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Do corporate attributes drive integrated reporting amongst listed companies in Nigeria?

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Research purpose: The purpose of this paper was to investigate the association between corporate attributes and the implementation of Integrated Reporting (IR) among quoted companies on the Nigerian Stock Exchange which currently operates a voluntary based disclosure environment.

Design and method: Using content analysis to derive the disclosure scores for integrated reporting and corporate attributes, the authors investigated the impact of corporate attributes on the implementation of the integrated reporting of a sample of 90 listed firms. The annual reports covering 2013–2017 were analysed using the disclosure methodologies developed by prior researchers in IR. The hypotheses were tested using panel least square regressions.

Main findings: The authors found that corporate attributes have a statistically positive and significant impact on the implementation of integrated reporting framework, that share ownership structure and firm age have an insignificant influence over corporate implementation of the integrated reporting framework. The research findings extend integrated reporting research in Nigeria from mere primary data analysis to quantitative data analysis.

Practical implications: The empirical findings provide regulators with evidence on the current level of integrated reporting disclosures and the influence of corporate attributes in driving integrated reporting.

Originality and value: The study makes significant contributions to integrated reporting literature from a developing country's perspective. It also provided empirical evidence of a high level of disclosure compliance with the IR framework among quoted companies in Nigeria.

Keywords: corporate attributes; legitimacy; integrated reporting; IR disclosures; stakeholders.

Introduction

In the past decades, corporate entities considered corporate reporting as a basis for maintaining corporate legitimacy. Thus, reports covering financial information relevant to the stock market operations were considered the most important information to provide to corporate report users. However, globalisation, changes in the business environment and the impact of the organisation's activities on the environment required that more attention should be given to disclosure of information with non-financial value (Adelowotan 2021). The incessant demands by stakeholders (in the internal and external environment) for more information disclosure, consequently, led to the expansion of corporate reporting disclosures from emphasis on financial capital to both financial capital and other market-related information, then sustainability reporting and currently integrated reporting (IR).

The inability of Nigerian listed companies to provide investors with sufficient social, economic, governance and environmental information that will enable them to understand the risk profiles of such entities and permit informed judgement and decisions (Ovute, Eyisi & Amorji 2014) has created a misconception in the minds of prospective investors globally that Nigeria is a risky country for the flow of foreign direct investment (FDI) (Adeyemi & Ayanlola 2015). Furthermore, the corporate scandals of African Petroleum Plc, Cadbury Nigeria Plc and Lever Brothers Plc, Intercontinental Bank in Nigeria were traced to high unethical practices and little transparency in the published reports of quoted companies (Otusanya & Lauwo 2010).

In view of this, the Nigerian government made deliberate efforts to improve corporate reporting. In 2007, the Nigerian Accounting Standards Board (NASB) adopted the International Standards of Accounting and Reporting (IFRS 2005) and the Blue book on Investment promotion and Facilitation by the United Nations Cultural and Technical Department (UNCTAD) so as to design and implement a strategy to attract non-oil FDI, improve the regulatory framework and investment in physical and human capital. When these efforts did not yield the desired results, the Financial Reporting Council in 2011, mandated the adoption of the International Financial Reporting Standards (IFRS) for quoted companies from 01 January 2012. The Nigerian government continued to promote awareness on social and environmental reporting as revealed by several regulations and laws such as the Code of Corporate Governance (Nigerian Code of Corporate Governance 2018), which would become effective from 01 January 2020 and *Companies and Allied Matters Act* (2020). These strategies were introduced with the aim of improving comparability, transparency and credibility of reports from quoted companies in Nigeria so as to restore stakeholders' confidence and attract cross border investment.

A cursory look at the requirements of the statutory and regulatory frameworks in Nigeria in comparison with the IR framework suggests that even prior to its emergence Nigeria had adopted several elements of the IR framework. For instance, Imeokparia (2009) analysed the annual reports of 100 listed companies in Nigeria to investigate the extent of disclosure on human resource accounting and intellectual capital reporting. The study found that external (relationship) capital and human capital are more disclosed than internal (organisational) capital. Imeokparia (2007) also conducted a study using 25 listed companies in Nigeria to assess the social and environmental reporting and disclosure levels in the annual reports of these companies. The findings showed that sales, investment, financing, dividend, employment and value added information were disclosed in the annual reports. However, minimal disclosures were made on social, environmental and consumer relationships.

Furthermore, the annual reports of quoted companies in Nigeria currently shows that three (financial, manufacturing and social capital) out of the six capitals in the IR framework are elaborately emphasised. Companies in the extractive, finance and manufacturing industry provide corporate social responsibility reports that describe the value created (which may be either positive or negative) although this value is often times not directly linked to their corporate objective. Amongst the eight content elements required to be included in an integrated report, over 60% of these elements are incorporated currently in the chairman's statement and other aspects of the annual reports of Nigerian quoted companies *albeit* not elaborately discussed (Udofia, Fagboro & Adeyemi 2020).

In view of all these, corporations would only be required to increase disclosures and contents of the report so as to fully conform to the requirements of the IR framework. In line with the legitimacy theory, the societal existence and survival of an organisation depends on its acceptance by the society where it operates. This suggests that listed entities that have complied to a large extent with the statutory and regulatory frameworks for corporate reporting in Nigeria, *vis-à-vis* the requirements of the IR framework are interested in making voluntary information disclosures that would assure stakeholders of their willingness to retain a respectable image in society and continuously exist and survive in the business milieu.

The few studies on IR in Nigeria have recommended full adoption of the IR framework without taking cognisance of the existence of some of the IR disclosure elements amongst corporate reports in Nigeria. The paucity of empirical literature from Nigeria that has supported the existence of some of the elements of IR framework in the traditional annual reports of quoted companies and the sparse concentration of research on the drivers supporting the implementation of the IR framework in corporate Nigeria makes it imperative for financial reporting researchers to evaluate possible relationships between IR and the drivers of IR adoption in Nigeria.

Studies in Colombia and Turkey on the determinants of forward-looking sustainable information that IR framework proposes have shown that organisational attributes-firm age, firm size, ownership structure and industry type have significant influence on IR framework adoption (Rivera-Arrubla, Zorio-Grimaand & García-Benau 2017; Uyar & Kilic 2012). However, there is a sparse concentration of literature from Nigeria that has provided evidences that support this claim. Thus, this study provides empirical evidence of corporate attributes, which could drive the implementation of IR framework in Nigeria. More specifically, the study attempts to determine the extent to which corporate attributes such as firm size, firm age, ownership structure and industry type support IR implementation for listed companies in Nigeria.

This study contributes to extant literature from a developing country's perspective on the corporate attributes, which support the implementation of the IR framework in Nigeria. It only investigated how firm age, firm size, share ownership structure and industry type support the implementation of IR amongst listed companies in Nigeria. It analysed the annual reports of companies listed on the Nigerian Stock Exchange from 2013 to 2017. The score of indicators of IR framework sourced from the International Integrated Reporting Committee (IIRC) content elements (2013) were regressed with corporate attributes to assess the relationships amongst the variables under study.

Literature review

Determinants of sustainability and integrated reporting

Some researchers have identified corporate attributes such as size and industry or external factors such as stakeholder pressures and institutional forces as having an impact on CSR and sustainability disclosure (De Villiers & Maroun 2017; Fifka 2013; Mazumder 2017). Some studies carried out in South Africa have also provided empirical evidences that the extent of reliance on IR by investors and stakeholders is premised on the accuracy of the information disclosed in the areas of social, environmental and ethical activities of an organisation. For instance, Malola and Maroun (2019) suggested that the quality of an integrated report is driven by the preparation of sustainability reports and the assurance by an external party (Malola & Maroun 2019; Milne & Gray 2013; Solomon & Maroun 2012). They also found that firm size, the social environmental impact of corporate activities, compliance with the GRI and establishment of a sustainability committee did not drive IR quality. Furthermore, Haji and Anifowose (2016) as well as Du Toit, Van Zyl and Schütte (2017) studied on the quality of integrated reports in South Africa, provided empirical evidence on improvements on the basis of presentation particularly in the aspects of connectivity of information, determination of materiality, reliability and completeness. These authors were of the opinion that the compulsion to present an integrated report was borne out of a ceremonial desire to maintain corporate legitimacy.

Organisational legitimacy as a concept was developed by Dowling and Pfeiffer in 1975. This concept established the basis for legitimacy theory. The theory suggests that organisations who have certain corporate attributes (such as attainment of long listing age on the Nigerian Stock Exchange (NSE), large size, belong to a particular industry type or having share ownership structures comprising institutional or foreign shareholders), would desire to enhance or retain their current image or status in the eyes of stakeholders by maintaining good stakeholder relationships, adhering to the existing legal and regulatory frameworks operating in their business environment and making more information disclosures to their stakeholders (McNally, Cerbone & Maroun 2017; Robertson & Samy 2014).

Moreover, in relation to this study, compliance with the existing legal and regulatory frameworks in Nigeria suggests some levels of compliance with some of the requirements of the IR framework. Thus, quoted companies that comply with most of the existing legal and regulatory frameworks in Nigeria (which are similar to the IR framework content elements), would be willing to support implementation of IR in Nigeria just to maintain their legitimacy status.

In line with prior studies reviewed such as (Duran & Rodrigo 2018; Frias-Aceituno et al. 2013; Kilic & Kuzey 2018), four major corporate attributes were examined in this study. These are firm size, firm age, industry type and ownership structure.

Firm size

Firm size is a widely used factor in assessing its influence on the extent of company disclosures. This could be attributed to the fact that larger organisations have more resources to afford the cost of higher information disclosures compared with smaller ones (Aljifri & Hussainey 2007). They are often quoted on the floor of the stock exchange, thus they need to disclose information that would impact the decisions of relevant stakeholders (Frías-Aceituno, Rodríguez-Ariza & Garcia-Sánchez 2013). Further, because of their relatively stable earnings performance, larger companies tend to disclose more information regarding potential future earnings (Kent & Ung 2003).

Advocates of legitimacy theory state that larger companies need the approval of stakeholders to maintain or enhance their corporate image or status (Umoren, Udo & George 2015). A positive association between size of a company and the amount of environmental disclosure has been consistently proven by prior studies such as Prado-Lorenzo, Gallego-Alvarez and Garcia-Sanchez (2009) and Stammy and Ely (2008). In addition, there is a positive relationship between firm size and forward-looking disclosure (Al-Najjar & Abed 2014; Liu 2015; Uyar & Kilic 2012; Wang & Hussainey 2013). Roberts (1992) however, found a negative relationship between the size of the company and the level of CSR disclosure. Duran and Rodrigo (2018) observed that larger firms have the advantage of visibility and larger impact on society but they usually come under severe scrutiny by information seeking stakeholders, which makes them overly dependent on stakeholders for social legitimacy. Uyar and Kilic (2012) investigated determinants of forward-looking disclosures (which is the hallmark of the IR framework) of Turkish listed companies and found that firm size and auditor size have a significant and positive impact on the forward-looking disclosure level. The results of the study conducted by Kilic and Kuzey (2018) using a sample of companies in the IIRC database showed that firm size significantly and positively impact forward-looking disclosures. Most researchers who have included firm size in their study have found a positive influence of the size of the company on voluntary reporting and implementation of the IR framework. Frias-Aceituno et al. (2013) found similar results whilst Melloni, Stacchezzini and Lai (2016) found no statistically significant impact of size on IR. Umoren et al. (2015) investigated the determinants of environmental, social and governance (ESG) reporting practices of Nigerian quoted companies. A disclosure list of ESG practices from the annual reports of 40 companies listed on the Nigeria Stock Exchange from 2013 to 2014. Company size, profitability and auditor type were proxy for ESG determinants. With the aid of correlation and regression analysis tools, they found ESG disclosure practice was not influenced by company size.

In view of this, this study hypothesises that:

> H1: Firm size has a significant influence on the implementation of IR in listed companies in Nigeria.

Firm age

Older companies may have more societal acceptance than younger companies because of the years of experience, histories and maturity. They may also have developed a public reputation and culture of being socially responsible to stakeholders (Zhang 2017). In sensitive industries such as the tobacco industry, the public and the media can be quickly alerted if a mature company reduces the extent of its social activities. Consequently, a negative social image will result in regulatory, socio-cultural and political pressure from the outside to encourage ESG disclosures. Thus, the longer a company has been listed on the stock exchange, the more likely the company's willingness to disclose sustainability information. Some studies have found positive significant correlation between company age and the extent of corporate social responsibility disclosures (Roberts 1992). Macias and Farfan-Lievano (2017) observed that firm age significantly influenced the implementation of the IR framework in Colombia, a documentary analysis and interview with representatives of listed companies in Colombia revealed that the IR framework is used by a few listed companies on the Colombian stock exchange that have been in operation for more than 60 years; they have been national market leaders for more than two decades who need to protect their reputation and maintain their legitimacy and are interested in FDIs to finance international expansion (Frias-Aceituno et al. 2013; García-Sánchez et al. 2013). Thus this study proposes that:

> H2: Firm age has a significant influence on the implementation of IR amongst listed companies in Nigeria.

Ownership structure

As companies go international, they are noticed by a greater number of stakeholders, which could compel them to enhance their financial and non-financial disclosures. These disclosures could be a means to project their corporate and legitimate status internationally, hence new market entry (Echave & Bhati 2010).

Board members who form majority shareholders in a company are likely to be economically orientated towards profit maximisation because of their vast experience in the area of industry knowledge and management skills (Zhang 2017). In situations where these board members are institutional or foreign shareholders, there would be improved corporate governance practices, reduced agency problems with other stakeholders and enhanced quality of disclosures in ESG and other financial information. Taylor and Shan (2007) found that companies listed on the Hong Kong Stock Exchange with foreign share ownership had higher quality of information disclosure in terms of strategy and goals presented to users. In addition, by providing better information quality and transparency, these companies were perceived as good corporate citizens in the market in China. Consequently, these companies would likely implement the IR framework.

In Thailand, Suttipun and Bomlai (2009) and El-Gazzar (1998) both found that institutional ownership of shares causes listed companies to provide more information including IR. This is because of the pressure arising from supervision by these institutions on all their investments especially listed companies on the stock exchange.

Thus, this study hypothesised that:

> H3: There is a significant relationship between the implementation of IR and the percentage of institutional ownership of companies.
>
> H4: There is a significant relationship between the implementation of IR and the percentage of foreign ownership of companies.

Industry type

Different industries have diverse attributes with respect to competition, growth opportunities risks and environmental constraints (Elzahar & Hussainey 2012; Gao, Heravi & Xiao 2005). Firms operating in the same sector will adopt similar information disclosure practices (Frías-Aceituno et al. 2013). Several studies documented a significant association between the type of industry and forward-looking disclosures (Cohen et al. 2012; Qu et al. 2015; Liu & Anbumozhi 2009). Elzahar and Hussainey (2012) explained that the service and finance industries disclose more forward-looking information compared with manufacturing companies because of their higher risk exposure.

Companies in the extractive sectors are more likely to implement the IR framework because of their higher socio-environmental impact and higher stakeholder scrutiny (Duran & Rodrigo 2018).

This finding aligns with legitimacy theory because ecologically and publicly sensitive industries are more likely to have their social existence threatened if they fail to make disclosures on their financial, ESG activities (Deegan 2002). This implies that companies within environmentally and socially sensitive sectors are more likely to implement the IR framework. However, Kilic and Kuzey (2018) examined 55 IR adopters retrieved from the IIRC database and observed an insignificant impact created by industry type on forward-looking disclosures.

Thus, this study proposes that:

> H5: There is a significant relationship between industry type and the implementation of IR amongst listed companies in Nigeria.

Research methods

This study adopted a longitudinal research design that specifically used the panel least square regression analysis to investigate the effect of corporate attributes on IR implementation on a 5 year balanced panel data spanning 2013–2017. Purposive sampling technique was adopted to select 90 listed companies from a population of 170 listed companies on the NSE as of 31 December 2017 as the study sample. This was based on their level of activity on the NSE. This sample accounted for 53% of the total listed companies in NSE. Table 1 provides a brief description of the effective sample size used for the study. The annual reports of these companies were selected to assess the drivers of IR and the IR disclosure scores.

Similar to the approach used by Kilic and Kuzey (2018), a disclosure index was constructed that focused on the content elements of the IIRC (2013) IR framework. The disclosure index included a total of 50 items within seven categories, including: (1) 'organisational overview and external environment', which had 13 items, (2) 'governance' consisted of 5 items (3) 'business model' had 15 items (4) 'risk and opportunities' consisted of 2 items, (5) 'strategy and resource allocation consisted of 6 items' (6) 'performance' had 5 items and (7) 'outlook' consisted of 4 items. The eighth content element was not included in this study because only companies who have fully adopted IR provide the basis for preparation and presentation of the integrated report.

Table 2 displays how each of the variables are measured for each of the corporate attributes and IR. Financial performance (ROA [Return on asset]) was introduced as a control variable for the study.

Statistical model: Company attributes and integrated reporting implementation

This model was developed and can be expressed explicitly as:

$$IR_{it} = \alpha_{0it} + \alpha_1 S_{it} + \alpha_2 FA_{it} + \alpha_3 OS_{it} + \alpha_4 IT_{it} + \alpha_5 FP_{it} + e_{it1} \qquad \text{[Eqn 1]}$$

Data analysis and presentation

Table 3 displays the corporate attributes of the sampled firms in Nigeria, the average age of the companies was 24 years; the maximum age being 53, about 42% of the shares of the sampled companies were owned by foreigners, these companies had institutional shareholders who owned about 53% of the shares of the companies. The industries were classified into financial and non-financial companies. Over 73% of the companies were in the non-financial sector. The mean value of the total assets size of the companies had a log value of 7.4 whilst the maximum log value is 9.7. Most of the sampled companies for the periods 2013–2017 improved their levels of disclosure across firms to a mean score of 37.5 out of a total score of 50. The minimum disclosure score was 22 and the maximum score was 43 out of 50.

The correlation analysis in Table 4 shows that at 95% level of confidence, firm age is positively correlated with institutional ownership, foreign ownership and industry type but has a negative correlation with firm size. Foreign ownership is negatively correlated with firm size, but positively correlated with firm age and industry type, foreign ownership has a positive correlation with institutional ownership. In addition, firm age and industry type are negatively correlated with firm size, it was also observed that there was a negative correlation between firm size and foreign ownership. Industry type had a positive correlation with firm age and foreign ownership but was negatively correlated with firm size and institutional ownership. Institutional ownership was positively correlated with firm age, foreign ownership, firm size but had a negative correlation with institutional ownership. Financial performance proxied with (ROA) shows a negative correlation with IR and foreign ownership but a positive correlation with firm age, size, industry type and institutional ownership. The results show that firm age, foreign ownership and industry type are negatively correlated with IR whilst firm size and institutional

TABLE 1: Effective sample of quoted firms in the Nigerian stock exchange from 2013 to 2017.

S. No.	Industrial sector	Count
	All quoted companies as at 2017	170
	Eliminated†	80
	Population size (*N*)	90
A	Manufacturing companies	37
B	Extractive companies	18
C	Financial services	24
D	Others	11
	Effective planned sample size (*n*)	90

Notes: These companies were eliminated on the grounds that the companies did not have the relevant information for the period under study. Banks that merged or had been taken over as well as insurance companies that have been converted to private limited liabilities companies were eliminated from the design. Companies that were not delisted until 2018 were included in the study.

TABLE 2: Measurement of variables.

Corporate attributes	Criteria	Source
Firm size	Natural logarithm of total assets	Frias-Aceituno et al. (2013)
Firm age	Years of listing on the NSE	García-Sánchez et al. (2013)
Ownership structure	▪ Institutional ownership Percentage of shares owned by institutions (limited companies or government) ▪ Foreign ownership Percentage of shares owned by foreign shareholders(individuals or companies)	Fasan and Mio (2017); Diao (2013)
Industry type/sector	1 = If industry is in a sensitive sector such as *extractive or manufacturing sector* 0 = *If industry belongs to other sectors*	Frias-Aceituno et al. (2013)
Financial performance	Return on assets (ROA) = Profit before interest and tax/total assets	Frias-Aceituno et al. (2013)
Integrated reporting	The maximum number of integrated reporting disclosure items a firm could disclose (i.e. out of 50 items) where A score of 1 was assigned if the company disclosed a certain item at least once, and 0 otherwise	Kilic and Kuzey (2018)

NSE, Nigerian Stock Exchange.

TABLE 3: Descriptive statistic results on company attributes and integrated reporting of sampled companies in Nigeria.

Descriptive statistics	IR	AGE	FOROWN	FSIZE	INDTYPE	INSTOWN	ROA
Mean	37.49	23.87	0.42	7.41	0.73	0.53	0.07
Median	39	24	0	7.3	1	0.51	0.05
Maximum	43	53	1	9.69	1	20.87	1.01
Minimum	22	1	0	5.4	0	0	-1.19
Standard deviation	4.61	13.30	0.48	0.95	0.44	1.00	0.15
Observations	450	450	450	450	450	450	0.07

IR, integrated reporting; AGE, firm age; FOROWN, Foreign ownership structure; FSIZE, Firm size; INDTYP, industry type; INSTOWN, institutional ownership; ROA, (Financial performance) Return on assets; S.D., standard deviation.

ownership are positively correlated with IR. Table 4 shows the absence of multicollinearity because the highest correlation is 0.4. t of multicollinearity

Test of multicollinearity

The variance inflation factor (VIF) result in Table 5 also provides evidence of the absence of multicollinearity amongst each of the variables studied values lesser than 10.

Test of hypotheses: Corporate characteristics that drive integrated reporting in Nigeria

Regression results

In order to test the formulated hypotheses, panel regression analysis was conducted using the random effect estimator. The results of the regression analysis presented in Table 6 shows the panel regression analysis using the random effect estimator. This analysis reported an adjusted R^2 value of 0.69, which signifies that 69% systematic variation in the dependent variable (IR) is accounted for by the explanatory variables – firm size, firm age, industry type, foreign ownership and institutional ownership. From the five explanatory variables only firm size is statistically significant (positive) at a *t*-statistics value of 5% ($t > 1.65$). However, at 10% level of significance industry type had a negatively significant relationship with IR. In addition, the results showed that firm age, foreign ownership and institutional ownership have an insignificant relationship with IR. The finding agrees with the studies of Uyar and Kilic (2012) and Kilic and Kuzey (2018) who found a positive and significant relationship between firm size and IR. Contrary to the findings of Frias-Aceituno et al. (2013), García-Sánchez et al. (2013) and Macias and Farfan-Lievano (2017). This study found an insignificant relationship between firm age and IR. Echave and Bhati (2010) provided evidence contrary to this study on the positive and significant association between IR and ownership structure. Duran and Rodrigo (2018) and Rivera-Arrubla et al. (2017) had similar results with this study on the significant relationship between industry type and IR. The F-statistics of 11.6 and the associated probability value of 0.00 show a significant relationship between IR and corporate attributes. In addition, financial performance (ROA) had an insignificant relationship with IR. The null hypothesis is not retained because there is a statistically significant relationship between corporate attributes and IR. Thus, the panel regression results indicate that corporate attributes have a significant influence on IR amongst quoted companies in Nigeria.

TABLE 4: Correlation analysis.

Variable	IR	AGE	FOROW	FSIZE	INDTYPE	INSTOW	ROA
IR	1	-	-	-	-	-	-
AGE	-0.07	1	-	-	-	-	-
FOROWN	-0.08*	0.41*	1	-	-	-	-
FSIZE	0.37*	-0.09**	-0.06	1	-	-	-
INDTYPE	-0.27*	0.37*	0.34*	-0.34*	1	-	-
INSTOWN	0.03	0.03	0.04	0.09**	-0.00	1	-
ROA	-0.04	0.08	-0.03	0.02	0.17	0.02	1

Note: Sample: 2013–2017; Included observations: 450; Balanced sample; IR, integrated reporting; AGE, firm age; FOROWN, Foreign ownership structure; FSIZE, Firm size; INDTYPE, industry type; INSTOWN, institutional ownership; ROA, (financial performance) return on assets.

*, Represents statistical significance at the 5% level.

**, Represents statistical significance at 10% level.

TABLE 5: Variance inflation factor.

Variable	Coefficient variance	Uncentred VIF	Centred VIF
C	5.83	8.32	NA
AGE	0.64	3.61	2.09
FOROWN	0.48	2.09	1.54
FSIZE	0.08	5.67	1.58
INDTYPE	0.66	3.75	2.43
INSTOWN	0.13	1.20	1.07
ROA	2.206222	1.249015	1.246418
AR(1)	0.09	3.29	2.52
SIGMASQ	0.11	2.77	2.70

Note: Sample: 1 450; Included observations: 437; IR, integrated reporting; AGE, firm age; FOROWN, foreign ownership structure; FSIZE, Firm size; INDTYP, industry type; INSTOWN, institutional ownership; ROA, (financial performance) return on assets; VIF, variance inflation factor; SIGMASQ, xxx; AR, xxx.

TABLE 6: Random effect result.

Variable	Coefficient	Standard error	*t*-statistic	Prob.
AGE	-0.03	0.09	-0.40	0.69
FOROWN	0.34	1.09	0.31	0.76
FSIZE	1.24	0.56	2.23	0.03**
INDTYPE	-1.89	0.99	-1.91	0.06*
INSTOWN	0.01	0.14	0.11	0.92
ROA	0.192	1.162	0.165	0.869
C	28.98	4.26	6.80	0.00
Weighted statistics				
R-squared	0.75	Mean dependent variable		37.49
Adjusted R-squared	0.69	S.D. dependent variable		4.61
S.E. of regression	2.57	Sum squared resid.		2344.44
F-statistic	11.60	Durbin–Watson stat.		1.49
Prob. (F-statistic)	0.00	-		-

Note: Dependent variable: IR; Method: Panel least squares (cross-section random effects); Sample: 2013–2017; Periods included: 5; Cross-sections included: 90; Total panel (unbalanced) observations: 450.

IR, integrated reporting; AGE, firm age; FOROWN, foreign ownership structure; FSIZE, firm size; INDTYPE, industry type; INSTOWN, institutional ownership; ROA, (financial performance) return on assets; SD, standard deviation; SE, standard error; C, constant; resid., residuals; stat., descriptive statistics; Prob. (F-statistic), marginal significance level of F-test.

*, Significant at 0.1 (2-tailed).

**, Significant at 0.05 (2-tailed).

Discussion of findings

Hypotheses 1 and 5 are retained in this study because out of the five explanatory variables only firm size and industry type were statistically significant (positive) at 5% and 10% level of significance, respectively, with IR. In addition, the results showed that firm age, foreign ownership and institutional ownership have an insignificant relationship with IR, thus hypotheses 2, 3 and 4 were not retained. These results agree with the studies of Uyar and Kilic (2012), Kilic and Kuzey (2018), Fifka (2013) and Malola and Maroun (2019) who found a positive and significant relationship between firm size and IR. Duran and Rodrigo (2018), Rivera-Arrubla et al. (2017) and Fifka (2013) also had similar results with this study on the positive and significant relationship between industry type and IR.

Frias-Aceituno et al. (2013), García-Sánchez et al. (2013), Macias and Farfan-Lievano (2017) and Echave and Bhati (2010) provided evidence contrary to this study on the positive and significant association between IR and ownership structure, firm size and industry type. The F-statistics of 11.6 and the associated probability value of 0.00 show a statistically significant relationship between IR and corporate attributes. The findings are in agreement with the legitimacy theory which requires that companies observe the existing norms, legal and regulatory frameworks in that environment in order to maintain societal acceptance or enhance their image or status. Thus, corporate attributes such as firm size and industry type propel organisations to support forward looking disclosures including the drive to implement IR.

Conclusion and recommendations

The adoption of IR in corporate Nigeria is driven by two major corporate attributes firm size and industry type. Thus, phased implementation of the IR framework should be embarked upon by regulatory authorities commencing with large quoted companies in the financial sector because of their need to maintain corporate legitimacy and stakeholder confidence, after the global financial crisis in 2008

In order to manage the challenges of IR adoption, regulatory authorities such as the SEC, CBN, FRCN, PENCOM and NAICOM should provide needed technical and infrastructural support that would ease the implementation of the IR framework in Nigeria.

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Competing interests

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Authors' contributions

M.O.A. contributed by reviewing, rewriting and editing the original article in order to become publishable. M.O.A. also facilitated the payment of publication fees. I.E.U. conceptualised the article and amended the reviewed article in order to become publishable.

Ethical considerations

This article followed all ethical standards for research without direct contact with human or animal subjects.

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Data availability

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Disclaimer

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