



## **INTEGRATED REPORTING AND CORPORATE PERFORMANCE OF LISTED INDUSTRIAL GOODS COMPANIES IN NIGERIA**

**Abogun Segun<sup>1</sup>, Adigbole Ezekiel Aiyenijo<sup>2</sup>, Azeez Taofeek A<sup>3</sup>,  
Ibrahim Surajudeen<sup>4</sup>, & Osemene Olubunmi F<sup>5</sup>.**

<sup>1-5</sup>Department of Accounting, University of Ilorin, Nigeria

Email of the corresponding author: [adigbole@unilorin.edu.ng](mailto:adigbole@unilorin.edu.ng)

### **ABSTRACT**

The traditional financial reporting style has created some information gaps which, in some cases, have led to financial crises. This has become a source of concern calling for urgent attention in the contemporary business world. Hence, the study examined the impact of integrated reporting on corporate performance of listed industrial goods companies in Nigeria. The objectives of this study were to: evaluate the influence of financial capital reporting, manufactured capital reporting, human capital reporting, intellectual capital reporting, social capital reporting and natural capital reporting on corporate performance. The population of the study consisted of all the 13 listed industrial goods companies in Nigeria and all of them were used for the study. Secondary data used were extracted from the published annual audited financial reports of the companies studied from 2013 to 2020. The pooled Ordinary Least Square regression was used in data analysis. The study found that financial capital reporting, manufactured capital reporting, intellectual capital reporting, human capital reporting, and social capital reporting, each has a positive significant influence on corporate performance ( $\beta = 0.0203, P < 0.05$ ;  $\beta = 0.0639, P < 0.05$ ;  $\beta = 0.0118, P < 0.01$ ;  $\beta = 0.0011, P < 0.10$ ;  $\beta = 0.4252, P < 0.01$ ) respectively; and while natural capital reporting has a negative insignificant impact on corporate performance ( $\beta = -0.005, P < 0.01$ ). The study concluded that disclosing the six components (financial and non-financial) of integrated reporting improve performance of listed industrial goods companies in Nigeria. Consequently, this study recommended that industrial goods' firms should consistently disclose all sources of funds and intensify initiatives to create social cohesion in order to encourage greater stakeholders' acceptance.



**Keywords:** Integrated Reporting, financial capital, manufactured capital, intellectual capital, human capital, social capital and natural capital and corporate performance,

## 1. INTRODUCTION

Financial reporting is an important medium of business communication among the various stakeholders and business managers who prepare financial reports. The growth in business and organization has enhanced the practice of financial reporting with new formats, styles and scopes (Havlova, 2015). The need for such reporting is primarily due to the financial crises and its negative effects experienced with conventional financial reporting emphasizing on historical financial performance only.

Integrated Reporting (IR), championed by the global body known as the International Integrated Reporting Council (IIRC) presents a more comprehensive picture of the business, has engendered a different view to the conventional economic mindset of reporting only financial information (profitability) by reporting and promoting the assessment of corporate values based on the organization's ability to create sustainable value through the disclosure of non-financial information. Nowadays, not only the economic and financial indices are considered but also the non-financial parameters are taken into perspective to ensure corporate sustainability. As a result, all actions and activities of corporate organizations and their managers must tend to be balanced between the financial and non-financial frameworks (Suttipun, 2017; De Villiers, Venter & Hsiao, 2017).

Moreover, an increasing number of stakeholders in business, recurring financial crisis, insufficient nature of traditional style of corporate reporting and the consequent gap in the information needs of various and more discerning stakeholders around the globe (Nigeria inclusive) have been major issues calling for urgent attention. The conventional reporting styles are being challenged to keep pace with the 21st century redefinition of organization and a rising need to see beyond the traditional financial data. Hence, a wider perception of financial reporting known as integrated reporting has emerged. In the view of Ramin and Lew (2015), the inclusion of non-monetary information is either totally disregarded or grossly under-



reported and presented in a way that hinders the stakeholders' proper understanding of the company.

In order to address those deficits, many businesses are making efforts to provide adequate information to enhance stakeholders' investment decisions through integrated reporting (Cohen, Holder-Webb & Zamora, 2015) which is distinctively or separately presented as a stand-alone sustainability report, corporate social responsibility (CSR) reports or within the body of their annual report and accounts (Simnett & Huggins, 2015).

In 2010, the IIRC was formed with the objectives of designing new frameworks for nonfinancial information, combining both the quantitative and qualitative information into an integrated format and strategizing on how discussions would be engendered from the traditional reporting perspective towards the acceptance, adoption and implementation of integrated reporting all over the world (IIRC, 2014). Hence, the IIRC proposed a mechanism for companies to present in a comprehensive and concise manner, their organizations' strategy, governance, performance, external potential opportunities and value created over time in their stewardship reports.

However, the initial hurdle to implementing IR is the absence of adequate information technology system that improves data availability and accuracy. Managers prioritize overcoming this hurdle above the adoption of the IR. Research on IR has been emerging, providing initial insights into IR from theoretical and practical perspectives. However, needs for further empirical research on its application and impacts on performance and value of firms led to this study (De Villiers *et al.*, 2017; Adegbe, Iranola, & Bello, 2019).

This study identified the impact of integrated reporting on market based corporate performance. Though several studies have been conducted addressing the research issues from different contextual backgrounds, the existing empirical studies have revealed mixed or different results in respect of the correlation between IR and corporate performance. From the review of previous studies, it was noted that local studies considered relationship between elements of IR and performance individually but none of them combined all elements of IR and market based corporate performance. For instance, Kurfi, Udin&Bahamman (2017); Salman, Mansor, Babatunde&Tayib (2012) looked at the correlation between intellectual capital and performance while Ikpefan, Kazeem & Taiwo (2015) studied the association between human capital and performance of micro-finance banks.



The most recent study (Adegbeie et al., 2019) considered 5 elements of IR namely financial, manufactured, intellectual, human and natural capital but excluded social capital. This is an empirical lacuna which this study filled. Therefore, the study bridges the identified gap as it provides a wider perspective of the concept and analyses the relationship between integrated reporting and corporate performance in the listed industrial goods companies in Nigeria.

### **Objectives of the Study**

In the light of the above, the broad objective of this study is to examine integrated reporting and corporate performance of listed industrial goods companies in Nigeria. The specific objectives are to:

- i. investigate the influence of financial capital reporting on corporate performance of listed industrial goods companies in Nigeria;
- ii. assess the impact of manufactured capital reporting on corporate performance of listed industrial goods companies in Nigeria;
- iii. investigate the influence of intellectual capital reporting on corporate performance of listed industrial goods companies in Nigeria;
- iv. appraise the impact of human capital reporting on corporate performance of listed industrial goods companies in Nigeria;
- v. estimate the influence of social capital reporting on corporate performance of listed industrial goods companies in Nigeria and;
- vi. examine the impact of natural capital reporting on corporate performance of listed industrial goods companies in Nigeria.

### **Hypotheses of the Study**

The following hypotheses stated in null form were tested in this study:

H<sub>01</sub>: Financial capital reporting has no significant impact on the corporate performance of listed industrial goods companies in Nigeria.

H<sub>02</sub>: Manufactured capital reporting has no significant influence on the corporate performance of listed industrial goods companies in Nigeria.

H<sub>03</sub>: Intellectual capital reporting has no significant impact on corporate performance of listed industrial goods companies in Nigeria



H<sub>04</sub>: There is no significant influences of human capital reporting on corporate performance of listed industrial goods companies in Nigeria.

H<sub>05</sub>: Social capital reporting has no significant influence on corporate performance of listed industrial goods companies in Nigeria.

H<sub>06</sub>: There is no significant impact between natural capital reporting on corporate performance of listed industrial goods companies in Nigeria.

The study focused on industrial goods firms because they assume more sustainable business practices, compared to their counterpart sectors, as they compete for the utilization of natural resources which are prone to depletion, causing unwanted waste-products with the attendant adverse effects on the environment and its inhabitants. Hence, they depend less on importation of raw materials or finished goods thereby acting as catalysts in the structural transformation, diversification, growth, sustainability and development of the Nigerian economy. The study covered the time frame of eight years (2013-2020) with 2013 chosen as beginning year of the study because it is the year after adoption of International Financial Reporting Standards (IFRS) became mandatory, while 2020 was used as ending year because of availability of data.

## **2. LITERATURE REVIEW**

### **Conceptual Review**

#### **Integrated Reporting**

IR, according to the International Integrated Reporting Committee (IIRC, 2013), is a concept premised on integrated thinking aimed at producing a composite report that communicates all related and relevant aspects of value creation over time by an organization. It is a combination of sustainability and financial reports into a single report that enables management to present issues, initiatives and strategies regarding sustainability and long-term growth vision of the business to the investors and other stakeholders (Raminn & Lew 2015; Robeco & Eccles, 2014). Eccles and Krzus (2010) refer to integrated reports as a report which is both a tool and a symbol that represents the organizational commitment to sustainability.



According to Dhaliwal, Radhakrishnan, Tsang and Yang (2012), IR is an idea driven by the market as a result of business and investors' quest to access more information about a company's value creation strategies at different times. This definition connotes the evolution of a reporting framework that projects a clearer picture of the ability and capacity of an organization for present and future sustainability and value creation. This involves reorientation in reporting that places more significance on both qualitative and quantitative performance metrics. IR also reflects the multiple sources of capital employed by organizations as well as their inter-relationships which are systematically taken into account in decision-making process and reporting.

King III (2011) noted that IR is a complete and composite representation of the economic and sustainability perspectives of a company's performance. It provides stakeholders with more transparent information which discloses both economic and non-economic information (Burke and Clark, 2016) that include historical and future performance of an organization (Gurvitch & Sidorova, 2012). Arguably, IR has the tendency to change the perspectives of investors from immediate or short-term financial returns to long-term sustainability of the business (Eccles, Krzus & Ribot, 2015).

The integrated capital framework as postulated by IIRC (2013) are financial capital (FC), manufactured capital (MC), intellectual capital (IC), human capital, (HC), natural capital (NC), and, social and relationship capital (SRC). FC is the totality of funds or monetary resources made available by an organization for use in the production/provision of goods/services, whether obtained from the financial markets via financial instruments such as debt and equity etc. or generated through the operating and investing activities of the organization (Ajekwe, 2019) while MC is defined as man-made physical objects, production-oriented equipment and tools which are deployed by an organization for use in its operational activities such as building and premises, plant and equipment and infrastructure like roads, electricity, telecommunication etc. MC can also include items produced by an organization for sale, retained in the business for its own use or purchased as an input for production of other new products. It should be noted that difference of opinion exists in respect of the accounting treatment of these items particularly in terms of valuation, depreciation and taxation among others (Adegbie, Iranola & Bello, 2019).



More so, intellectual capital is the aggregate of the knowledge-based resources and intellectual properties of an organization which include employee expertise, systems, procedures and protocols, patents, copyrights, software rights and licenses etc. (Stewart, 2002). In other words, IC is important and crucial to an organization's future earning potential and requires investment in Research & Development (R & D), innovation, human resources and social relationships to gain competitive advantage over its peers in the market (Subramaniam & Youndt, (2005) while human capital refers to the inert qualities, intellectual abilities and capabilities, skills, etc. possessed by employees and the amount of investment in employees' knowledge (training, research and development, salaries and wages etc.), competencies and experience of employees, which are under-reported or not reported in the annual reports of the organisations (Pulic, 2004).

According to Ellinger, Ellinger, Bachrach, Wang and ElmadagBaş (2011), SC is a form of cognitive, structural and relational resource that represents the individual and corporate attributes and characteristics of an organization built by collective and mutual trust for the purpose of achieving organizational goal and objectives. Yu-Shu, Chyi-Lin, and Altan-Uya (2015) posited that building social capital requires collective and mutual trust among all stakeholders, the attainment of which enhances business performance, foists innovation and presents competitive advantage to the organizations. The Economics of Ecosystem & Biodiversity (TEEB, 2012) refers to natural capital as the products of nature that promote and sustain human welfare in direct and indirect ways. NC is often defined as any God-given resources or assets usable in the production of outputs that meet the immediate and future needs of the inhabitants of the globe (Brand, 2009). According to the IIRC (2013), NC is made up of all recyclable and non-recyclable environmental resources that aid the production of goods or services and had supported, is supporting and will continue to support the performance of a body corporate. It comprises the elements of air, water, land, minerals, and forests, as well as biodiversity and eco-systems that provide critical ecological functions and maintain ecological health and balance (Ekins, Simon, Deutsch, Folke & De Groot, 2003).





## **Corporate Performance**

Corporate performance is an organization's capacity to achieve its goals in an effective and efficient manner (Ayadi & Ellouze, 2015). A countless number of ways have been propounded for the evaluation of performance in both financial and non-financial terms. The different methods of measurement of financial performance are grouped into two: accounting-based measurement (accounting return) and market-based measurement (investment return). However, due to the disadvantages embedded by accounting-based performance variables, the market-based performance variables, specifically, Tobin's Q is considered for this study.

Tobin's Q is one of the conventional measures of expected long-term performance of corporate organizations (Bozec, Dia & Bozec, 2010). Its essence is to evaluate the effectiveness of a firm's assets utilization and investment evaluation purpose based on the difference between the market value and assets replacements costs of an organization. A result of 1 indicates that a company's market worth is precisely equal to the cost of replacing its assets. If the result is higher than 1, it means that the market value of the company is greater than the replacement cost of its assets, indicating that the company is overpriced. A result of less than 1, on the other hand, indicates that the replacement cost of a business's assets is less than its market value, indicating that the company is undervalued (Wang, Li & Gao, 2014).

## **Theoretical Framework**

The theories of organizational management and business ethics focus on principles, beliefs, and experiences in managing an organization. The stakeholder theory and agency theory however served as the theoretical framework for this study. There is no single theory that can be used to thoroughly explain the engagement of IR and its effect on corporate performance because voluntary disclosure such as IR are very complex, and most of the theories have one or more limitations.

## **Stakeholder Theory**

There have been numerous articles written on stakeholders' theory and credited to Freeman (1984) as the propounder of the theory. The theory centres on protecting the rights and interests of all stakeholders of an organization (Adegboyegun, Alade. Ben-Caleb, Ademola, Eluyera & Oladipo, 2020). Freeman (1984) conceptualized stakeholders as individuals or group of individuals whose actions and activities affect





or are affected by the actions and activities (achievement of an organization's purpose) of an organization which are assumed to meet the expectations of its stakeholders. The stakeholders are basically grouped into two. The financial stakeholders who comprise investors, creditors and shareholders and the non-financial stakeholders made up of employees, customers, statutory and regulatory bodies, society etc. These groups have different interests and demand which the company must respond to meet. Therefore, the content and context of integrated reporting disclosed by different companies depend on the characteristics and peculiarity of the companies such as size, age, industry, type of auditors and most importantly the nature and number of stakeholders (Suttipun, 2017).

In Nigeria, IR is supported by stakeholders' theory as companies tend to provide information in consonance with the demand or interests of their stakeholders. Gray, Collison & Bebbington (1998) submit that each stakeholder deserves to receive relevant and timely information from the companies whether or not the information has impact on the activities and value of the organizations. As a result, firms must maintain and preserve their ties with their stakeholders by providing information via integrated reporting in their yearly reports.

However, there are some shortcomings in the claims for the stakeholders' theory that make it less convincing in general. The primary criticism of this theory is that it fails to address the issue of balancing the potentially competing interests of all different constituencies, and there is no clear boundary for a firm to consider stakeholder groups.

### **Agency Theory**

Agency theory, credited to Jensen and Meckling (1976), propounded the existence of employer-employee relationship within every organization. The shareholders who invest in and own the business are the employer or principal while the managers employed for the day-to-day oversight of the affairs of the organization are regarded as the employees or agents. The theory submits that managers have tendencies to promote and actuate their self-aggrandizing inclinations by using the organization's resources for activities that are most likely beneficial to them and serve their interests rather than the owners' (Adegboyegun *et al.* 2020)

Additionally, agency theory posits that an organization is faced with the problem of conflict of interests such as increased agency overheads and information



disequilibrium etc. between the parties. According to Frias-Aceituno, Rodríguez-Ariza and García-Sánchez (2014), these conflicts of interest can be reduced when companies are prepared to publish a great deal of information with integrated reporting. Therefore, agency theory provides explanations as to why integrated reporting can affect corporate performance either positively or negatively.

To adopt integrated reporting, companies need be concerned and focus on reporting on indicators of short and long term performance by providing both quantitative and qualitative information as against only financial information which only relates to short-term performance (De Villiers, Rinaldi & Unerman, 2014). Moreover, IR can reduce information asymmetry and conflicts of interest between managers and business owners by reporting on long term corporate performance. Therefore, companies who are able to meet the information needs of both parties stand to gain the benefits of better financial performance (Nasi, Nasi, Philip & Zylidoulos, 1997). Consequently, it is assumed that the theory buttresses the adoption of integrated reporting by organizations in their reports.

However, there are some flaws against the agency theory. For example, agency theory only considers the managers' aspect of being opportunistic and overlooks the competence of the managers which could lead to decreasing their commitment to creation of economic value and ignore interest of other stakeholders. More so, the control mechanisms suggested are not only expensive but are also ineffective economically because mechanisms protecting the interest of shareholders may interfere with the strategic decision realization like distorting investment plans (Kultys, 2016).

### **Empirical Review**

Nurkumalasari *et al.* (2019) investigated the impact of IR disclosure on the performance of firms in Asia from 2015 to 2017. Using pooled ordinary least square (POLS) regression technique, the results indicated that integrated disclosure had no correlation with value of the firms. Similarly, Albetairi *et al.* (2018) looked at the effect of integrated reporting on the performance of some firms operating in Bahrain from 2012 to 2015. The pooled OLS regression technique employed for the study disclosed that integrated reporting indicators reported mixed effects on the performance of the firms to the extent that risk opportunity and performance indices have negative influence on performance. More so, Cosma, Soana and Venturelli (2018), with the use of OLS technique, addressed the impact of IR on firms' value



in the Republic of South Africa from 2013 to 2016. The result of the regression indicated a positive relationship between IR and the performance of the companies.

Bijlmakers (2018) examined the connection between IR and the performance of 56 banks in Europe from 2010 to 2016. The results from the OLS regression technique showed that IR exerted zero impact on the value of the banks while a multivariate regression analysis carried out by Soumillion (2018) on the same sample revealed that no relationship existed between IR and the firms' value. Suttipun (2017) investigated the influence of integrated reporting on the value of 150 randomly selected firms quoted on the Thailand Stock Exchange. The result indicated that intellectual and environment capital reporting were the most and least variables reported by the companies respectively while manufactured capital reporting and environmental capital reporting had positive and negative relationship with corporate financial performance respectively.

Agyapong, Agyapong and Poku (2017) explored the relationship between social capital reporting and performance of 500 medium and small-scale enterprises (MSEs) in the Ashanti region of Ghana. The outcome of the pooled OLS regression analysis revealed that companies' performance was positively influenced by social capital reporting. Avci and Nassar (2017) considered the influence of intellectual capital reporting on performance of 44 quoted firms in the financial sector of Borsa, Istanbul from 2004 to 2015. An OLS regression was employed to investigate the effect of intellectual capital, HCE, SCE and CEE on market, financial and productivity performances of the organisations.

Lee and Yeo (2016) examined the impact of IR on valuation of firms quoted on the Johannesburg Stock Exchange (JSE) in South Africa between 2010 and 2013. A self-constructed IR score was used with firm valuation's proxy of Tobin's Q. The study found that firm valuation was positively related integrated disclosures and the benefits derived outweighed the costs incurred. Onumah and Duho (2015) examined the effect of intellectual capital on corporate financial performance and stability of 32 Ghanaian banks from 2000 to 2015. The study formulated and tested eight hypotheses to investigate the relationship between financial performance and intellectual capital. The Panel Corrected Standard Errors (PCSE) regression model and Wald Chi-square supported a positive and significant relationship between intellectual capital financial performance and stability.



Barroso-Castro, Villegas-Periñan and Casillas-Bueno (2015) scrutinized the effect of board social capital on the performance of 103 companies quoted on the Madrid Stock Exchange (2008). The OLS regression analysis revealed that board's internal and external social capital interaction had positive effects on the performance of the firms. Berzkalne and Zelgalve (2014) studied the influence of multiple capitals on the value of companies in Estonia, Latvia and Lithuania from the period of 2005 to 2011. The study which measured performance by Tobin's Q revealed that a positively significant relationship existed between financial and human capitals and companies' value in Latvia and Lithuania. On the other hand, no significant relationship existed between social capital and firms' value in both countries.

Alipour (2012) investigated the relationship between intellectual capital and the financial performance of sampled 39 insurance companies in Iran between 2005 and 2007. Applying regression model (partial least squares), the results indicated that Value Added Intellectual Capital and its components are significantly and positively related with performance of the companies. Anshori and Iswati (2007) studied the impact of intellectual capital on the performance of 10 randomly selected insurance firms quoted on the Indonesian Stock Exchange. The study used the market-to-book value method as a measure of performance. The results revealed a significantly positive correlation between intellectual capital and performance of the companies.

In Nigeria, Adegboyegun *et al.* (2020) looked at the effects of IR on the value of 13 Nigerian banks from 2009 to 2018. The OLS and Panel Co-integration techniques were employed for analytical purpose. The result showed that no significant relationship existed between corporate performance and IR in the short run while a significant relationship existed between performance of the companies and IR in the long run.

Adegbiet *et al.*, (2019) investigated the impact of IR on the value of 35 purposively selected out of 38 manufacturing firms quoted on the Nigerian Stock Exchange (NSE). Generally, the results revealed that IR was significantly related with the value of the firms. However, disclosure of financial and manufactured capital information had negatively significant and insignificant but positive influence on firm's value respectively. On the other hand, intellectual and natural capital information had insignificantly negative effects on firm's value while firm's size and leverage had significant effects on firm's value.



Olamide, Eniola, Alabi, Eluyela, Okere and Ozordi (2019) examined the effects of social capital on the firms’ performance in the unorganized sector of the Nigerian economy. The study used the partial least square method of the structural equation model (SEM) for analysis and firm’s age as the controlling variable. The results revealed a significant relationship between social capital and performance of the firms under uncontrolled analysis, a significant relationship between internal social capital and non-financial performance but zero relationship between internal social capital and financial performance of the firms. There was no relationship between external social capital and financial and non-financial performance of the firms. Conversely, a significant relationship existed between social capital and firms’ performance and between internal social capital and financial and non-financial performance while no relationship existed between external social capital and financial and non-financial performance under a controlled analysis.

### **3. METHODOLOGY**

The ex-post factor research design was employed in this study because it aimed at establishing relationship between variables whose data were extracted from secondary sources on which the researcher has no influence. The thirteen (13) industrial goods companies listed on the Nigerian Stock Exchange (NSE) as at 31st December, 2020 made up the sample out of population of 20 industrial goods companies. The study used purposive sampling to select the companies used as only the companies used have the required data needed for the study.

More so, the objectives of the study were also achieved by adapting the model of Adegbe *et al.* (2019) which is stated as:

$$\text{Corporate Performance} = f \{ \text{Integrated Reporting} \}$$

.....1

$$\text{Tobin's Q} = f \{ \text{Financial capital reporting, Manufactured capital reporting, Intellectual and Human capital reporting, Natural capital report} \}$$

.....2

The final equation was expressed econometrically as follows:

$$TQ = \alpha_6 + \beta_9 \text{DFC}_{it} + \beta_{10} \text{DMC}_{it} + \beta_{11} \text{DIHC}_{it} + \beta_{12} \text{DNC}_{it} + \beta_{13} \text{SIZE}_{it} + \beta_{14} \text{FLEV}_{it} + \mu_6$$



For the purpose of this study, the model was modified by adding social capital reporting (SRC) due to its relevance and significance in other international studies. It was added also because it is inherent in the structure of relations among actors (stakeholders). It helps in building relationship so that companies can retain its social license to operate.

The modified model now becomes:

$$\text{Tobin's } Q_{it} = \beta_0 + \beta_1 \text{FCR}_{it} + \beta_2 \text{MCR}_{it} + \beta_3 \text{ICR}_{it} + \beta_4 \text{HCR}_{it} + \beta_5 \text{NCR}_{it} + \beta_5 \text{SCR}_{it} + \mu_{it}$$

.....4

Where:

Tobin's Q = Corporate performance (Tobin's Q)

FCR = Financial capital reporting

MCR = Manufactured capital reporting

ICR = Intellectual capital reporting

HCR = Human capital reporting

NCR = Natural capital reporting

SCR = Social capital reporting

$\mu$  = Error term

$\beta$  (1-5) = coefficients to be estimated

The study utilized Breusch and Pagan Lagrangian Multiplier (BP-LM) test to decide on the appropriate estimator between pooled OLS and fixed/random effect. More so, if the result accepts the null hypothesis, Hausman test was conducted to decide on the most suitable estimator between fixed and random effect.



## **Variables Descriptions and Measurement**

### **Dependent Variable**

Tobin's Q is used as a proxy of the company's performance and it is measured by calculating firms' market value and its loan divided by its total assets (Aras & Crowther, 2009; Margolis & Walsh, 2001)

### **Independent Variables**

The independent variables of this study comprised the corporate capitals adopted from the International Integrated Reporting Framework which include financial capital, manufactured capital, intellectual capital, human capital, natural capital and social capital (IIRC, 2013).

### **Control Variables**

Size of the Company (FSIZE): This variable is measured by logarithm of total assets (Suttipun, 2017); Nelling & Webb, 2009); Waddock & Graves, 1997).

Audit-Firm Type (AT): This study measures audit firm type by indicating 1 for firms audited by big 4 (PricewaterhouseCoopers, Akintola Williams Deloitte & Touche, Ernst & Young and KPMG and 0 for firms audited by non-big 4.

Age of a Company (AGE): The years listed on the NSE is used to measure the age of a company (Schreck, 2011; Jitaree 2015).

## **4. DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS**

From the Table 1 which shows the summary statistics, Tobin's q has a maximum and minimum value of 0.6544 and 6.4612, respectively, and a mean value of 11.681 and a standard deviation value of 2.4653, respectively. The differences and distance between the standard deviation and mean values means industrial goods companies' corporate performance varied among themselves. Moreover, the most common form of IR was social and relationship capital reporting (average, 6.0764 words) followed by intellectual capital reporting (average, 4.0063 words), financial capital reporting (average, 3.0266 words), human capital reporting (average, 2.4049 words), natural capital reporting (average, 1.6432 words), and manufactured capital reporting (average, 0.6281 words). This are further confirm from the differences and distances between minimum value of 6.0000 (SCR), 3.0000 (ICR), 4.0000 (FCR), 4.0000





(HCR), 5.0000 (NCR), 3.0000 (MCR) and maximum value of 7.0000 (SCR), 10.000 (ICR), 5.0000 (FCR), 4.0000 (HCR), 7.0000 (NCR), 6.0000 (MCR). This may be because the companies need to satisfy their stakeholders, but different groups of stakeholders have a different power to compel the companies. Hence, based on the result of this study, companies have been forced by their stakeholders to provide more social, financial and intellectual capital reporting than other forms of capital reporting.

**Table 1**  
**Summary of Descriptive Statistics**

<b>Variables</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Std. Dev</b>
Tobin's Q	0.6544	6.4612	11.681	2.4653
FCR	4.0000	5.0000	3.0266	1.0768
MCR	3.0000	6.0000	0.6281	0.1161
ICR	3.0000	10.000	4.0063	1.9499
HCR	4.0000	5.0000	2.4049	0.0127
NCR	5.0000	7.0000	1.6432	0.0077
SCR	6.0000	7.0000	6.0764	3.0222

**Source:** Authors' Computation (2022)

### **Preliminary Test for Multi-collnearity**

The variance inflation factor (VIF) shows further investigation into the possibility of multicollnearity among regressors. Table 2 shows VIF and its inverse (technical tolerance) for all independent variables. By thumb's rule, every variable exceeding 10 is strongly collnear and vice-versa. From Table 2, all VIFs are below 10, which mean they are not collnear.



**Table 2**  
**Variance Inflation Factor**

Variable	VIF	1/ VIF
FCR	1.53	0.6536
MCR	3.05	0.3279
ICR	1.79	0.5587
HCR	1.72	0.5814
NCR	2.35	0.4255
SCR	1.30	0.7692
<b>Total</b>	<b>1.9567</b>	

**Source:** Authors' computation (2022)

### **Result of Regression Analysis**

Breusch and Pagan Lagrange multiplier (BPLM) test was conducted to choose between pool OLS and random/fixed effect for the study model and the result suggested acceptance of the null hypothesis, which means the random effect's variance is zero as the p-value is higher than 0.05. Hence, hypotheses testing were carried out using the pool OLS.

Table 3 depicts the result of the regression analysis based on the model illustrated in the methodology. The models represent the relationship between explanatory variables (FCR, MCR, ICR, HCR, SCR and NCR) and dependent variables under consideration. The table shows the coefficient of determination (R-Square) value of 0.8642, which implies that among Nigerian listed industrial goods companies, about 86% of the total systematic variations in dependent variable can be explained by the independent variables. The adjusted R<sup>2</sup> shows that the model could still explain about 83% of total systemic variations after accounting for the degree of freedom. Only about 17% of corporate performance systematic variation was left unexplained and captured by the model's stochastic disturbance term.

Moreover, of the overall model's statistical significance suggested by the F-statistics, it was observed that the overall model was statistically significant since the calculated F-value of 25.19 with an associated probability value of 0.001 was higher than the critical F-value of 5.0 at 5% significance level. There is a strong linear relationship between the independent variables and dependent variable, and both



variables are complementary. It then means that industrial goods companies will benefit more from engaging in integrated reporting.

Based on the individual statistical significance, Table 3 further describes the influence of explanatory variables on the dependent variable. The findings suggest a relationship between corporate performance and explanatory variables (FCR, MCR, ICR, and SCR) and dependent variables under consideration (Tobin's q) with 0.0203, 0.0639, 0.0118 and 0.4253 as coefficient and p-value of 0.049, 0.037, 0.003 and 0.008 which are all significant at 5% except HCR. This indicates that corporate performance is not influenced by human capital. Explanatory variable (NCR) with coefficient -0.0005 and p-value 0.0000 was significant at 1% significance level but with negative relationship. It therefore, implies that a unit change in the reporting of natural issues of a firm will lead to a 1% reduction in the level of market-based performance (Tobin's Q).

**Table 3**  
**Regression Result for Tobin's Q**

	<i>Co-eff. (P-value)</i>
Constant	1.0981(0.233)
FCR	0.0203(0.049)**
MCR	0.0639(0.037)**
ICR	0.0118(0.003)*
HCR	0.0011(0.091)***
NCR	-0.0005(0.000)*
SCR	0.4253(0.008)*
R <sup>2</sup>	0.8642
Adjusted R <sup>2</sup>	0.8311
F-statistic	25.19
P-Value	0.001*
Breusch and Pagan (LM) test	Chibar2(Prob) 23.18(0.0632)

Notes: \*, \*\*, and \*\*\* denote statistically significance at 1%, 5%, and 10% significance level, respectively. Also, p-values are reported in parentheses

**Source:** Authors' computation (2022)



## **Discussion of Findings**

From the result analyzed, financial capital reporting has a direct and significant relationship with the listed industrial goods companies' performance (Tobin's Q); hence, H<sub>01</sub> is rejected. This implies that there is a probability that the listed industrial goods companies that engage in reporting sources of fund and other related financial capital have higher performance compared to companies that do not involve in the reporting. This finding is in tandem with the result of Onumah and Duho (2015). However, the study of Avci and Nassar (2017) shows a negative influence of FCR on Tobin's Q.

Furthermore, the result depicts that manufactured capital reporting was significantly related to corporate performance; therefore, H<sub>02</sub> is rejected. This shows that industrial goods companies add value to their companies when reporting information on physical/human created capital like property, plant and equipment than firms who act contrary. This finding is in consonance with the study of Suttipun (2017); Lee and Yeo (2015) but in disagreement with the study of Adegbie *et al.* (2019). These results can be explained by agency theory which suggests that manufactured and financial capital reporting can prevent conflicts between principals and agents by increasing corporate financial performance so that the company can earn profits which is more than offset the cost of MCR. This study's findings in respect of MCR and FCR, therefore, demonstrate that agency theory can explain the change of corporate financial performance of the sample of listed industrial goods companies based on value/cost-relevance.

Intellectual capital reporting, the third explanatory variable further exerts a positive and significant impact on expected corporate performance (Tobin's q). Consequently, H<sub>03</sub> is rejected. This implies that listed industrial goods companies that engage in reporting tacit knowledge, patent, copyrights information appear to add value to market based performance. This result is in agreement with the study of Suttipun (2017); Onumah and Duho (2015); Rehman *et al.*, (2011); Tseng and Goo (2005) but in variance with the study of Adegbie *et al.* (2019); Avci and Nassar (2017).

Additionally, in line with the result of the analysis, H<sub>04</sub> is accepted because of human capital reporting that has positive but insignificant effect on corporate performance (Tobin's Q). This is in tandem with the study of Lina (2014). However, the study of



Avci and Nassar (2017); Onumah and Duho (2015); Dimitrios et al. (2011) suggested the contrary results.

On the other hand, the results of the analysis indicate negative coefficients and significant p-value between social capital reporting and corporate performance (Tobin's Q). Hence,  $H_{05}$  is rejected. This could mean the more industrial goods companies' information on goodwill, trust, social norms/values, and vision is reported, the higher their corporate performance. This is in support of the findings of Nassar (2018); Barroso-Castro *et al.*, (2015) but against the study of Lina (2014).

Null hypothesis  $H_{06}$  is employed to test the impact of natural capital reporting on corporate performance of industrial goods companies in Nigeria. As shown in Table 4.3, the results of the model show positive and significant influences of NCR on Corporate performance (Tobin's Q); hence,  $H_{06}$  is rejected. This may indicate that industrial goods companies in Nigeria are more likely to emphasize on biodiversity, ecosystem and ecological services reporting to increase their market based performance (Tobin's Q). This result does not support previous findings of Adegbie *et al.* (2019).

Finally, the result of this study is in consonance with the employed theories (agency theory and stakeholders' theory). Obviously, the wealth maximization goal of the shareholders differs from the self-aggrandizing goal of the managers and consequently, portends a tendency for the existence of a gap in the information made available to both parties. However, the integrated reporting perspective assures that information must be made available in a comprehensive manner to circumvent this asymmetry problem. Moreover, reporting elements of IR (FRC, MCR, ICR, SCR and NCR) can reduce conflicting interests and information imbalance between the management and the shareholders. Hence, when companies are able to meet the information needs of both parties (management and shareholders), they can benefit from the added value by increasing the corporate performance.

More so, the basic import of the stakeholder theory is that a firm must manage and maintain good relationships with its stakeholders, gain their acceptance and confidence and adjust the activities of the firm to be responsive to the yearnings of its stakeholders. In corporate reporting, management must thus ensure that it provides information that satisfies not only the owners (shareholders) but also all other interest groups. Reporting elements of IR (FRC, MCR, ICR, SCR HCR and



NCR) will give the stakeholders better understanding of what will create value for their investment, opportunities and increase the corporate performance.

## **5. CONCLUSION AND RECOMMENDATIONS**

### **Conclusion**

The results from this study provided some interesting and critical points for discussion by showing that industrial goods companies have introduced other higher rates of reporting in Nigeria. The study, therefore, concludes from the findings that integrated reporting activities by industrial goods' companies in Nigeria contribute significantly to their corporate performance as a result of the positive significant relationship between the combinations of six integrated reporting element and corporate performance proxied by Tobin's Q. In addition, industrial goods' companies demonstrated the importance of corporate norms in the integrated reporting implementation as it added value to the firms.

### **Recommendations**

Arising from the findings of this study, the following recommendations are made:

- i. Industrial goods companies' managements should persist in disclosure of sources of fund (financial capital), as it has been found empirically to be a deciding factor in adding value to the firm.
- ii. Effort in the use of intellectual capital should be increased by industrial goods companies particularly in this period of knowledge-based environment and technology advancement.
- iii. Industrial goods companies should significantly improve their investment on staff training and development through adequate budgetary provision in other to enhance productivity of human assets.
- iv. Management of industrial goods companies should intensify their initiatives to create social cohesion in order to encourage greater acceptance. They will only remain competitive and create sustainable competitive advantage by nurturing social values and mutual co-existence.



## REFERENCES

- Adegbie, F. F. A., Iranola, R., & Bello, I. (2019). Evaluation of integrated reporting and the value of listed manufacturing firms in Nigeria. *European Journal of Accounting, Auditing and Finance Research*, 7(7), 31-59.
- Adegboyegun, A. E., Alade, M. E., Ben-Caleb, E., Ademola, A. O., Eluyela, D. F., & Oladipo, O. A. (2020). Integrated reporting and corporate performance in Nigeria: Evidence from the banking industry. *Cogent Business & Management*, 7(1), 1-12.
- Agyapong, F. O., Agyapong, A., & Poku, K. (2017). Nexus between social capital and performance of micro and small firms in an emerging economy: The mediating role of innovation. *Cogent Business & Management*, 4, 1-20.
- Ajekwe, C. C. M. (2019). Integrated reporting: Advocacy for Nigerian companies. *European Journal of Accounting, Auditing and Finance Research*, 7(10), 90-109.
- Alipour, M. (2012). The effect of intellectual capital on firm performance: an investigation of Iran insurance companies. *Measuring Business Excellence*, 16(1), 53-66.
- Anshori, M., & Iswati, S. (2007). *The influence of intellectual capital to financial performance at insurance companies in Jakarta Stock Exchange (JSE)*. Paper presented at 13th Asia Pacific Management Conference, Melbourne.
- Aras, G., & Crowther, D. (2008). The social obligation of corporations. *Journal of Knowledge Globalization*, 1(1), 43-59.
- Avcı, E., & Nassar, S. (2017). Intellectual capital and its impact on firm performance of the Turkish financial sector before and after financial crisis. *Pressma Academia Procedia (PAP)*, 3, 916-924.
- Ayadi, I., & Ellouze, A. (2015). The determinants of the Tunisian banking performance: A panel data analysis. *International Journal of Economics and Finance*, 7(1), 345-354.
- Barroso-Castro, C., Villegas-Periñan, M., & Casillas-Bueno, J. (2015). How boards' internal and external social capital interact to affect firm performance. *Strategic Organization*, 1-26.
- Bebbington, J., Larrinaga-Gonzalez, C., & Moneva-Abadia, J. (2008). Legitimizing reputation/the reputation of legitimacy theory. *Accounting, Auditing & Accountability Journal*, 21(3), 371-374.





- Berzkalne I, Zelgalve E (2014). Intellectual Capital and Company Value. *Procedia Social Behaviour Science*, 110, 887-896.
- Bijlmakers, L. (2018). *The influence of integrated reporting on firm value* [M.Sc. Thesis, University of Amsterdam]. Research Direct
- Bozec, R., Dia, M., & Bozec, Y. (2010). Governance – performance relationship: A re-examination using technical efficiency measures. *British Journal of Management*, 21, 684-700.
- Brand, F. (2009). Critical natural capital revisited: Ecological resilience and sustainable development. *Ecological Economics*, 68(3), 605-612.
- Burke, J. J., & Clark, C. E. (2016). The business case for integrated reporting: Insights from leading practitioners, regulators, and academics. *Business Horizons*, 59(3), 273-283.
- Cosma, S., Soana, M. G., & Venturelli, A. (2018). Does the market reward integrated report quality? *African Journal of Business Management*, 12(4), 78-91.
- Dai, W.D., Mao, Z.E., Zhao, X.R., & Mattila, A. S. (2015). How does social capital influence the hospitality firm's financial performance? The moderating role of entrepreneurial activities. *International Journal of Hospitality Management*, 51, 42-55.
- De Villiers, C., Rinaldi, L., & Unerman, J. (2014). Integrated reporting: Insights, gaps and an agenda for future research. *Accounting, Auditing & Accountability Journal*, 27(7), 1042- 1067.
- De Villiers, C., Venter, E. R., & Hsiao, P. C. K. (2017). *Integrated reporting: background, measurement issues, approaches and an agenda for future research*. Accounting & Finance, advance online publication. doi:10.1111/acfi.12246.
- Dhaliwal, D. S., Radhakrishnan, S., Tsang, A., & Yang, Y. G. (2012). Nonfinancial disclosure and analyst forecast accuracy: International evidence on corporate social responsibility disclosure. *The Accounting Review*, 87(3), 723-759.
- Eccles, R., & Krzus, M. (2010). *One report: Integrated reporting for a sustainable strategy*. Hoboken, N.J: John Wiley & Sons.
- Eccles, R. G., Krzus, M.P., & Ribot, S. (2015). Models of best practice in integrated reporting. *Journal of Applied Corporate Finance*, 27, 103-115.
- Ellinger, A. D., Ellinger, A. E., Bachrach, D.G., Wang, Y., & ElmadağBaş, Y. (2011). Organizational investments in social capital, managerial coaching, and employee work-related performance. *Management Learning*, 42(1) 67-85.



- Freeman, R. E. (1984). *Strategic Management: a stakeholder approach* (1st ed.). Boston: Pitman Publishing Inc.
- Frias-Aceituno, J.V., Rodríguez-Ariza, L., & Garcia-Sánchez, I.M. (2014). Explanatory factors of integrated sustainability and financial reporting. *Business Strategy and the Environment*, 23(1), 56-72. doi: 10.1002/bse.1765.
- Gray, R., & Bebbington, J. (2000). Environmental accounting, managerialism and sustainability: Is the planet safe in the hands of business and accounting. *Advances in Environmental Accounting & management*, 1, 1-44.
- Gurvitsh, N., & Sidorova I. (2012). Survey of sustainability reporting integrated into annual reports of Estonian companies for the years 2007-2010: Based on companies listed on Tallinn Stock Exchange as of October 2011. *Procedia Economics and Finance*, 2, 26-34.
- Havlová, K. (2015). What integrated reporting changed: The case study of early adopters. *Procedia Economics and Finance*, 34, 231-237.
- Ikpefan, O. A., Kazeem, B. L. O., & Taiwo, J. N. (2015). Human capital accounting and performance of microfinance banks (MFB) in Nigeria. *Research Journal of Finance and Accounting*, 6(1), 65-75.
- International Integrated Reporting Council (IIRC). (2013). "The International IR Framework." Accessed August, 18, 2014. <http://www.theiirc.org/>.
- Islam, M. A., & Deegan, C. (2010). Media pressures and corporate disclosure of social responsibility performance information: A study of two global clothing and sports retail companies. *Accounting and Business Research*, 40(2), 131-148.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behaviour, agency costs and ownership structure. *Journal of Financial Economics*, 1(1), 305- 360.
- Jitaree, W. (2015). Corporate social responsibility disclosure and financial performance: Evidence from Thailand. [Doctor of Philosophy thesis, School of Accounting, Economics and Finance, University of Wollongong]. Research Direct.
- King report on governance for South Africa (King III) (IRCSA, 2011). Available online at: [https://jutralaw.co.za/uploads/KingIII report](https://jutralaw.co.za/uploads/KingIII%20report)
- Kultys, J. (2016). Controversies about agency theory as theoretical basis for corporate governance. *Central and Eastern European Journal*, 7(4), 6-13.



- Kurfi, S. A., Udin, N. M., & Bahamman, S. M. (2017). The impact of intellectual capital on the financial performance of listed Nigerian food products companies. *Journal of Accounting and Taxation*, 9(11), 147-160.
- Lee, K. W., & Yeo, G. H. (2016). The association between integrated reporting and firm valuation. *Review of Quantitative Finance and Accounting*, 47(4), 1221-1250.
- Nasi, J., Nasi, S., Philip, N., & Zylidoulos, S. (1997). The evolution of corporate social responsiveness: an exploratory study of Finnish and Canadian forestry companies. *Business & Society*, 36(3), 296-321.  
<https://doi.org/10.1177/000765039703600305>
- Nelling, E., & Webb, E. (2009). Corporate social responsibility and financial performance: the virtuous circle. *Review of Quantitative Finance and Accounting*, 32(2), 197 - 209.
- Nurkumalasari, I. S., Restuningdiah, N., & Sidharta, E. A. (2019). Integrated reporting disclosure and its impact on firm value: Evidence in Asia. *International Journal of Business, Economics and Law*, 18(5), 99-108.
- Olamide, O. A., Eniola, A. A., Alabi, O. J., Eluyela, D. F., Okere, W., Ozordi, E. (2019). Social capital and its effect on business performance in the Nigeria informal sector. *Heliyon*, 5, 1-13.
- Onumah, J. M., & Duho, K. C. T. (2015). Intellectual Capital: Its Impact on Financial Performance and Financial Stability of Ghanaian Banks. *Athens Journal of Business and Economics*, X(Y), 1-25.
- Pulic, A. (2004). Intellectual capital—does it create or destroy value? *Measuring Business Excellence*, 8(1), 62-68.
- Raimo, N., Zito, M., & Caragnano, A. (2019). *Does national culture affect integrated reporting quality? A focus on GLOBE dimensions*, In: D. Mihajlović, & B. Đorđević (Ed.): 9th International Symposium on Natural Resources Management, May 31st, 2019, Zaječar, Serbia, pp. 383-392.  
<http://hdl.handle.net/10419/199012>
- Ramin, K., & Lew, S. (2015). A model for integrated capital disclosure and performance reporting: Separating objects from value. *Journal of Sustainable Finance & Investment*, 5(1-2), 27-47.  
doi: 10.1080/20430795.2015.1042829
- RobecoSAM, C. C., & Eccles, R. G. (2014). Integrated reporting, quality of management, and financial performance. *Journal of Applied Corporate Finance*, 26(1), 56-64.



- Salman, R. T., Mansor, M., Babatunde, A. D., & Tayib, M. (2012). Impact of intellectual capital on return on asset in Nigerian manufacturing companies. *Interdisciplinary Journal of Research in Business*, 2(4), 21-30.
- Schreck, P. (2011). Reviewing the business case for corporate social responsibility: New evidence and analysis. *Journal of Business Ethics*, 103(2), 167-188.
- Simnett, R., & Huggins, A. (2015). Integrated reporting and assurance: where can research add value? *Sustainability Accounting, Management and Policy Journal*, 6(1), 29-53.
- Stewart, T. (2002). *The wealth of knowledge: intellectual capital and the twenty-first century organization*. London: Nicholas Brealey Publishing Limited.
- Subramaniam, M., & Youndt, M.A. (2005). The influence of intellectual capital on the types of innovative capabilities. *Academy of Management Journal*, 48(3), 450- 63.
- Suttipun, M. (2017). The effect of integrated reporting on corporate financial performance: Evidence from Thailand. *Corporate Ownership & Control*, 15(1), 133-142.
- Waddock, S. A., & Graves, S. B. (1997). Institutional owners and corporate social performance. *The Academy of Management Journal*, 37, 34-46.
- Wang, L., Li, S., & Gao, S. (2014). Do greenhouse gas emissions affect financial performance? An empirical examination of Australian public firms. *Business Strategy and the Environment*, 23(8), 505-519.
- Yu-Shu, P., Chyi-Lin, H., & Altan-Uya, D. (2015). Corporate social responsibility and corporate financial performance: The intervening effect of social capital. *Journal of Advanced Management Science*, 3(4), 276-283.