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EVALUATION OF INTEGRATED REPORTING AND THE VALUE OF LISTED MANUFACTURING FIRMS IN NIGERIA

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ABSTRACT: *Integrated reporting is gaining attention of world-leading organizations and countries who are demonstrating global leadership in this emerging field of corporate reporting. However, the disclosure of non-financial information and its integration with financial information (integrated reports) and the benefits to the company and other stakeholders is not yet properly assessed in Nigeria. Prior studies in this area in different environments have produced mixed results and conclusions. This study examined the effect of integrated reporting on the value of listed manufacturing companies in Nigeria. The study adopted ex-post facto research design. The population of the study comprised 53 manufacturing companies quoted on the Nigerian Stock Exchange (NSE) as at 30th June 2017, from which 38 companies were purposively selected comprising companies from consumer goods and industrial goods during the study period (2012-2016). Data were sourced from the published audited financial statements validated by the external auditors' report. Descriptive and inferential statistics using regression analyses were employed. The findings revealed that integrated reporting had significant effects on firm's value measured by Tobin's Q (TQ) ($F(4, 131) = 22.75$, Adj. $R^2 = .1470$, $p < 0.05$). Disclosure of Financial Capital (DFC) had a significant negative effect on TQ ($\beta_1 = -4.41$; $t(135) = -6.71$, $p < 0.05$); Disclosure of Manufactured Capital (DMC) had an insignificant positive effect on TQ ($\beta_2 = 0.051$; $t(135) = 0.14$, $p > 0.05$); Disclosure of Intellectual and Human Capital (DIHC) had an insignificant negative effect on TQ ($\beta_3 = -0.994$; $t(135) = -0.69$, $p > 0.05$); and Disclosure of Natural Capital (DNC) had an insignificant negative effect on TQ ($\beta_4 = -0.438$; $t(135) = -0.41$, $p > 0.05$). Firms' size (SIZE) and leverage (FLEV) had significantly controlled the influence of integrated reporting on TQ ($F(6,129) = 24.08$, Adj. $R^2 = .1636$, $p < 0.05$). The study concluded that integrated reporting is still at its early stage of adoption in Nigeria and could be useful in determining the firm's value of listed manufacturing companies in Nigeria. It was recommended that regulators should increase awareness, training and provide a framework for the mandatory adoption of integrated reporting in Nigeria.*

KEYWORDS: disclosure, firms' value, integrated reporting, integrated thinking, leverage, size, tobin's q. transformation, value creation

INTRODUCTION

Integrated reporting is one of the newest additions in corporate financial reporting in the global scene with promised benefits to the company and the stakeholders. Outside Nigeria, there have been mixed results on the studies done so far, while few studies that used empirical data exist in Nigeria. This study has ascertained the extent of integrated reporting in Nigeria using the 6-capitals model and the impact on the value of listed manufacturing companies in Nigeria. A prominent

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British Scientist, Lord Kelvin, as cited by Kaplan (2010) asserted that financial measurement and record provide immense knowledge about events; this implies that accounting is important in understanding the financial implications of events. In the last century, financial reporting has evolved continuously responding to changes in the business environment and practices. In the last two decades, there have been questions on the relevance of the traditional corporate reporting model. According to Beattie (2000), the traditional model, based on financial information, is not complete and partial as it ignores non-financial measures which are now accepted as useful indicators of determining corporate success. According to Eccles and Krzus (2010), globalization, instant communications and organized civil society are the forces changing the rules of the game in corporate reporting. In the new unstable global environment, the traditional financial information is seen increasing in term of the quantity but not in quality and information given is regarded as incomplete in nature. Beyond the concern for company continuity, todays' reporting of the company means new challenges on environmental issues and social causes requiring more attention. There is a nexus between economic development and financial information. As economy becomes more complex, adequate information both internal and external are required for control purposes.

The International Integrated Reporting Council (IIRC) (2013) asserted that the world has changed and so must reporting as well to create an integrated approach to corporate reporting to better reflect the multidimensionality and connectivity of today's globalized world (Adams, 2015). Eccles and Krzus (2010) provided two main reasons why companies should adopt 'One Report' in their external reporting. First, it is viewed as a key element of taking sustainability seriously, once the company has created a truly sustainable strategy, by responding to the risks and opportunities created by the need to ensure a sustainable society. The second reason is that the simplification from 'One Report' of a single message to all stakeholders is a key element of improving corporate disclosure and transparency. According to the final Framework released in December 2013, Integrated Reporting (IR) is defined as a concise communication about how an organization's strategy, governance, performance and prospects, in the context of its external environment, lead to the creation of value over the short, medium, and long term. The framework further states that there are three fundamental concepts underpinning Integrated Reporting (IR) which are: value creation for the organization and others, the capitals and the value-creation process. Value creation for organization and other stakeholders refers to the ability of an organization to continue to draw from its capital in a continuous manner based on its activities in the society, for the benefit of itself and others. The capitals—which could be financial, manufactured, intellectual, human, social and natural-are the resources used by organizations to create value. The value creation process is the entity's business model that shows how the resources are utilized during business activities to create beneficial output in form of commodity-production or service delivery. Eccles and Krzus (2010) in their pioneering book on Integrated Reporting "One Report" identified the benefits for integrated reporting as greater clarity about relationships and commitments, better decisions, deeper engagement with all stakeholders and lower reputational risk. Disclosing financial and non-financial information in a complementary manner enables capital providers to evaluate investment opportunities more effectively and to monitor the use of invested capital more intensively (Healy & Palepu, 1993; Petersen & Plenborg, 2006). Integrated reporting is gaining attention of world-leading organizations who are demonstrating global leadership in this emerging field and the IIRC aspires to make integrated

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reporting the new reporting norm (IIRC, 2013). The Johannesburg Stock Exchange (JSE) in 2010 mandated the disclosure of Integrated Reporting using the King III Report on Corporate Governance as a basis. South Africa thus become the first country to require integrated reporting on an "apply or explain" basis and remains as the only country in Africa so far. The JSE added King III to its listing requirements which include integrated reporting. Since then hundreds of companies have been filing reports that include financial and non-financial information though there is substantial discretion and variance in the form, content in the form and contents of such reports. Integrated reporting attempts to reveal the relationship between financial and non-financial performance and how these interrelated dimensions create or destroy value for shareholders and other stakeholders (Institute of Directors in Southern Africa, IoDSA, 2009).

The disclosure of non-financial information and its integration into financial information (integrated reports) and the benefits to the company and other stakeholders is not yet properly assessed. Thus, this study examined the relationship between the degree of integrated reporting and the value of listed manufacturing companies in Nigeria.

Statement of the Problem: Capital market participants rely on a steady stream of information through financial reports to assess risk and judge prospects to accurately value a firm's equity. However, corporate scandals from creative accounting practices in the past have created a general feeling of distrust around companies' ability to self-regulate. In addition, there is a concern that current company disclosures primarily provide information about past performance rather than prospects (Ioannou & Serafeim, 2017). As an example, Xerox Corporation in the year 2000 falsified its financial statements for five years to boost income by some $ 6.4 billion and improperly posted revenues before they were made eventually resulting in the loss of confidence and value of the firm. Other major cases of corporate scandals include Enron, Worldcom, and in the country, Cadbury in Nigeria.

Wilburn and Wilburn (2016) provided empirical evidence to condemn the production of Corporate Social Responsibility (CSR) reports outside the financial reporting. This was illustrated by pointing out the corporate scandals of Volkswagen AG and Toshiba Corporation. The scandal of Volkswagen AG (VW) demonstrated a weakness of CSR in Sustainability Index reporting in 2015 was later removed because of fraudulent accounting scandal. Toshiba, too, was a CSR star and had published CSR reports from 2011 through 2014 (S&P Dow Jones Indices, 2015). CSR was not part of the companies' strategic mission and the initiatives there were outside the financial reporting.

Furthermore, the traditional reporting has pitfall in terms of transparency and in communicating other stakeholders. This is because some stakeholders want both financial and non-financial information in a single report (Eccles & Krzus, 2010; Serafeim, 2015). In addition, traditional reporting (financial reporting) has been criticized for its short-term performance and value creation as well as its historic focus. Integrated reporting as a reporting practice and a research topic is still young and knowledge related to its implementation and its implications for reporting organizations is not much particularly in Nigeria. Though, some unlisted companies in Nigeria with international links and especially with South African connection (Nigerian Bottling Company, MTN, Nampak Nigeria Limited amongst others) have started producing integrated reports. The previous literature

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generally assumes that voluntary disclosures lead to several benefits for firms (Healy & Palepu, 2001). There are few based empirical analyses in Nigeria of the contents and presentation of publicly-available annual reports as to its compliance with integrated reports. Nigeria is reputed as the country with the largest economy in Africa and was quick in the adoption of International Financial Reporting Standards (IFRS) in 2012.

The disclosure of non-financial information and its integration with financial information (integrated reports) and the benefits to the company and other stakeholders is not getting proper attention and this should be of concern for a country that reputes itself as the best in Africa, a leading emerging economy and one who intends to be a global player. Integrated reporting (IR) should be the primary source of communicating with shareholders as well as stakeholders, omitting all other reports. While IR is gaining increasing worldwide acceptance and research interest, there are not many empirical studies in Nigeria particularly on if integrated reporting creates value-relevance for a company. The need for this study was thus to identify and investigate if integrated reporting is value relevant in Nigerian listed manufacturing companies and thus ensuring that developing countries like Nigeria are not left behind in contemporary corporate reporting practice.Integrated reporting therefore requires a new form of disclosure that will provide a holistic view of the organization, support integrated thinking, decision-making and actions that focus on the creation of value for stakeholders.

The main objective of this study was to evaluate the effect of voluntary adoption of integrated reporting on the value of listed manufacturing firms in Nigeria. To achieve this objective, the following specified objectives were designed to:

i. determine the effect of the degree of reporting of financial capital on the value of listed manufacturing firms in Nigeria;
ii. examine the influence of the degree of reporting of manufactured capital on the value of listed manufacturing firms in Nigeria;
iii. investigate the impact of the degree of reporting of intellectual and human capital on the value of listed manufacturing firms in Nigeria;
iv. ascertain the effect of the degree of reporting of natural capital on the value of listed manufacturing firms in Nigeria and
v. examine the controlling influence of firm's size and leverage on the impact of integrated reporting on the value of listed manufacturing firms in Nigeria.

The following research questions were answered in the study:

i. What is the effect of the degree of reporting of financial capital on the value of listed manufacturing firms in Nigeria?
ii. To what extent does the degree of reporting of manufactured capital affects the value of listed manufacturing firms in Nigeria?
iii. How does the degree of reporting of intellectual and human Capital impact the value of listed manufacturing firms in Nigeria?
iv. What is the effect of the degree of reporting of natural capital on the value of listed manufacturing firms in Nigeria?
v. What is the controlling influence of firms' size and leverage on the impact of integrated reporting on the value of listed manufacturing firms in Nigeria?

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The following hypotheses were tested:

$H_0$1: Degree of reporting of financial capital has no significant effect on the firm's value in listed manufacturing firms in Nigeria.

$H_0$2: Degree of reporting of manufactured capital has no significant influence on firm's value in listed manufacturing firms in Nigeria.

$H_0$3: The degree of reporting of intellectual and human capital has no significant impact on firm's value in listed manufacturing firms in Nigeria.

$H_0$4: There is no significant impact of the degree of reporting of natural capital on firm's value in listed manufacturing firms in Nigeria.

$H_0$5: Firm's size and leverage do not have significant controlling influence on the impact of integrated reporting on Firms' value in listed manufacturing firms in Nigeria.

LITERATURE REVIEW/THEORETICAL UNDERPINNING

Conceptual Review: The following concepts were used for this study:

Corporate Reporting: Corporate reporting refers to all information disclosed by an organization either mandated by the regulatory bodies or disclosed voluntarily by the organization. It aims at providing users with the information about a company and this is regarded as the "information function" of corporate reporting. The more useful the information, the more likely stakeholders will be encouraged to transact with the company. Many literatures in accounting shows that firms receive financing on more favorable terms with better disclosures or accounting quality. (Botosan 1997; Francis, Nanda & Olsson, 2008). The other function served by corporate reporting is described as the "transformation function." where the stakeholders receive and evaluate the information and give feedback to the company.

The evolution of Integrated Reporting: The term was first mentioned by White (2005) in his study on corporations' reports and the reporting has evolved over the years. Allen White, a co-founder of GRI described integrated reporting as being at the embryo stage at that time compared to sustainability reporting referred to as in the "pre-adolescence" stage as over 2,000 companies by then were producing sustainability reports using various names. Integrated Report builds on earlier developments in the evolution of corporate reporting with extended information provided to stakeholders (Abeysekera, 2012; Eccles and Krzus, 2011). The initial initiatives like triple bottom line (TBL), social and environmental accounting (SEA), corporate social responsibility (CSR) and sustainability reports focused on providing non-financial information than that provided by traditional reports to shareholders (Eccles and Krzus, 2011). Such reports were produced by many organizations since the 1980s, as evidenced in the research work of KPMG International Survey of Corporate Responsibility Reporting series (KPMG, 2011). The series provides insights on social and environmental reporting among large corporates since 1993. The global financial crisis and the need for an improved method of reporting incorporating financial and non-financial information necessary for decision-making and risk management provided further impetus to the development of IR (Abeysekera, 2013). Also, is the growing awareness of the interconnectedness between financial stability and environmental and social sustainability, and the need for greater integration between financial and non-financial information in reporting present and future data to

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stakeholders Abeysekera stated the following as the benefits of integrated reporting: greater clarity, better decision, deeper engagement and lower reputational risk.

.**Integrated Reporting Capitals**. The Integrated Reporting Framework (2013) explained the following capitals:

Financial capital: The pool of funds that is available to an organization for use in the production of goods or the provision of services or obtained through financing, such as debt, equity or grants, or generated through operations or investments

Manufactured capital: Manufactured physical objects (as distinct from natural physical objects) that are available to an organization for use in the production of goods or the provision of services, including buildings, equipment, equipment and infrastructure (such as roads, ports, bridges, and waste and water treatment plants). Manufactured capital includes assets manufactured by the reporting organization for sale or when they are retained for its own use.

Intellectual capital: Organizational, knowledge-based intangibles, including intellectual property, such as patents, copyrights, software, rights and licenses. It includes organizational capital" such as tacit knowledge, systems, procedures and protocols

Human capital: People's competencies, capabilities and experience, and their motivations to innovate, including their alignment with and support for an organization's governance framework, risk management approach, and ethical values

Social and relationship capital: The institutions and the relationships within and between communities, groups of stakeholders and other networks, and the ability to share information to enhance individual and collective well-being. Social and relationship capital includes shared norms, and common values and behaviours.

Natural capital: All renewable and nonrenewable environmental resources and processes that provide goods or services that support the past, current or future prosperity of an organization. It includes air, water, land, minerals and forests, biodiversity and eco-system health" (pgs.11-12).

Voluntary and Mandatory Disclosure

Managers use disclosure as one of the tools to communicate information to investors. Disclosure could be mandatory in which case it is a responsibility of regulatory organizations (Security Exchange authorities, Stock Exchanges, Financial Reporting Councils and IASB.), while voluntary disclosure is a responsibility of managers. A company's obligation to disclose a minimum amount of information in corporate reports is mandatory whereas voluntary disclosure is a provision of additional information that provide a further picture about company's value and managers' performance. Disclosure regulation is to safeguard the welfare of ordinary investors and regulators attempts to redistribute the wealth between informed and uniformed investors by reducing the information gap among them (Healy *et al.*, 1999). Furthermore, the disclosure regulation helps the credibility of the information in capital markets which also ensures companies' compliance to the regulatory requirements. Mandatory disclosure cannot possibly address all the expectations of investors. Voluntary disclosure is therefore the additional information depending

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on the discretion of the company's, relevant legislation, the external pressures of the consulting firms, financial analysts, capital markets and the cultural factor.The motivations to voluntary disclosure are six according to Healy and Palepu (2011). They are: Capital market transactions/information asymmetry; Corporate control contest; Stock compensation; Increased analyst coverage; Management talent signaling; Limitations of mandatory disclosure. Constraints on voluntary disclosure comprise: disclosure precedent, proprietary costs, agency costs, and political costs. Litigation cost can be viewed as motive or constraint. The proposition that voluntary disclosures are helpful in reducing information asymmetry and in improving liquidity is based on the precondition that such disclosures are useful to information users. The application of voluntary disclosure theory was until recently limited to the context of financial information (Core 2001; Healy and Palepu 2001) and until the recent awareness on the importance of non-financial information (Dhaliwal,Tsana &Yona; 2012; Dhaliwal *et al.* 2012). For some countries like South Africa, integrated reporting is a mandatory requirement while it remains a voluntary disclosure in Nigeria like in most other parts of sub-Saharan Africa.

Firms' Value: There are several definitions of value. According to Trugman (2002), value has many different meanings in the valuation field and are known in the appraisal literature, include fair market value, fair value, investment value, and intrinsic value.According to Mckinsey (2010), value helps in measuring performance taking into consideration the long-term interests of not just the shareholders but of all stakeholders in a company. Other alternative measures are either short-term or not as broad. While accounting earnings assess short-term performance from shareholders view; value is long-term and relevant to all stakeholders. When capital, human capital, and natural resources are used efficiently across the economy, competition increased leading to higher standards of living for all. Value is created when invested capital generates future cash flows at rates of return exceeding the cost of capital (the rate investors require to be paid for the use of their capital). Thus, the more capital deployed at attractive rates of return, the more value is created. The combination of growth and return on invested capital (ROIC) relative to its cost is what drives value. A well-defined competitive advantage is required for a company to sustain strong growth and high returns on invested capital. For purpose of quantitative measurement of value, market-based measurements have advantages over accounting-based measurements, including the fact that they are less affected by different accounting standards and managerial manipulation, and that they test future economic performance rather than past. Rappaport (1992) argue that market-based measurements are better than accounting- based measurements as they are better positioned to value future income. Damodaran (2002) defined firm value as the perception of the investor to the success of a company. It is reflected in the share price of the company. The increase of the share price shows the trust of the investors to the company, so they are willing to pay more with aim for higher return. The value of a company is the total assets owned. It consists of the market value of share and liabilities. The measurement of a company value can be done through two alternative type of measures. The first type is accounting based using indicators like, Return on Asset (ROA), Return on Equity (ROE), Price Earnings Ratio (PER), Price to Book Value (PBV) while the second type is market-value based measure usually measured by Tobin's Q.

Theoretical Review: The theories that this study hinged on are**:**

The Agency theory: The first scholars to explicitly propose the theory were Stephen Ross and Barry Mitnick, independently and roughly concurrently in 1993. A separate theory of agency

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emerged in early 1970s by Ross and Mitnick. Jensen & Meckling (1976) described agency relationship as a contract in which one or more persons (the principals) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent. Mangers can be regarded as agents and shareholders as principals from a companies' perspective. Agency theory is the study of the agency relationship and the issues that arise from this, particularly the dilemma that the principal and agent experience while working toward the same goal, and not always sharing the same interests.In summary, agency costs arose from the premise that the two parties, agents and principals, have differing interests. The principal (shareholders) pays monitoring costs to limit the agents' aberrant activities while managers (as agents) pay bonding costs to guarantee that no harm of the principal's interests will result from their decisions and actions. Residual loss occurs when decisions of the agents is different from decisions that would maximise the principal's welfare. As managers can access information more than the shareholders due to their position, the agency relationship leads to the information asymmetry problem (Jensen & Meckling,1976). Contracts can help in mitigating the agency problem as it helps in aligning shareholders with that of managers' (Healy & Palepu, 2001). In addition, the agency problem can also be mitigated by voluntary disclosure as managers disclose more voluntary information, the agency costs get reduced and external users will be persuaded to believe that managers are acting optimally (Watson *et al*., 2002). Finally, regulations require managers to fully disclose private information and this help in reducing agency problem (Healy & Palepu, 2001). However, having regulations do not guarantee full disclosure (Al-Razeen & Karbhari, 2004).

The Stakeholder Theory: Corporations have ceased to be merely legal devices which the private business transactions of individuals may be carried on. They have grown in proportions and have evolved as a "corporate system" which has attracted to itself a combination of attributes and powers and has attained a degree of prominence entitling it to be dealt with as a major social institution. This theory was first described by Dr. F. Edward Freeman in 1983. It suggests that shareholders are merely one of the many stakeholders in a company. Freeman (1983) distinguishes two senses of stakeholder. The "narrow definition" includes those groups who are vital to the survival and success of the corporation. The "wide-definition" includes any group or individual who can affect or is affected by the corporation. The typical stakeholders in modern corporations are: owners, employees, customers, suppliers, management and local community. The stakes of each are reciprocal, since each can affect the other in terms of harms and benefits as well as rights and duties. Management plays a special role, for it too has a stake in the modern corporation. Aside from being an employee, management has a duty of safeguarding the welfare of the abstract entity, that is, the corporation. In short, management, especially top management, must look after the health of the corporation, and this involves balancing the multiple claims of conflicting stakeholders. The basic premise of the stakeholder theory is that a firm must manage the relationships with its stakeholders, get their buy-in and adjust the activities of the firm to be responsive and doing this successfully will lead to the success of the corporation. In corporate reporting, management must thus ensure that it provides information that satisfies not only the owners (shareholders) but to all other interest groups within the stakeholder context.

The Signaling Theory: Signaling theory focused on reducing information asymmetry between two parties (Spence, 2002). It was propounded from Spence's (1973) work on labor markets which

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shows that the selection ability of prospective employers is hampered as job applicants engage in behaviours that reduce information asymmetry. He illustrated that through a costly signal of rigorous higher education, high-quality prospective employees distinguish themselves from low-quality prospects. The theory has also been applied to explain the influence of information asymmetry in many research contexts. A recent study of corporate governance, for example, shows how CEOs signal the unobservable quality of their firms to potential investors via the observable quality of their financial statements (Zhang & Wiersema, 2009). Stiglitz (2000) highlights two broad types of information where asymmetry is particularly important: information about quality and information about intent. In the first case, information asymmetry is important when one party is not fully aware of the characteristics of another party and the other when one party is concerned about another party's behavior or behavioral intentions (Elitzur & Gavious, 2003). Kirmani and Rao (2000) further illustrate the signaling model by distinguishing between high quality firms and low-quality firms. Outsiders (investors and customers) do not know the true quality/worth of the firm while those in the firm knows, thus presenting a situation of information asymmetry. In summary, the original concept of signaling theory was to clarify the information asymmetry in the labour market (Spence, 1973), but has been extended to explain voluntary disclosure in corporate reporting (Ross, 1977). Companies signal information to investors to show that they are better than others in the market for attracting investments and enhancing a favourable reputation because of information asymmetry problem (Verrecchia, 1983). Voluntary disclosure is a signaling means, for companies to disclose more information than mandatorily required by laws and regulations to signal that they are better (Campbell,Shrives &Saagan 2001).

Empirical Review: Doni, Gosperini and Pavone (2016) investigated the structure and the content of Integrated Reporting that seeks to link financial and non-financial information disclosed by companies. The paper assessed the nature and extent of non-financial disclosures in corporate reports of the mining companies listed on the Johannesburg Stock Exchange for one year. The methodological approach is Content Analysis. The results do not highlight good practices of non-financial disclosure: the overall analysis does not detect homogeneous behaviour among companies. The higher incidence of issues on Key Performance Indicators (KPI) targets and governance structures could be due to their relationship to certain listing requirements. The findings were that Integrated Reporting is still in its early stages and findings from the first adopters provide an insightful overview about its threats and weaknesses and practical suggestions for its preparers and users. Kosovic and Patel (2013) focused on if integrated reporting requirement has any value-relevance for a company under the mandatory environment in South Africa. In addition, it examined if integrated reporting contributes to a company's market value. The research was a quantitative study using company's integrated annual reports from 2009 to 2011. They constructed a disclosure index of environmental and social factors and a valuation model to ascertain the relationship between integrated reporting and company's value-relevance. The study noted that while compliance differs between sectors, the level of compliance has increased over the years under study. It concluded that environmental and social aspects of integrated reporting are relevant for a company's market value. Lee and Yeo (2015) examined the relationship between Integrated Reporting and firm valuation. A cross-sectional variation in integrated reporting and firm valuation in the period after implementing integrated report of listed firms in the Johannesburg Stock Exchange (JSE), that is for 2010 to 2013. A self-constructed Integrated Reporting score was used and the proxy for firm valuation is Tobin's Q. The study found that firm valuation has positive

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relationship with integrated disclosures and the benefits is more than its cost. Also, in terms of stock market and accounting performance, firms with high Integrated Reporting outperform those with low score.

Wijnhoven (2014) examined what integrated reporting is and its ability to disclose true value. The guiding principles and the content elements were explained as they relate to the capitals a company influences by operating: financial, manufactured, intellectual, human, social and natural. A 260-firms sample from Dow Jones Sustainability Index Europe was used. Tobin Q was used as a proxy for firm value and three variables were considered in determining the value of the firm: corporate image, liquidity of the firm and information asymmetry. The self-constructed index proposed, was not eventually used in the study as firms in the study were not considered mature in integrated reporting practice. It was found out that integrated reporting is getting popular and companies are working on improving the standards of their reports. Though no evidence was established for value creation, the author concluded that there are reasons for companies to consider adopting integrated reporting because of its presumed benefits. Suttipun (2017) examined the extent and level of integrated reporting in the annual reports of companies listed on the Stock Exchange of Thailand and the effect of integrated reporting on the corporate financial performance. A simple random sampling of 150 listed companies were picked and content analysis was used on the annual reports for the years 2012 to 2015. Integrated reporting (IR) was quantified on the six corporate capitals. The most common IR related to Intellectual capital being 30% of the total IR, Social capital reporting (21%), Human capital reporting (13%), Manufactured capital reporting (10%) and Environmental reporting (7%). The Manufactured capital reporting positively affect the level of IR while ECR has a negative effect on the level of IR. Cosma,Soana,Venturell (2018) aimed to determine if a high-quality integrated report influences the market value. It investigated if good quality disclosure provided by IR is recognized by shareholders in their investment assessments and if they reward outstanding firms. The proxy for the disclosure were the finalists and winners in awards ceremonies for the best IR by South African listed companies for the period 2013 to 2016. The sample consisted of 76 observations of companies belonging to different industries. The research used event study methodology and it was found out that the stock market reacts positively to award announcements, the value grows over time and is high for non-financial companies. Ming-Chin Chen,Cheng and Hwarg(2005) investigated the relationship between intellectual capital and firm's market value and financial performance using Value Added Intellectual Coefficient (VAIC) on Taiwanese listed companies. Regression models were constructed to explore the relation between intellectual capital and firm's current as well as future financial performance. The major components of VAIC can be viewed from a firm's resource base -physical capital, human capital, and structural capital. Their results support the hypothesis that firm's intellectual capital has a positive impact on market value and financial performance. Dimitrios,M., Dimitrios,C.,Charelampos and Gergios (2011) examined the impact of intellectual capital (IC) on firm's market value and financial performance. Data were obtained from four sectors for 96 listed companies on the Athens Stock Exchange for the period 2006 to 2008. The hypotheses were tested using regression models. They concluded that there is a significant relationship between human capital efficiency and financial performance. Ozer and Cam (2016) examined the role of human capital in firm valuation. The main objective of their work is to contribute to the discussions on the increasing gap between firm's market value and book value due to deficiencies in accounting standards to capture the real value of company. They extended Ohlson Model by adding human

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capital (HC) as 'other information' into the original Ohlson Model (OM) aiming to find out incremental explanatory power and value relevance of HC indicators on firm value. The sample used was Borsa Istanbul publicly traded industrial companies from 2004 to 2014 resulting into a final full sample of 922 observations. The values relating to the variables were obtained from the official websites of Public Disclosure Platform and Borsa Istanbul. The findings show that OM is suitable for the Turkish context and extended model can reveal the significant part of the unexplained variation in firm's values. HC can therefore be considered as value-relevant in making business valuation decisions and management should manage human assets more effectively and efficiently including making appropriate compensation policies to maximize firm's long-term competitiveness in the global market. Buitenda, Fortuin,and Laan (2017) carried out an empirical evaluation of the entities in South Africa that won "excellent" in the EY ranking of integrated reports and the entities characteristics. Some of the firm's characteristics used as independent variables were firm size, growth, profitability, generation of cash flow, and governance. The study concluded that these characteristics affect integrated reporting. The result confirmed that an entity whose business affects the environment will produce more detailed integrated report legitimizing its business. Chiyachantana, Nuengwang, Tachapipuro,Tong and Thamarung *(*2013) findings indicated a strong correlation between firm characteristics and level of information disclosure. Larger firms with high growth opportunity and superior performance are associated with higher level of information disclosure. In addition, firms with high leverage tend to regularly disclose financial information.

It is pertinent to point out that the few available studies in Nigeria such as that of Tijani, Ogundeji, and Kayode(2013) and (2014) and Umoren (2015) did not fully address what integrated reporting is and its value creation potentials, using empirical data. They focused mainly on the theoretical benefits of integrated reporting and the need for Nigeria to adopt it. There are also works of Asaolu, Agboola,Ayoola and Salawu (2011), Emeakponuzo (2014), Umoren (2015), that focused on non-financial measure reporting and on economic, social and governance (ESG) reporting. From the paucity of existing literature on integrated reporting and firms' value, majority of the studies have focused on countries that have made it a mandatory reporting requirement (such as South Africa). Some of the studies include: Buitendag, Fortuin & Laan, 2017; Kosovic & Patel, 2013; Meijden, 2016. However, the concept of integrated reporting remains voluntary in Nigeria and it is generally assumed to improve the information quality of reporting which in turns improve the value of the firm. This assumption however requires empirical testing in Nigeria which is the purpose of this study. This research attempts to fill the gaps of few recent studies on integrated reporting in Nigeria that focused on the manufacturing sector.

METHODOLOGY

The study adopted *ex-post facto* research design. Secondary data were extracted from the financial reports of sampled firms for the period under study. An *ex-post facto* investigation ascertains current condition and seeks back in time for plausible contributing factors. This research design was adopted because it has been used in prior studies to investigate the possible consequence of integrated reporting and firms' value (for examples, Buitendag, Fortuin & Laan, 2017; Kosovic & Patel, 2013). The population of this study consisted of 53 manufacturing companies listed on the Nigerian Stock Exchange (NSE) as at 30 June 2017 based on the NSE factsheet as at June 2017.

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The manufacturing sector was chosen because of its significant role in the Nigerian economy and its probable high risk with regards to economic, social, environmental and governance issues. The sample size was 38 companies representing 72% of the population. The purposive sampling technique was adopted for this study. Consumer goods and industrial goods sub-sectors of the manufacturing sector were used being the most visible with high societal impact, the biggest in number of companies, and representing 59.52% of total equities stock capitalization according to the NSE 2017 year-end statistics for December 2017. The financial statements are deemed to be reliable due to their compliance with the Companies and Allied Matters Act sections 352-254, all appropriate regulatory bodies and accounting standards as duly verified by the external auditors. Hence, these data are reliable and are expected to meet the objectives of the study. The figures used for this work wer verified and certified by the appropriate external auditors and the regulatory bodies represented by the NSE. Since the design is *ex-post facto,* it is assumed that the conditions have validated the financial statements. For this study, the data on integrated financial reporting and firm value for the various years under study was extracted from audited financial statements of listed companies earlier validated by the external auditors and the NSE. Descriptive and inferential statistics were employed. The descriptive statistics examined the mean, maximum, minimum and standard deviation parameters of the variables. The regression analysis done showed the extent of the causal relationship of the two variables. The R- squared and Adjusted R- squared were used as a measure of explanatory power of the various proxies of the variables.

Model Specification:

$Y = f(X, Z)$

$X = x_1, x_2, x_3, x_4,$

$Z = z_1, z_2$

Where:

Y = Firms' value measured by Tobin's Q (TQ)
X = Integrated Reporting (IRS)
x_1= Disclosure of Financial Capital (DFC)
x_2= Disclosure of Manufactured Capital (DMC)
x_3= Disclosure of Intellectual and Human Capital (DIHC)
x_4= Disclosure of Natural Capital (DNC)
Z = Control Variables
z_1= Firms' Size (SIZE)
z_2= Firms' Financial Leverage (FLEV)

The models are follows:

Model 1

TQ = f(DFC)-**Equation 1**

$TQ_{it} = \alpha_1 + \beta_1 DFC_{it} + \mu_{1}$-**Model 1**

Model 2

TQ = f(DMC)-**Equation 2**

$TQ_{it} = \alpha_2 + \beta_2 DMC_{it} + \mu_{2:}$ **Model 2**

Model 3

TQ = f(DIHC)-**Equation 3**

$TQ_{it} = \alpha_3 + \beta_3 DIHC_{it} + \mu_{3}$-**Model 3**

Model 4

TQ = f(DNC)-**Equation 4**

$TQ_{it} = \alpha_4 + \beta_4 DNC_{it} + \mu_{4}$-**Model 4**

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Model 5

TQ= f (DFC, DMC, DIHC, DNC, SIZE, FLEV)-**Equation 6**

TQ = $\alpha_6 + \beta_9 DFC_{it} + \beta_{10} DMC_{it} + \beta_{11} DIHC_{it} + \beta_{12} DNC_{it} + \beta_{13} SIZE_{it} + \beta_{14} FLEV_{it} + \mu_6$ –**Model 6**

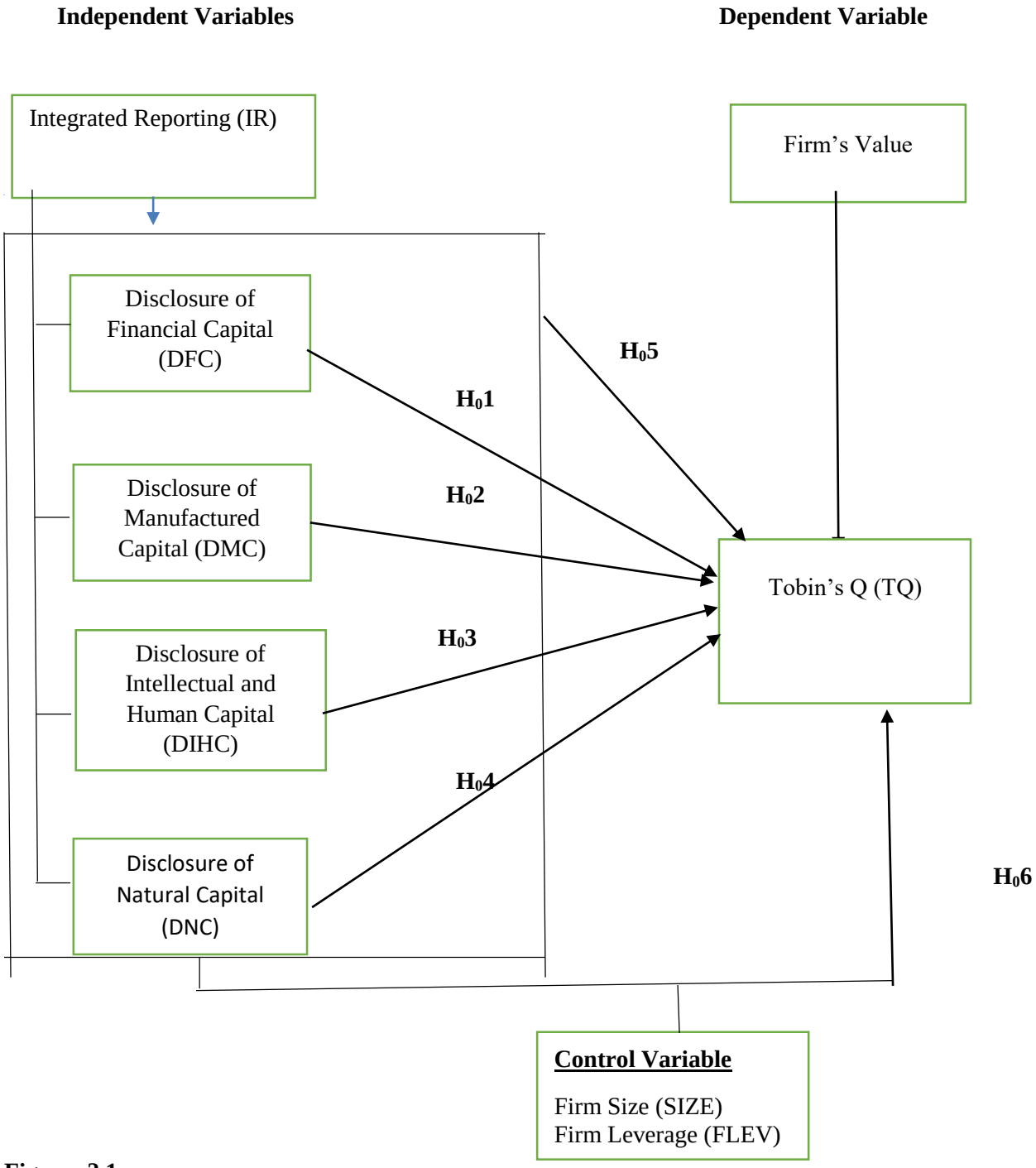

Figure: 2.1

Source: Researcher's Study (2018)

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Findings: The findings are reported in two sections:

Variables	Mean	Std. deviation	Minimum	Maximum
TQ	3.073	7.505	0	66.36
DFC	3.519	0.571	2	4
DMC	2.222	0.484	2	4
DIHC	2.067	0.492	1	3
DNC	0.993	1.212	0	4
SIZE	79996.77	117614.8	0	615103
FLEV	0.215	0.255	0	1.04

Source: Researcher's Study, 2018 ***Observations: 135**

Descriptive statistics: Table 1

Descriptive statistics

Table 1 shows the summary statistics of all the variables obtained from the sampled companies for the period under study. Tobin's Q (TQ) has a mean value of 3.073 and standard deviation of 7.505. The standard deviation measures the extent of dispersion from the mean and depicts the level of volatility of the series. In this regard, 7.505 means there is a high presence of volatility to the tune of 7.505 in Tobin's Q (TQ). This is further seen and confirmed from the difference and distance between the minimum value (0) and maximum (66.36) which is 66.36. This depicts that the firm values for the sampled companies for the sampled period varied amongst themselves. Disclosure of Financial Capital (DFC) shows a mean value of 3.519 and a standard deviation of 0.571. This depicts a lower dispersion of Disclosure of Financial Capital (DFC) from its mean value as compared with Tobin's Q (TQ) that has a relatively higher standard deviation value of 7.505. This suggests a lower variation and volatility in the Disclosure of Financial Capital (DFC) series. This is further confirmed from the difference and distance between the minimum value (2) and maximum value (4) which is 2.Disclosure of Manufactured Capital (DMC) and Disclosure of Intellectual and Human Capital (DIHC) also showed a similar pattern with Disclosure of Financial Capital (DFC) with mean values of 2.222 and 2.067 respectively, and standard deviation values of 0.484 and 0.492 respectively. This equally suggests a lower variation and volatility in Disclosure of Manufactured Capital (DMC) and Disclosure of Intellectual and Human Capital (DIHC) which is also confirmed by the differences in their minimum values 2 and 1 respectively, and maximum values of 4 and 3 respectively, resulting in a difference of 2 for both variables. Disclosure of Natural Capital (DNC) had a mean of 0.993 and standard deviation of 1.212 which suggests a

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higher volatility as compared with Disclosure of Manufactured Capital (DMC) and Disclosure of Intellectual and Human Capital (DIHC). The minimum value of zero (0) and maximum value of four (4) indicated that the difference between the minimum and maximum value for Disclosure of Natural Capital (DNC) is four (4). Firms' Financial Leverage (FLEV) also took a similar pattern of a relatively low volatility, which is seen from its standard deviation value of 0.255 which is less than one. This is further confirmed by the little difference between its minimum value (0) and maximum value (1.04) resulting in 1.04 which is less than two. This means that the financial leverages of the firms sampled for this study is not so different from each other. Firms' Size (SIZE) on the other hand had a higher range of standard deviation 117614.8 and mean value of 79996.77. This suggests a high volatility in the sizes of the sampled firms for this study. This is also confirmed by the wide difference between the minimum value 0 and the maximum value 615103, giving rise to a difference of 615103.

4.2: Inferential Statistics: Test of Hypotheses

Test of Hypothesis 1: Degree of reporting on Financial Capital has no significant effect on the value of listed manufacturing firms in Nigeria

iable	**Coefficient**	**Std Error**	**t-Stat.**	**Prob.**
Constant	18.883	2.305	8.19	0.00***
DFC	-4.507	0.672	-6.71	0.00***
R^2	0.1305			
Diagnostic Tests	**Statistics**			**Probability**
Hausman test	Result inconclusive			
Multiplier test	121.88			0.00***
Heteroskedasticity test	264.64			0.00***
Wooldridge test for autocorrelation	126.90			0.00***
Pesaran's test of cross-sectional independence	11.01			0.00***

Dependent Variable: TQ; Obs.: 135 *,,***significant at 10%,5%,1%**

Table 2 Regression Analysis for Model 1

Model 1

$TQ_{it} = \alpha_1 + \beta_1 DFC_{it} + \mu_1$

$TQ_{it} = 18.883 - 4.507 DFC_{it}$

The simple linear regression estimates of model 1 shows that Disclosure of Financial Capital (DFC) has a negative effect on firms' value measured by Tobin's Q (TQ). This is indicated by the

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sign of the coefficient, that is β_1= -4.507<0. This result is inconsistent with *a priori* expectation as it was expected that the integrated reporting measured by Disclosure of Financial Capital (DFC) will have a positive effect on firms' value.

Also, the size of the coefficient of the independent variable show that a 1 unit increase in DFC, will lead to a 4.507 unit decrease in Tobin's Q. Also, the R-squared showed that 13% variations in TQ can be attributed to DFC, while the remaining 87% variations in TQ are caused by other factors not included in this model. This shows a weak explanatory power of the model. However, T-statistic p-value of 0.00 which shows that the regression result is statistically significant because this is less than 5%, the level of significance adopted for this study. Further,at the level of significance 0.05,the t-statistic is -6.71,while the p-value is 0.000 which is less than o,05 significance level.Therefore, the null hypothesis (H_{01}) that Degree of reporting of Financial Capital has no significant effect on the value of listed manufacturing firms in Nigeria is not accepted. Disclosure of Financial Capital (DFC) has a significant negative effect on value of sampled quoted firms in Nigeria.

Test of Hypothesis 2: $H_0$2: Degree of reporting of Manufactured Capital has no significant influence on the value of listed manufacturing firms in Nigeria.

Variable	**Coefficient**	**Std Error**	**t-Stat.**	**Prob.**
Constant	2.086	0.849	2.46	0.01**
DMC	0.051	0.376	0.14	0.89
R^2	0.0004			
Diagnostic Tests	**Statistics**			**Probability**
Hausman Test	0.06			0.81
Multiplier test	138.01			0.00***
Heteroskedasticity test	11.20			0.00***
Wooldridge test for autocorrelation	127.975			0.00***
Pesaran's test of cross-sectional independence	9.76			0.00***

Dependent Variable: TQ; Obs.: 135 *,,***significant at 10%,5%,1%**

Table 3 Regression Analysis for Model 2

$TQ_{it} = \alpha_2 + \beta_2 DMC_{it} + \mu_2$

$TQ_{it} = 2.086 + 0.051 DMC_{it}$

The simple linear regression estimates of model 2 in table 3 shows that Disclosure of Manufactured Capital (DMC) has a positive effect on firms' value measured by Tobin's Q (TQ). This is indicated by the sign of the coefficient, that is β_2= +0.051>0. This result is consistent with *a priori*

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expectation as it was expected that the integrated reporting measured by Disclosure of Manufactured Capital (DMC) will have a positive effect on firms' value. However, T-statistic p-value of 0.89 shows that the regression result is statistically insignificant because this is greater than 5%, the level of significance adopted for this study. Also, the R-squared showed that 0.04% variations in TQ can be attributed to DMC, while the remaining 99.07% variations in TQ are caused by other factors not included in this model. This shows a weak explanatory power of the model. Therefore, the null hypothesis (H_{02}) that Degree of reporting of Manufactured Capital has no significant influence on firms' value of listed manufacturing companies in Nigeria is not rejected. Thus, Disclosure of Manufactured Capital (DMC) has an insignificant positive effect on value of sampled quoted firms in Nigeria.

Test of Hypothesis 3: ($H_0$3): The degree of reporting of Intellectual and Human Capital has no significant impact on the value of listed manufacturing firms in Nigeria.From table 4 below, The simple linear regression estimates of model 3 shows that Disclosure of Intellectual and Human Capital (DIHC) has a negative effect on firms' value measured by Tobin's Q (TQ). This is indicated by the sign of the coefficient, that is $\beta_3 = -0.994<0$. This result is inconsistent with *a priori* expectation as it was expected that the integrated reporting measured by Disclosure of Intellectual and Human Capital (DIHC) will have a positive effect on firms' value. However, T-statistic p-value of 0.49 shows that the regression result is statistically insignificant because this is greater than 5%, the level of significance adopted for this study. Also, the R-squared showed that 0.14% variations in TQ can be attributed to DIHC, while the remaining 99.86% variations in TQ are caused by other factors not included in this model. This shows a weak explanatory power of the model.

Variable	**Coefficient**	**Std Error**	**t-Stat.**	**Prob.**
Constant	4.964	2.949	1.68	0.09*
DIHC	-0.994	1.445	-0.69	0.49
R^2	0.0014			
Diagnostic Tests	**Statistics**			**Probability**
Hausman Test	0.45			0.50
Multiplier test	137.44			0.00***
Heteroskedasticity test	1.07			0.30
Wooldridge test for autocorrelation	136.20			0.00***
Pesaran's test of cross-sectional independence	8.99			0.00***

Dependent Variable: TQ; Obs.: 135 *,,***significant at 10%,5%,1%**

Table 4 Regression Analysis for Model 3

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Further to the above analysis, the t-statistic in table 3 is -0.69, while the p-value of the t-statistic is 0.49 which is greater than 0.05 level of significance adopted. Therefore the study did not reject the hull hypothesis. This means that The degree of reporting of Intellectual and Human Capital has no significant impact on the value of listed manufacturing firms in Nigeria.

Test of Hypothesis 4 ($H_0$4): There is no significant impact of the degree of reporting of Natural Capital on the value of listed manufacturing firms in Nigeria.

From table 5 below, the simple linear regression estimates of model 4 shows that Disclosure of Natural Capital (DNC) has a negative effect on firms' value measured by Tobin's Q (TQ). This is indicated by the sign of the coefficient, that is $\beta_4 = -0.438<0$. This result is inconsistent with *a priori* expectation as it was expected that the integrated reporting measured by Disclosure of Natural Capital (DNC) will have a positive effect on firms' value.

Variable	**Coefficient**	**Std Error**	**t-Stat.**	**Prob.**
Constant	1.717	0.859	2.00	0.05*
DNC	-0.438	1.074	-0.41	0.68
R^2	0.0006			
Diagnostic Tests	**Statistics**			**Probability**
Hausman Test	0.52			0.52
Multiplier test	138.01			0.00***
Heteroskedasticity test	37.33			0.00***
Wooldridge test for autocorrelation	144.60			0.00***
Pesaran's test of cross-sectional independence	10.31			0.00***

Dependent Variable: TQ; Obs.: 135 *,,***significant at 10%,5%,1%**

Table 5 Regression Analysis for Model 4

$TQ_{it} = \alpha_4 + \beta_4 DNC_{it} + \mu_4$

$TQ_{it} = 1.717 - 0.438 DNC_{it}$

Results from table 5 further reveal the t-statistic p-value of 0.68 shows that the regression result is statistically insignificant because this is greater than 5%, the level of significance adopted for this study. Also, the R-squared showed that 0.06% variations in TQ can be attributed to DNC, while the remaining 99.94% variations in TQ are caused by other factors not included in this model. This

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shows a weak explanatory power of the model. At the level of significance 0.05,the t-statistic is -0.41,while the p-value of the t-statistic is 0.68 which is higher than the level of significance adopted.Therefore, the null hypothesis (H_{04}) that the degree of reporting of Natural Capital on the value of listed manufacturing firms in Nigeria is not rejected. Thus, degree of reporting of Natural Capital has an insignificant negative effect on value of sampled quoted firms in Nigeria.

Test of Hypothesis 5 (H_05) Firms' size and leverage do not have significant controlling influence on the impact of integrated reporting on the value of listed manufacturing firms in Nigeria.

Variable	**Coefficient**	**Std Error**	**t-Stat.**	**Prob.**
Constant	13.425	7.167	1.87	0.06*
DFC	-3.015	1.792	-1.68	0.09*
DMC	-0.522	0.410	-1.27	0.20
DIHC	-0.151	0.434	-0.35	0.73
DNC	0.706	0.178	3.96	0.00***
SIZE	2.19e-06	1.22e-06	1.80	0.07*
FLEV	-0.122	0.341	-0.36	0.72
R^2	0.2016			
Adjusted R^2	0.1636			
F-Statistic	24.08			
Prob.(F-Stat)	0.00***			
Diagnostic Tests	**Statistics**			
Hausman test	2.3			0.68
Multiplier test	100.5			0.00***
Heteroskedasticity test	266.3			0.00***
Wooldridge test for autocorrelation	150.8			0.00***
Pesaran's test of cross sectional independence	7.1			0.00***

Dependent Variable: TQ; Obs.: 135 *,,***significant at 10%,5%,1%**

Table 6 Regression Analysis for Model 5

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$$\mathbf{TQ} = \alpha_6 + \beta_9 \, DFC_{it} + \beta_{10} \, DMC_{it} + \beta_{11} \, DIHC_{it} + \beta_{12} \, DNC_{it} + \beta_{13} \, SIZE_{it} + \beta_{14} \, FLEV_{it+} \mu_6$$

$$\mathbf{TQ}_{it} = 13.425 - 3.015 \, DFC_{it} - 0.522 \, DMC_{it} - 0.151 \, DIHC_{it} + 0.706 \, DNC_{it} + 2.19e\text{-}06 \, SIZE_{it} - 0.122 \, FLEV_{it}$$

Diagnostic tests shown on Table 6 were carried out to determine the choice and appropriateness of the estimation technique to be employed in testing the hypothesis of this study. The Hausman test was carried out to determine whether fixed effect, random effect or pooled ordinary least square estimation technique is most appropriate for the model. The hausman specification test has as its null hypothesis that the difference in coefficients of a model is not systematic and hence the random effect estimation technique is appropriate. The result of the hausman test showed a probability value of 0.68 which is greater than the 5% level of significance hence, the significance of this test result indicated that the null hypothesis of the hausman specification test cannot be rejected by the study therefore, the random effect estimation technique was utilized for the model.The study further tested for the appropriateness of the random effect estimation technique by conducting the Breusch and Pagan Lagrangian multiplier test. This test has a null hypothesis that random effect is not needed and not appropriate for the model, the result of this test showed a probability of 0.00 which is lower than the 1% level of significance. This showed that the study cannot accept the null hypothesis and hence the acceptance of the alternate hypothesis that random effect is appropriate for the model. The study also carried out the cross-sectional independence test using Breusch and Pagan CD test. This test result shows a probability value of 0.00 which is less than the 1% level of significance. This implies that the residuals are correlated at 1% level of significance. Also, the Breusch-Pagan / Cook-Weisberg test for heteroscedasticity was carried out to determine if the variance of the residual are constant. This test has a null hypothesis of constant variance of the residual, the result of the test showed a probability value of 0.00 which is lower than the 1% level of significance. This suggest that the study cannot not accept the null hypothesis of constant variance, indicating that the variance of the residual is not constant. In testing for autocorrelation in the panel data, the Wooldridge test was conducted. This test has a null hypothesis of no first-order autocorrelation and its result in this model showed a probability value of 0.00 which is lower than the 5% level of significance. It however suggests that the study cannot accept the null hypothesis hence, the presence of autocorrelation in the model. Thus, due to the presence of cross- sectional dependence, heteroscedasticity, and first order autocorrelation, the model was estimated using random effect generalized least square (GLS) estimator.

The result of the regression analysis on Table 5 shows that integrated reporting measures of DFC, DMC, and DIHC have negative effects on TQ while DNC has positive effect on TQ when controlled for firms' Size (SIZE) and leverage (FLEV). Also, while SIZE has a positive effect on TQ, FLEV has a negative effect. This is indicated by the sign of the coefficients, that is β_6 = -3.015<0; β_7 = -0.522<0; β_8 = -0151<0; β_9 = +0.705>0; β_{10} = +2.19e-06>0; β_{11} = -0.122<0. Also, the probability values of the t-statistics show that only the coefficients of DFC, DNC, and SIZE are statistically significant with p-values lower than 0.10

This result is inconsistent with *a priori* expectation as it was expected that integrated reporting measures will have positive effects on firms' value when controlled for SIZE and FLEV. Also, the size of the coefficients show that a 1 unit increase in DFC, DNC, and SIZE will cause 3.015 unit

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decrease, 0.705 increase, and 2.19e-06 unit increase in the mean of TQ. This is further emphasized by the adjusted R^2, which shows that about 16% variations in TQ can be attributed to the integrated reporting measures and the control variables, while the remaining 84% variations in TQ are caused by other factors not included in this model. Hence, the coefficient of determination shows that the model has a weak explanatory power.

At the level of significance 0.10 adopted for this model, the F-statistic is 24.08,while the p-value of the F-statistic is 0.000 which is less than 0.10.

Decision: From the result of the regression analysis in model five, the null hypothesis that Firms' size and leverage do not have significant controlling influence on the impact of integrated reporting on Firm's value of listed manufacturing companies in Nigeria is not accepted. Therefore, Firms' size and leverage have significant controlling influence on the impact of integrated reporting on the value of listed manufacturing firms in Nigeria. The obtained were in line with the works of Barth *et al* (2015) and (2017),. Carlos (2016) , Cosma *et al* (2018) , Joubert (2014) , Lee and Yeo (2015) , Tijani *et al* (2015) amd Turturea (2015). In contrast, the following works did not have conclusive positive association between integrated report and financial performance and or firm value: Churet and Eccles (2014) did not see any conclusive evidence that integrated reporting practices are correlated with companies achieving a higher return on invested capital. Doni *et al* (2016) results did not highlight good practices of non-financial disclosures. Emeakopuzo (2014) concluded that non-financial measures had less than 20 per cent influence on firm value. Wijnhoven (2014) concluded that there is lack of empirical evidence for value creation.

DISCUSSION

This study was set out to examine the effect of integrated reporting on the value of listed manufacturing firms in Nigeria. The peculiarity of this present study affords the chronological presentation of this chapter. The first part dealt with demographic description of sampled companies, which gives explanation as to the number of companies used and the titling of reports. The second section shows the descriptive analysis in terms of numerical representation and graphical representation. The summary statistics of all the variables obtained from the sampled companies for the period under study show that Tobin's Q (TQ) has the highest dispersion from its mean because its standard deviation is high compared with the measures of integrated reporting of Disclosure of Financial Capital (DFC), Disclosure of Manufactured Capital (DMC), Disclosure of Intellectual and Human Capital (DIHC), and Disclosure of Natural Capital (DNC). This was further confirmed by the fluctuations in the patterns of TQ as depicted by the trends of its average annualized series for the sampled firms under study from 2012 to 2016. This implies that the value of sampled firms had been fluctuating over the period of study. Also, integrated reporting measures of DFC, DMC, DIHC, and DNC seem to have been increasing over the years. This further confirms the why none of the sampled companies is yet to use the word "Integrated Report" in their annual reports, where disclosures on integrated reports are sub-merged in the traditional Annual Reports and Financial Statements. This still indicates that Nigerian listed companies are just in the base of the Integrated Reporting Maturity Model.

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Although DFC shows a consistent pattern over the years, sampled firms show an increase in the disclosure of other aspects of integrated reporting for the period of study. Also, there is an increase in the overall Integrated Reporting (IR) over the years of study. The trends show that each measure of integrated reporting has a different pattern when compared with the trends of TQ. However, the direction and extent of relationship among these variables cannot be determined from the graphical representation. As such, the regression analysis shows the extent and direction of this relationship in line with the stipulated objectives of the study. The regression analysis estimates of model 1 showed that Disclosure of Financial Capital (DFC) has a significant negative effect on firms' value measured by Tobin's Q (TQ). This is indicated by the sign of the coefficient. This result is inconsistent with *a priori* expectation as it was expected that the integrated reporting measured by Disclosure of Financial Capital (DFC) will have a positive effect on firms' value. Also, the probability of the t-statistics of 0.00 shows that the coefficient is statistically significant at 5% level of significance.

Susan Wild and Chris van Staden (2014) concluded that as far as the multiple capitals concept is concerned, most companies addressed Financial, Human, Natural, and Social Capitals in their reports while Manufactured and Intellectual capital were not well addressed. Most companies in our sample addressed four types of capital. In terms of determinants for covering the capitals, we find industry membership to be significantly related to covering multiple capitals.Also, the regression analysis estimates of model 2 showed that Disclosure of Manufactured Capital (DMC) has an insignificant positive effect on firms' value measured by Tobin's Q (TQ). This is indicated by the sign of the coefficient. This result is consistent with *a priori* expectation as it was expected that the integrated reporting measured by Disclosure of Manufactured Capital (DMC) will have a positive effect on firms' value. The probability of the t-statistics of 0.89 shows that the coefficient is statistically insignificant at 5% level of significance. Wild and Staden (2014) concluded that as far as the multiple capital concept is concerned, most companies addressed financial, human, natural and Social Capitals in their reports while manufactured and intellectual capital were not well addressed. Most companies in our sample addressed four types of capital. In terms of determinants for covering the capitals, they find industry membership to be significantly related to covering multiple capitals.Suttipun (2017) work on Integrated reporting (IR) was quantified on the six corporate capitals. The most common IR related to Intellectual capital being 30% of the total IR, Social capital reporting (21%), Human capital reporting (13%), Manufactured capital reporting (10%) and Environmental reporting (7%). The Manufactured capital reporting positively affect the level of IR while ECR has a negative effect on the level of IR.

Furthermore, the regression analysis estimates of model 3 showed that Disclosure of Intellectual and Human Capital (DIHC) has an insignificant negative effect on firms' value measured by Tobin's Q (TQ). This is indicated by the sign of the coefficient. This result is inconsistent with *a priori* expectation as it was expected that the integrated reporting measured by Disclosure of Intellectual and Human Capital (DIHC) will have a positive effect on firms' value. However, the probability of the t-statistics of 0.49 shows that the coefficient is statistically insignificant at 5% level of significance. Wild and Staden (2014) concluded that as far as the multiple capitals concept is concerned, most companies addressed Financial, Human, Natural and Social Capitals in their reports while Manufactured and Intellectual capital were not well addressed. Most companies in their sample addressed four types of capital. In terms of determinants for covering the capitals, we

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find industry membership to be significantly related to covering multiple capitals.Suttipun (2017) work on Integrated reporting (IR) was quantified on the six corporate capitals. The results show that the most common IR related to Intellectual capital being 30% of the total IR, Social capital reporting (21%), Human capital reporting (13%), Manufactured capital reporting (10%) and Environmental reporting (7%). The Manufactured capital reporting positively affect the level of IR while ECR has a negative effect on the level of IR. Maditinos *et al* (2011) results failed to support most of the hypotheses, only concluding that there is a statistically significant relationship between human capital efficiency and financial performance.

Ming-Chin Chen *et al* (2005) investigated the relationship between intellectual capital and firm's market value and financial performance using Value Added Intellectual Coefficient (VAIC) on Taiwanese listed companies. Their results support the hypothesis that firm's intellectual capital has a positive impact on market value and financial performance.Dimitrios *et al* (2011) examined the impact of intellectual capital (IC) on firm's market value and financial performance and concluded that there is a significant relationship between human capital efficiency and financial performance. Ozer and Cam (2016) examined the role of human capital in firm valuation and concluded that HC can be considered as value-relevant in making business valuation decisions and management should manage human assets more effectively and efficiently including making appropriate compensation policies to maximize firm's long-term competitiveness in the global market.In addition, the result of regression analysis of model 4 showed that Disclosure of Natural Capital (DNC) has an insignificant negative effect on firms' value measured by Tobin's Q (TQ). This is indicated by the sign of the coefficient. This result is inconsistent with *a priori* expectation as it was expected that the integrated reporting measured by DNC will have a positive effect on firms' value. Also, the probability of the t-statistics of 0.68 shows that the coefficient is statistically insignificant at 5% level of significant. However, the multiple regression estimate shows that DNC has a significant positive effect on TQ. This finding is supported by the works of Carlos (2016), and Lee and Yeo (2015). However, in Asaolu *et al* (2011), it was found out that sampled companies scored poorly in environmental and social reporting indicators. Uwaigbe *et al* (2011) concluded that environmentally visible firms disclose more environmental information in their annual reports to legitimize their operations and to avoid public scrutiny and associated political costs.Kosovic and Patel (2013) results from the study show integrated reporting from an environmental and social aspect is value relevant for a company's market value under the mandatory implementation of integrated reporting. Integrated reporting from an environmental and social aspect is not value relevant for a company' market value under voluntary disclosure items elaborated from the index. Simona *et al* (2018) results was that the market appreciates the high-quality IR in all industries, although shareholder sensitivity is particularly high for non-financial companies. Traditionally, non-financial sector has in fact been perceived as poorly connected to environmental impacts. For this reason, the IR report culture of non-financial companies may in fact be better developed than that of financial companies.

On the overall, integrated reporting has a significant effect on firms' value as observed from the probability value of the F-statistics at 0.00. However, the direction of this effect depends on the various measures of integrated reporting. Although, when controlled for firms' Size (SIZE) and leverage (FLEV) the result of the regression analysis shows that DFC and DNC have significant negative and positive effects on TQ respectively, which is the same when both SIZE and FLEV

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were not considered. However, the adjusted R^2 increased from 14.7% in model 5 (without control variables) to 16% in model 6 (with control variables), implying that about 16% variations in TQ can be attributed to the integrated reporting measures and the control variables, while the remaining 84% variations in TQ are caused by other factors not included in this model. Hence, the coefficient of determination shows that the model has a weak explanatory power. However, the probability of the F-statistic of 0.00 which shows that the regression result is statistically significant because this is lesser than 5%. Also, the regression analysis of model 6 shows that while SIZE has a significant positive effect on TQ, FLEV has an insignificant negative effect on TQ. Aljifri (2008) investigated the extent of disclosure in annual reports of 31 listed firms in the United Arab Emirate (UAE) and ascertained the underlying factors affecting the disclosures level. Findings indicated that major differences existed among sectors; however, the size, the debt–equity ratio, and the profitability were found to have little or no association with the level of disclosure. Buitendag *et al* (2017) carried out an empirical evaluation of the entities in South Africa that won "excellent" in the EY ranking of integrated reports and the entities characteristics. Some of the firm's characteristics used as independent variables were firm size, growth, profitability, generation of cash flow, and governance. The study concluded that these characteristics affect integrated reporting. The result confirmed that an entity whose business affects the environment will produce more detailed integrated report legitimizing its business.In summary, the following works concluded that positive association between integrated report quality and firm value or financial performance: Barth *et al* (2015) and (2017), with the latter work extending prior research that finds a positive association between integrated report quality and firm value. Carlos (2016) indicated that integrated reporting is positively associated with market value and expected future cash flows, but not cost of capital. Cosma *et al* (2018) concluded that stock market reacts positively to integrated report awards finalist announcements and value attributed by shareholders grew over time. Joubert (2014) noted that integrated reporting model is associated with positive economic benefits, even when mandated. Lee and Yeo (2015) concluded that firm valuation is positively associated with integrated reporting disclosures and that the benefits exceeds the cost. Tijani *et al* (2015) concluded that integrated reporting would enhance the stakeholders' confidence in the corporate reporting function in Nigeria. Turturea (2015) findings were consistent with the idea that integrated reporting helps companies in achieving higher performance and Zhou (2014) found that improvement in the disclosure quality of integrated reports is associated with a subsequent reduction in the cost of equity capital.In contrast, the following works did not have conclusive positive association between integrated report and financial performance and or firm value: Churet and Eccles (2014) did not see any conclusive evidence that integrated reporting practices are correlated with companies achieving a higher return on invested capital. Doni *et al* (2016) results did not highlight good practices of non-financial disclosures. Emeakopuzo (2014) concluded that non-financial measures had less than 20 per cent influence on firm value. Wijnhoven (2014) concluded that there is lack of empirical evidence for value creation.

We recognise that companies in the sample are not at an advanced stadium of integrated reporting currently and this might have influenced the conclusions reached. The capital market culture in the country with its heavy short-termism outlook may also be an influencer. This culture may take time to change to push for long-term outlook in investment decision making.

Implications to Research and Practice

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The results of this study have implications for regulatory authorities, listed manufacturing companies on the NSE, as well as academic researchers.

To regulatory authorities: the results inform relevant regulatory authorities how voluntary IR practice has been low in the country 4-years after the final Framework was released in December 2013 and the need to take pro-active actions to "jump-start" quicker voluntary adoption. It will focus the regulator to ensure the companies comply with the framework .Financial Reporting Council of Nigeria (FRCN) and Securities and Exchange Commision (SEC) will have to foster mutual understanding to come out with a common policy for the manufacturing companies to be pro-active and disclose all the items in the framework to safeguard the interest of shareholders.

To corporate entities: it also situates their current annual reports within the context of multiple capitals in Integrated reporting concluding that focus is still largely on financial capital. To ensure alignment with global best practice and corporate sustainability, preparers of accounts will need to do more.The adoption of integrated reporting will give the corporate entities to plan for strategic thinking for value creation over short,medium and long terms.

To Stakeholders:The adoption of Integrated Reporting will give the stakeholders broad understanding of what will create value for their investment ,opportunities and the area of risks in the investment holdings.

To academic researchers and Practice: the theoretical implications of this study is that it contributes to the understanding of the current IR framework and the extent of reporting using the concept of multiple capitals as this study used five of the six forms of capitals in annual reports of listed manufacturing companies in Nigeria.Oprisor (2014) stated that IR is a relatively new concept and the research on it is still a developmental process especially in Nigeria. This current study promotes its development and add to the few extent literatures in IR in Nigeria and serves as a future reference point.Integrated reporting will enable researchers and practitioners to focus on the disclosure of risks and opportunities as required by the disclosure framework (IIRS 2013b).

CONCLUSION

Findings of this study therefore provide insight into the combined effect of integrated reporting on firms' value of listed manufacturing firms in Nigeria. It further provided an insight as to the extent to which each of the independent variables of integrated reporting of Disclosure of Financial Capital (DFC), Disclosure of Manufacturing Capital(DMC),Disclosure of Intellectual and Human Capital(DIHC), and Disclosure of Natural Capital (DNC) affect the dependent variable of TQ and the influence of the control variables of size and financial leverage on the effect of the independent variables on the dependent variable. It also provides an affirmation of the extent to which the variations in the dependent variable are caused by the independent variables covered in the models as depicted by the adjusted R^2. Thus, the study concluded that integrated reporting is still at its early phase of adoption in Nigeria; whereas DMC and DIHC do not influence firms' value, DFC has led to a reduction in firms' value. Also, DNC has improved the value of the sampled firms' over the years under study. Overall, integrated reporting is useful in determining the firms' value of listed manufacturing firms in Nigeria.

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Justification achieved: The study was designed to investigate integrated reporting requirements for a new form of disclosure that would provide a holistic view of the organization which would aim to support integrated thining,decision-making and all actions needed tocreate value for stakeholders which were missing in the conventional reporting system**.**From the findings companies recognized that capitals are subject to increases,decreases and transformation from time to time.

Future Research: This study has focused on the industrial and consumer sectors of the Nigerian Stock Exchange, further studies can focus on more sectors thereby expanding the sample size for improved accuracy in generalizing. The motivation for those companies who have started the journey and are progressing and of those who can be considered as laggards could also be an interesting area for further study.The motivations or why of the relationship established in this study between each of the multiple capitals and firm value will also deepen knowledge in this emerging corporate reporting.A study with close examination of the diffusion of innovation theory, identifying the enablers' and inhibitors to modern developments in accounting with reference to integrated reporting will also be worthwhile.

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