Holzt (2010) observe that firm growth and decline are at the core of economic dynamics, noting that there is interest in the determinants of firm growth both at the individual business level and the more macro-national level since policymakers might be interested in job creation.

Several studies have been conducted on firm growth (Oliveira & Fortunate, 2004). There have largely been inconclusive results, while some are showing that growth is not an objective for all small firms; the ability to grow is important since it has been suggested that firms without or negative growth have a high probability to fail (Niskanen & Niskanen, 2007). Since the formulation of Gibrat's law in1931, the law which states that firm growth is independent of firm size, firm size has been revisited over and over again (Niskanen & Niskanen, 2007).

Firm profitability and growth prospects are sometimes considered the main objectives of a firm. This may be debatable, though. However, every firm strives to grow and survive even if they do not all have the same growth opportunities (Aregbeyen,2012). Aregbeyen (2012) observes that firm growth requires both a willing attitude to take up growth opportunities, and also the availability of suitable growth opportunities, demand for growth and supply of growth opportunities. Firm growth issue has implications for practical application and policy implications because it has a very close relationship with the process of job creation, wealth generation and the changing distributions of empowerment across economic activities and production units (Argbeyen, 2012). Terjesen and Szerb (2008) actually associated the economic performance of a firm or a geographic region with growth rates. They noted that growth is of central interest to a variety of stakeholders. While many studies have focused on firm features such as size, age, financing and innovation; some studies have shifted focus to the operators of the firms by examining such characteristics as entrepreneurial skills, risk-taking, opportunity recognition and managerial knowledge (Tejesen & Szerb, 2008).

This study is particularly important given that small and medium enterprises (SMEs) are seen worldwide as engines of economic development and employment generation.

Most businesses start as SMEs and are expected to grow over time. It is therefore important to study the factors that enhance the growth process given that they are visibly present in almost all economies. Both developed and developing economies realize that SMEs have become one of the key instruments to combat both social and economic problems and achieve economic objectives, giving SMEs the status of the "seeds of economic revival" (Khalid, Farooq & Raza, 2009; Safiriyu & Njogo, 2012; Katua, 2014; Bouazza, 2015; Leon, 2020; Malinic et al., 2020: Dahmash et al., 2021).

It is expedient to examine empirically firm characteristics that promote growth to determine what features should be pursued by Nigerian firms to enhance policy formulation by Nigerian firms, particularly the small and medium scale enterprises for them to be able to contribute more meaningfully to the economy.

To achieve the objectives of this study the following hypotheses (stated in null form) are formulated as guides for this study. Age has no significant effect on firm growth in non-bank firms in Nigeria; Firm size has no significant effect on firm growth in non-bank firms in Nigeria; Innovation has no significant effect on firm growth in non-bank firms in Nigeria; Leverage has no significant impact on firm growth in non-bank firms in Nigeria; Management efficiency has no significant effect on firm growth in non-bank firms in Nigeria; Capital intensity has no significant effect on firm growth in non-bank firms in Nigeria, and Profitability has no significant effect on firm growth in non-bank firms in Nigeria.

REVIEW OF RELATED LITERATURE

Conceptual Review
Conceptually, growth refers to expansion in size and empirically; this may be determined in terms of sales, assets, physical output, market share and profit (Terjesen & Szert, 2008). Firm growth is often seen as an indicator of a thriving economy (Zhou & de Wit, 2009). Three sets of factors are commonly identified as influencing firm growth: firm size, firm age, export propensity, foreign/local ownership structure, financing sources, productivity, and other factors which are sectoral and nationwide macro-economic variables (Burger, Manijan, Kosteve & Rojec, 2013). Firm growth is considered an important measure of company success; growth enables a firm to add value and is a factor that strengthens that organization (Loi & Khan, 2012). High growth firms are usually seen as crucial to economic prosperity. Firm growth is partly predictable at the time of startup (Pugsley, Sedlacek & Sterk, 2018). Oban (2014) noted that firm growth aims to capture the optimal scale and it is assumed that it cannot grow beyond the optimal point. Voulgaris, Asteriou and Agiomirgianakis (2003) noted that a well-accepted measure of dynamism (growth in a firm) is rapid sales growth. Other commonly used measures of growth include employment and assets (Oliveira & Fortunate, 2004; Coad & Holzt, 2010; Gopinath, 2012). Firms create value through growth (Vaz, 2021).

Innovation refers to changes that are associated with improvements. Coad (2007) noted innovation has a key role in explaining the growth of firms. Innovations will most certainly always be the result of research and development (R&D) efforts, Coad (2007) observed that the major

difficulty in observing the effect of innovation on growth is that it may take time to convert increases in economically valuable knowledge (innovation) into economic performance. Effectively innovation involves the ability to invest in new technological space, and improvement in technology information networks (Katua, 2014; Bouazza, 2015).

Leverage has to do with the financing decisions of a firm; leverage represents the mix of capital available to a firm. Financial leverage represents the relative use of external financing in a firm's financing structure (Loi & Khan 2012; Gopinath, 2012). Kinathi, Galo and Melissa (2015) defined financial leverage as the use of debt in a company's financial structure for the magnification of earnings. Etudaiye-Muhtar and Ahmad (2014) defined leverage as the ratio of the book value of total debts to the book value of total assets.

Management efficiency is seen by Agregbeyen (2012) as indicative of a firm's ability to survive in a situation of falling prices, rising costs of production or declining demand for the firm's products, showing that the firm is in a good/bad position to exploit advantageously any such existing favourable conditions as rising sales prices, falling production costs and increasing demand for products. The importance of efficiency is highlighted by the learning theory, firms that are efficient must grow while those that are inefficient will ultimately fail regardless of their size (Hassan & Hart, 2016). Also referred to as operating efficiency, this is key to firm survival (Coad, 2007; Bui et al., 2021).

Capital intensity refers to the fixed assets turnover ratio (Voulgaris et al., 2003). Capital intensity may be captured by the capital to output ratio (Agregbeyan, 2012). It is a measure of the amount of capital needed per revenue, calculated by dividing the total assets of a company by its sales. Higher capital intensity means that the company needs more assets than a company with a lower intensity ratio (Obaidullah, n.d). Thus, capital intensity shows the degree to which a firm must invest in assets so as to generate needed profit. There are no mathematical thresholds streamlining capital intensity (Jennifer, 2014).

Profitability is measured as net profit margin, return on assets, or return on equity (Voulgaris, et al., 2003). Profit-making is one of the ultimate goals of any economic activity (Loi & Khan, 2012). In simple terms, profitability is the ability of a business to earn a profit (profit is what is left over from the revenue after it pays off all expenses). It is the primary goal of all business ventures. It is measured with income and expenses (Gremsley, n.d; Hofstand, 2009). It is seen as the most important measure of the success of the business (Hofstand, 2009). Profitability is a relative measure that expresses profit in terms of a common denominator; hence it is often calculated as a ratio. Common ratios of profitability are generalized into two categories: margin ratios (such as gross margin, earnings before interest, taxes, depreciation, and amortization (EBITDA margin), operating profit margin, net profit margin and cash flow margin, and return ratios (return on assets (ROA), return on capital invested (ROCI), return on equity (ROI) and return on assets managed (ROAM) (Co-operate Financial Institute, n.d).

2.2 Theoretical Framework

Theories commonly reviewed and associated with firm growth studies include

Gilbrat's law, Alchian's theory, the financing constraint theory, the theory of Penrose and the pecking order theory (Loid & Khan, 2012). These theories are reviewed here.

Gilbert's Law
Also known as the "random work" theory of growth, this theory was proposed by Gilbrat in 1931, the theory proposes that firm growth is independent of size and age but that firm growth rates are randomly distributed by size and age. The theory proposes disproportionate growth which is contradictory to life cycle models (Terjesen & Szerb, 2008). The importance of Gilbrat's law dwells in its ability to provide a better explanation for empirical findings. This theory is an alternative to the neo-classical theory which informs that there is an equilibrium firm size to which all firms converge (Coban, 2014).

The main focus and concern of Gilbrat's Law are generally on the growth of firms not necessarily on high-growth firms (Audretsch, 2012).

Alchian's Theory
In 1950, Alchian did a classical work on evolutionary theory, this theory proposes a natural selection argument that fitter firms grow and survive while the less viable ones lose their market share and exit through the evolutionary selection mechanism. The theory emphasizes that the trend does not result from firm decisions but is an evolutionary process. If profitability is a measure of fitness, a more profitable firm will survive and grow, while the less profitable ones will lose their market share and fold up (Coban, 2014). This theory is an explanation of the neoclassical process of firm growth. It supposes that the mechanisms of growth will lead the

economy to a neoclassical optimum. This theory argues that the evolutionary mechanism sets the economy on the path of progress since fitter firms survive and grow while the less viable firms lose their market share and ultimately exit (Coad, 2007).

The Penrose Theory
This theory was developed in 1959, and it argues that the absence of given resources could limit the growth of the firm (Khalid et al., 2009) like the financing constraint theory, it pre-supposes that the competitive advantages of a firm, and ultimately its performance, is the result of the portfolio of resources it has (Audertsch, 2012). This resource-based theory highlights the importance of internal resources in firm growth (Hassan & Hart, 2016).

The theory represents a dynamic vision which holds that firm growth is led by an internal momentum generated by learning-by-doing. It is believed that firms are faced with incentives to grow because the knowledge possessed by a firm's personnel tends to increase automatically with experience (Coad, 2007). This theory is also known as the managerial limit to growth hypothesis. Its argument starts from the premise that management is a team effort in which individuals deploy specialized, functional skills to be able to coordinate their many activities in a coherent manner. As the firm grows, it needs to recruit new managers and must divert at least some existing managers from their current operational responsibilities to help manage the expansion of the management team. This places a constraint on the firm's growth process (Habri, 2007).

Pecking Order Theory
This theory was first developed by Donaldson in 1961 and later modified in

1984 by Myers and Majluf. The theory argues basically that internal financing is preferred to external capital. The argument of the theory is that firms prioritize their sources of financing according to the principle of least effort. This suggests that firms use internal capital at start up. When the firms have depleted this internal capital they use debt capital. This is based on the fact that internal financing is the cheapest and access to external financing is often limited to young firms, and where this source is available, it is very expensive to them (Loi & Khan, 2012). The proponents of the theory thus suggest a hierarchy in the ways of financing firm growth (Honjo & Haradal, 2006).

The Financing Constraint Theory
This theory was proposed by Gilbrat in 1990 and it argues that firms which do not make a profit and thus do not have a buffer to invest, will not be able to finance their growth or at least their sustainability, and will consequently exit. The buffer refers to retained earnings which will not make a profit (Loi & Khan, 2012). This theory complements research that emphasize how access to finance affects firms' formation, survival and growth (Aregbeyen, 2012). The buffer is the same as the internal capital which is initially preferred to external capital according to the pecking-order theory. Firms which can maintain higher liquidity levels will face less financing constraints and are more able to finance growth opportunities at a lower cost (Loi & Khan, 2012).

Empirical Review
Firm Age: firm's age which is usually measured empirically as the time between when a firm was incorporated and when the firm is reporting (Segarra & Teruel, 2009; Papadaki & Chami, 2002) has been

variously studied as a factor in firm growth. Gebreyesus (2007) used the learning model of firm growth in six major towns in Ethiopia and found that age is inversely related to growth. This finding implies that younger firms grow faster than older firms. Terjesen and Szerb (2008) used the entrepreneur's age as a proxy for firm age and found that young's age is positively related to growth expectations.

This implies a significant negative relationship of firm age with firm growth. Measuring firm growth by employment growth, Audretsch (2012) found from OECD economies that firm age is a key characteristic linked with firm growth. Supporting the finding of a negative relationship between firm age and firm growth, Harabi (2005) studied Moroccan firms and found that firm age has a negative impact on firm growth. Oliveira and Fortunate (2004) studied Portuguese manufacturing and services firms, using panel data, and found that a negative relationship exists between firm growth and firm age. Based on this review, our expectation is that firm age negatively impacts firm growth.

Firm Size: firm size which is commonly measured in terms of total assets, total sales revenue and current employment (Tefera, Cebremichel & Abera, 2013; Katua, 2014; Bouazza, 2015; Gelan & Wakuna, 2016) is one of the most studied firm-specific factors in empirical growth literature. Burger et al. (2013) studied Central and Eastern European countries and found that large young firms are the most responsive while the small young firms are the least responsive.

Papadaki and Chami (2002) studied micro-businesses in Canada and found that size

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has a significant impact on venture growth. Tarfasa et al. (2016) studied Ethiopian small and micro enterprises and found that start-up size and growth of the medium and small enterprises are negatively correlated indicating that startup businesses with large sizes grow slower than their firms with smaller startup businesses. By using panel data analysis of 238 listed firms on Indonesia Stock Exchange in the period 1994 to 2004, Prasetyantoko and Parmono (2001) found that there is a significant relationship between firm size and performance during a post-crisis period, and that firm size is an important factor in recovering process. However, Anton (2016) studied Romanian listed firms and found from fixed effects regression that firm size appears to constrain growth. Also, Fiala and Hedija (2015) studied Czech firms and found that small firms grow faster than larger firms, thus negating Gibrat's Law. Using firm size (measured in terms of total assets) as a control variable, Loi and Khan (2012) found that firm size has an insignificant positive impact on firm growth among Belgian Firms.

Based on this review, firm size is expected to have a negative effect on firm growth among Nigerian listed manufacturing firms.

Innovation: Innovation is usually measured as the ratio of intangible assets to total assets (Loi & Khan, 2012). Loi and Khan (2012) found for Belgian firms that innovation has no significant effects on firm growth at a 5% level of significance. Braunnerdyelm, Ding and Thulim (2016) studied Swedish firms and used panel regression estimations on a dataset for the period, 1997-2012, and found both positive and significant effects on firm growth (measured by employment). Demirel and Mazzucato (2010) studied pharmaceutical

firms in the U.K. and found that except for those that do not patent, research and development (R&D) affects firm growth positively. Spescha and Woerter (2018) found for Swiss firms, using panel data, that firms with innovations show higher sales growth rates than non-innovative firms in periods of economic booms. Corsino and Gabriele (2010) found that incremental product innovations commercialized positively affect revenue streams in the integrated circuit industry. Colombelli, Haned, and Le Bas (2012) studied French firms using a community innovation system and found that innovative firms grow more than non-innovative ones. Also, Santi and Santoleri (2016) studied Chilean firms and used quartile analysis and found that process innovation shows a positive and significant relation with firm growth firms located at the 75th and 90th percentiles but negative association only for high-growth firms. Based on this review, our apriori expectation is that innovation has a positive effect on firm growth.

Leverage: Outside financing provides useful leveraging that can be used by firms in financing growth prospects (Santi & Santoleri, 2016; Cremades, 2018). Voulgaris, Asterion and Agiomirgianakis (2003) studied small manufacturing firms in Greece and found that long-term debt reliance (long-term leverage) has a positive and significant influence on firm growth. Hamourian, Al-Rdaydan and Chazalat (2018) studied Jordanian firms listed on Amman Stock Exchange and had findings that portrayed the irrelevance between financial leverage and growth of assets using the panel data regression method. Anton (2016) found from Romanian listed firms, using the fixed effects regression model, that leverage has a positive effect on firm growth (sales growth, assets growth

and employment growth). Wu (2013) from pooled data from 13 countries found a comparable level of significant negative correlation between book leverage and firm growth a examined new Canadian manufacturing firms and found that leverage has a significant effect on firm growth. Avarmaa (2011) studied companies in the Baltic countries and from fixed effect regression found that leverage does not have a significant impact on the growth of multinational companies. Anderson (2002) found from Belgian and UK firms that, using panel data set, there is a possible linkage between leverage and slow growth.

Based on this review, our apriori expectation is that leverage has a positive effect on firm growth among Nigerian non-bank firms.

Management Efficiency: Management efficiency which is measured empirically as the net profit margin is an indication of the firm's ability to survive in a situation of falling prices, rising costs of production or declining demand for its products (Aregbeyen, 2012). Gelan and Wakuma (2016) studied micro and small enterprises in urban areas of West Shoa in the Oromia Regional State of Ethiopia and used binary logistic regression and found that certain variables which border on managerial efficiencies such as the firm's customer handling and business recording have a positive and significant impact on firm growth while the variable of firm conduct of market research has a positive but not significant effect. Aregbeyen (2012) studied a sample of 94 publicly listed firms during the period 1994-2005 using a combination of both descriptive and statistical analysis and found that management efficiency was among the significant determinants of firm growth. Darte, Brito, Di Serio, and Martins (2011) studied manufactory firms in Brazil and examined operational practices (that impact management efficiency) and found no positive relationship with performance (including

Growth). The operational practices they studied include quality management, just-in-time, service outsourcing and ISO Certification. Ohnemus (2007) found from German firm-level data, using an endogenous switching regression model that IT outsourcing (a proxy for management efficiency has a positive effect firm's employment growth rate.

Based on this review, our apriori expectation is that management efficiency has a positive impact on firm growth.

Capital intensity: Capital intensity which is captured as the capital-output ratio measures the amount of capital needed per total revenue (Steyn, 2012). Aregbeyen (2012), from Nigerian evidence, found that capital intensity is among the significant determinants of firm growth. Voulgaris et al. (2003) found sufficient evidence from the Greek manufacturing sector to demonstrate that capital intensity (low fixed asset turnover) is significantly related to fast growth. Carrizosa (2007) found from Spanish manufacturing and service industries that capital intensity had a positive and significant effect on both the manufacturing and service sectors in both high and low-tech firms using the random-effects model. Braude and Menashe (2004) studied Israeli firms and found that through regression, capital intensity does not have a significant positive effect on growth. Tajnikar, Ponikvar and Bonca (2016) studied Slovenian firms and concluded that low capital intensity leads to more flexibility and profitability and therefore grows faster. From a sample of 59 firms in DACH countries, Gruenwald (2016) used Pearson correlation and concluded that while capital intensity is characteristic of growth firms, it is not an explanatory factor.

Based on this review our apriori expectation is that capital intensity has a negative impact on firm growth.

Ownership Structure: Ownership structure reflects in a number of ways including foreign versus domestic ownership, government ownership, management ownership and block ownership (Coad, 2007; Aregbeyen, 2012; Burger et al., 2013). Stanholm, Pukkinen and Helnonen (2015) studied family businesses and found that family ownership is both directly and indirectly associated with firm growth, using a sample of 532 firms. Kim, Park and Lee (2018) used Korean data and found that ownership structure impacts corporate social responsibility performance and that this is useful in promoting sustainability and growth. Moreno and Castillo (2011) found for Spanish firms that there is a significant positive relation between non-concentration and greater mobility in investment and growth prospects. Gopinath (2012) used a GMM system estimator on 148 US firms to test the dynamic panel dataset and found that growth is directly related to insider ownership. Saridakis, Lai, Torres, and Mohammed (2017) studied UK businesses, used the profit estimation technique and found that family ownership has a negative effect on growth in employment size and turnover but where there are professional managers; there is no difference between the effect of family ownership and non-family ownership in terms of growth patterns.

Based on this review, our apriori expectation is that ownership structure (ownership concentration) has a positive effect on firm growth.

METHODOLOGY
The data used in this study were collected from audited published annual reports of non-bank firms listed on the Nigeria Stock Exchange (NSE) for the period 2012 to 2017. The pooled data analysis was used to estimate the parameters of the adopted model. This was done to properly capture both inter-firm and inter-temporal heterogeneity of the studied firms. The sample size for the study was (which was purposively selected) 150 observations. The STATA 14.0 statistical package was used to estimate the relevant parameters from a multiple regression model.

Model Specification
The model used in this study is adopted from the model used by Aregbeyen (2012), thus:

$$GRT = \beta_0 + \beta_1 FAG + \beta_2 FSZ + \beta_3 NV + \beta_4 FNLEV + \beta_5 MGEF + \beta_6 CPIT + \beta_7 INOW + \beta_8 INTAF + \varepsilon$$

Where:
GRT = Firm growth (measured by the rate of change in sales revenue from one Year to another FAG = Firm age; FSZ=Firm size (measured as the national log of total assets), NV = Innovation (measured as the intangible assets to total assets ratio); FNLEV = Financial leverage (measured as total liabilities to total assets ratio); MGEF = Management efficiency (measured as operating profit margin), CPIT= Capital intensity (measured as the ratio of noncurrent assets to total sales ratio), INOW= Institutional ownership (measured as the proportion of shareholding by institutional investors) and INTAF= International affiliation (a dummy variable measured by the presence or absence of foreign investors or foreign directors in the board).

Table 1: Descriptive Statistics

VARIABLE	Obs	Mean	Std. Dev.	Min	Max	Pr(Skewness)	Pr(Kurtosis)	Prob>chi2
FMGRT	150	0.636	3.045	-0.935	24.95	0.0000	0.0000	0.0000
FMAG	150	147.1	421. 9	7	2017	0.0000	0.0000	0.0000
FMSZ	150	23.82	1.978	18.24	30.63	0.9805	0.5669	0.8485
FMINV	150	0.041	0.174	0	1.585	0.0000	0.0000	0.0000
FNLEV	150	6.100	65.74	0.005	805.8	0.0000	0.0000	0.0000
MGEFF	150	0.255	0.581	-0.097	6.345	0.0000	0.0000	0.0000
CPINT	150	2.896	26.82	0.006	329.1	0.0000	0.0000	0.0000
PROF	150	0.614	6.098	-0.037	74.77	0.0000	0.0000	0.0000
INSOW	150	0.524	0.256	0	1	0.0431	0.2979	0.0761
INTAF	150	0.607	0.490	0	1	0.0281	.	

Source: Computed from Data from Various Annual Reports Using STATA 14.0

Table 1 shows that except for firm size, institutional ownership and international affiliation all the data on all the studied variables are normally distributed. The probabilities of skewness, kurtosis, and chi sq statistics are 0.00, meaning that the normality of the distribution is significant even at 1% level of significance. The studied firms are not dominated by firms of extreme features. The mean logarithm of the total assets (a proxy for firm size) is 23.82 while the maximum logarithm is 30.63. In the same vein, the mean growth rate of the firms is 0.636 with the highest and minimum values as 24.93 and -0.935 respectively. Similarly, the firms are not dominated by only high performing firms or only poorly performing firms. The study included firms with ROA as high as 74.77 and low as high -0.037, the mean ROA being 0.614. So, the data are highly representative of all firms in the population.

Table 2: Correlation Matrix

	FMGRT	FMAG	FMSZ	FMINV	FNLEV	MGEFF	CPINT	PROF	INSOW	INTAF
FMGRT	1.0000									
FMAG	0.0413	1.0000								
FMSZ	0.1372	-0.1897	1.0000							
FMINV	0.0137	-0.0489	-0.0895	1.0000						
FNLEV	-0.0423	-0.0169	-0.2346	0.7366	1.0000					
MGEFF	-0.0005	-0.0103	0.0918	-0.0104	0.0051	1.0000				
CPINT	-0.0416	-0.0186	-0.2351	0.7348	0.9997	0.0060	1.0000			
PROF	-0.0426	-0.0181	-0.2349	0.7346	0.9998	0.0094	0.9997	1.0000		
INSOW	0.0242	-0.0090	0.3665	0.0203	0.0310	-0.1322	0.0341	0.0315	1.0000	
INTAF	0.0202	-0.1798	0.1828	0.0066	0.0651	0.0331	0.0662	0.0662	0.4146	1.0000

Source: Computed from Data from Various Annual Reports Using STATA 14.0

Table 2 shows that the data are not free from the problem of autocorrelation as indicated by the presence of a near-perfect correlation between profitability and leverage and capital intensity, on the one hand, and between capital intensity and leverage, on the other, of these variables, financial leverage and firm profitability failed the VIF test, and were therefore eliminated from our model. The table shows a positive correlation between firm growth rate and firm age, firm size, firm innovation, and institutional ownership but negatively correlated financial leverage, managerial efficiency, capital intensity and profitability variables in our model.

Table 3: Panel Regression Results

Variable	Apriori Sign	OLS Regression	Robust Regression
FMAG		0.0006 (0.95) [0.095]	0.0006 (0.91) [0.064]
FMSZ	+	0.2508 (1.67) [0.097]	0.2453 (1.65) [0.101]
FMINV	+	1.4042 (0.64) [0.026]**	1.3119 (0.60) [0.047]*
FNLEV	+	-0.0582 (-0.26) [0.794]	
MGEFF	+	0.1030 (0.22) [0.024]	0.1074 (0.24) [0.010]
CPINT	+	0.2440 (0.61) [0.545]	-0.0066 (-0.45) [0.653]
PROF		-0.4771 (-0.19) [0.847]	
INSOW		0.6680 (0.55) [0.051]	0.5688 (0.48) [0.033]*
INTAF		0.1944 (0.33) [0.740]	0.1804 (0.31) [0.757]
Const		-5.2845 (-1.55) [0.123]	-5.1088 (-1.52) [0.131]
R–Squared		0.0307	0.0304
Adj R-Squared		-0.0316	-0.0246
F–Statistic		0.49 (0.0009)	0.55 (0.0007)
Observations		150	150
VIF		965.67	1.55
Heteroskedasticity			2.31(0.1283)

Source: Computed from Data from Various Annual Reports Using STATA 14.0
*Notes: *, ** Significant at 1% and 5% levels of significance respectively*
Regression coefficient, ( ) t-value and [ ] p-value

Table 3 shows the various regression coefficients under both the OLS regression and robust regression. Using the VIF test, the VIF statistic (965.67) shows that we needed to drop some variables which led to dropping the profitability and leverage variables leading to the robust regression whose results are used in this study. Table 3 shows the F-statistic to be 0.55 with a probability of 0.0007, meaning that overall all the studied variables significantly affect firm growth.

Also, the table shows R-squared and adjusted R-Squared values of 0.0304 and -0.0246 respectively which imply that about 3% of the systematic variations in audit fees in our sampled firms over the period are explainable by the independent variables in our model. The estimated results of the independent variables are used to test our stated hypotheses as shown below.

Firm Age (FMAG): With a coefficient of -0.0006, the results show that firm age is negatively related to firm growth, but a probability of 0.064 implies that the relationship is insignificant; leading to the acceptance of the null hypothesis and the rejection of the alternative hypothesis that firm age has a significant relationship with firm growth. This finding is consistent with the findings by Terjesen and Szerb (2008) and Gebreyesus (2007).

Firm Size (FMSZ): With a coefficient of 0.2453, and a probability of 0.101, the results show that the firm size (proxied by the natural log of total assets) is insignificantly positively related to firm growth in Nigeria which implies a rejection of the alternative hypothesis. This finding is consistent with the finding by Loi and Khan (2012) but not consistent with the findings of Tarfasa et al. (2016) and Burger et al. (2013).

Innovation (FMINV): With a coefficient of 1.3119, the results indicate a positive relationship between innovation and firm growth. A probability of 0.047 indicates a significant relationship between the variables, thus accepting the alternative hypothesis at a 5% level of significance. This result is consistent with the findings by Demirel and Mazzucato (2010), Colombelli, Haned and Le Bas (2012), Santi and

Santoleri (2016) and Corsino and Gabriele (2010).

Management Efficiency (MGEFF): With a coefficient of 0.1074, the results indicate a positive relationship between managerial efficiency and firm growth, and with a probability of 0.010, the results indicate that the relationship is significant. This leads to the rejection of the null hypothesis and the acceptance of the alternative hypothesis at a 5% level of significance. This finding is not consistent with the finding by Aregbeyen (2012) and Gelan and Wakuma (2016), but not consistent with the finding of Darte et al. (2011).

Capital intensity (CPINT): With a coefficient of -0.0066, the results indicate a negative relationship between capital intensity and firm growth, with a probability of 0.653. The results indicate that the relationship is not significant at a 5% level of significance. This leads to the null of the alternative hypothesis and the rejection of the acceptance hypothesis. This finding conforms to the findings by Carrizosa (2007), Braude and Menashe (2004) and Gruenwald (2016).

Ownership Structure (INSOW): With a coefficient of 0.5688, the results indicate a positive relationship between ownership structure and firm growth, with a probability of 0.033. The results indicate that the relationship is significant at a 5% level of significance. This leads to the acceptance of the alternative hypothesis and the rejection of the null hypothesis. This finding is conforms to the findings by Kim et al. (2018), but not consistent with Saridakis, Lai, Torres and Mohammed (2017).

International affiliation (INTAF): With a coefficient of 0.1804, the results indicate a

positive relationship between international affiliation and firm growth, with a probability of 0.757. The results indicate that the relationship is not significant at a 5% level of significance. This leads to the acceptance of the null hypothesis and the rejection of the alternative hypothesis. This finding does not conform to the findings by Voulgaris et al. (2003).

CONCLUSION AND RECOMMENDATIONS

From the study, we conclude that firm age negatively influences firm growth though insignificantly the same nature of effect is impacted by capital intensity. Size and international affiliation positively but insignificantly promote firm growth, innovation, management efficiency and ownership structure are significant in positively enhancing firm growth among studied firms.

Based on the findings of this study, the researchers recommend as follows:
a) Firms should seek to constantly seek to maximize innovations and innovative ideas and strategies in their operations so as to increase their growth potential.
b) Firms should always mainstream their management efficiency so as to be able to manage falling prices, rising costs of production or declining demand for the firm's products and ensure the stability that is needed for firm growth.
c) Firms should optimize institutional ownership to ensure appropriate monitoring of growth strategies in their operations so as to increase their growth potential
d) Since the mere fact of international affiliation is not significant in firm growth, firms with significant international affiliation should incorporate technology and idea transfer in their operations so as to be able to leverage already developed international best practices.
e) Firms should streamline their asset needs so as not to carry too much unneeded assets which may have no meaningful contribution to output generation.
f) Firms should seek to unbundle themselves to foster competitiveness, innovativeness, particularly, older, and larger firms that seem to have run out of steam, by the injection of new creative ideas which are attendant upon unbundling.

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