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Integrated reporting of intellectual capital and financial performance of deposit money banks in Nigeria

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Abstract--The study examined the effect of integrated reporting of intellectual capital on the performance of listed deposit money banks in Nigeria. The specific objectives are to: (i) examine the effect of integrated reporting of structural and relational capital efficiency on return on assets and return on equity of the sector under study. The study employed an ex-post facto research design. Secondary data was used for the period of 15 years (2008-2023). Population of the study comprises the twenty-two listed deposit money banks. The study adopted judgemental sampling method in the selection of twelve banks. Preliminary tests of the database were carried out using augmented dickey-fuller unit root test at 5% level of significance. Data were presented using descriptive statistics and correlation analysis while least square regression model was used to test the hypotheses

at 5% level of significance. Integrated reporting of Structural and human capital efficiency has a positive and significant effect on return on assets and return on equity while Integrated reporting of Relational capital efficiency showed both negative and positive insignificant relationship with return on assets and return on equity of listed banks in Nigeria. The study concluded that integrated reporting of intellectual capital components in the money deposit banks financial statements will positively affect their performance at the long run and thereby suggest that bank managers should strive to expose their employees to research and development and other training programs that will automatically improve their performance.

Keywords---banks, deposit, financial performance, intellectual capital, money, Nigeria.

1. INTRODUCTION

Effect of integrated reporting of intellectual capital on the financial performance of money deposit banks has been an issue of research in the recent years. In 2013, the International Integrated Reporting Council (IIRC) introduced a principle-based reporting framework for integrated reporting of both financial and non-financial assets. This framework aims to provide a precise guide to address the lack of common understanding and confusion surrounding integrated reporting practices globally. Integrated reporting serves as a corporate reporting form; that encompasses both financial and non-financial information of an organization. It also serves as a platform to demonstrate the organization's capacity to generate value over a period of time. Zhou, Simnett, and Green (2017) argued that integrated reporting serves as both a reporting and management tool, effectively reducing the complexities of present corporate reporting and promoting brevity. This tool seeks to surpass the limitations of previous versions, enabling firms to present comprehensive information about the process of creating value, with a specific emphasis on components of intellectual capital as one of the six content elements of integrated reporting. According to Dewi, Azam, & Yusoff, (2019) Integrated reporting refers to the process of demonstrating how an organization creates value by presenting its strategy, business plan, and six different types of resources known as the content elements or metrics of integrated reporting. These resources include financial, natural, manufactured, intellectual, human, and social and relationship capital. The current study specifically focuses on intellectual capital, which manifests in four forms: intellectual, human, social and relational capital (Bernardi, 2020). Saeed et al. (2013) describe intellectual capital as an intangible asset that holds equal value to other assets. The 2014 study text from the Institute of Chartered Accountants of Nigeria (ICAN) defines an intangible asset as a non-monetary asset that is identifiable and lacks physical substance. It includes intellectual assets within the category of intangible assets. In other words, they are intangible assets that are identifiable and cannot be physically perceived, yet they generate financial advantages for the organization. Integrated Reporting enhances the understanding of performance data by providing a comprehensive framework that highlights the connection between value-relevant information and business operations. Additionally, it has the

potential to facilitate long-term decision making inside an organization (Camilleri, 2019). An integrated report, following the IIRC framework, is a succinct communication that outlines how an organization's strategy, governance, performance, and future prospects, in relation to its external environment, contribute to the generation of value in the short, medium, and long-term. It serves as a means for corporations to present both intellectual capital information and financial information in a single report. Dumay & Cai (2014) emphasized that this characteristic sets integrated reporting apart from annual reports.

However, companies who choose to implement integrated reporting are not required to accept this categorization or format their report exclusively according to the IIRC criteria. The International Integrated Reporting Council (IIRC) has a crucial role in promoting global recognition of integrated reporting (IR). It was established in 2010 via the collaboration of the Prince's Accounting for Sustainability Project and the Global Reporting Initiative (GRI). Several authors (Adams, 2015; Macias & Farfan-Lievano, 2017; Loana & Adriana, 2014; Vitolla et al, 2019; Lodhia, 2015; Steyn, 2014; and Villiers et al, 2017) have asserted that adopting integrated reporting has numerous benefits for organizations. These benefits include enhancing decision-making, improving risk management, facilitating effective communication, enriching the process of determining materiality, enhancing reputation and increasing profits amongst others. The International Integrated Reporting Framework (IIRF) serves as a globally recognized reference for regulatory authorities and organizations to implement integrated reporting (IR) practices. The international integrated reporting framework outlines seven guiding principles that govern the content and presentation of an integrated report, they are;

- i. Strategic focus and future orientation,
- ii. Connectivity of information,
- iii. Stakeholder relationships,
- iv. Materiality,
- v. Conciseness,
- vi. Reliability and completeness
- vii. Consistency and comparability

Investors allocate their resources to corporate organizations with the anticipation of attaining equitable returns on investment (ROI). Stakeholders, in general, receive rewards that are contingent upon the financial success of the company during a specific financial term. Onifade, Ajulo, and Sanyaolu (2016) assert that shareholder awards are primarily based on financial performance, which serves as an accurate measure of the entity's worth, with the goal of maximizing stakeholder wealth. Nonetheless, the fiscal success of an organization and the prosperity of its stakeholders are contingent upon the exertion of human labour (intellectual property). Anuonye (2015) similarly argues that intellectual capital refers to the quantifiable intangible assets resulting from human effort, which can provide a competitive edge to an organization. Intellectual capital refers to the information and skills that contribute to achieving organizational objectives. Narvekar and Jam (2016) noted that improving employees' abilities can provide a competitive advantage by prioritizing organizational growth over employee comfort and encouraging the acquisition of new skills. According to Saeed, Sami, Lodhi,

and Iqbal (2013), intellectual capital refers to the strategic utilization of human, structural, and relational capital in order to gain a competitive advantage. According to Rehman, Rehman, Rehrnari, and Zahid (2011), Intellectual Capital (IC) is a crucial strategic asset in the knowledge-based economy. Knowledge assets are essential for organizations in knowledge-based economies to maintain a competitive advantage, surpassing the importance of tangible assets. This plays a crucial role in creating value in today's economies and organizations (Nassar, 2018). Various organizations enhance personnel competencies through training, research, and development, while also allocating resources towards cultivating customer and supplier connections, infrastructure, and information systems (Nassar, 2018). These activities, known as intellectual capital reporting, are increasing daily while physical and financial capital reporting are decreasing. The enhanced comprehension of knowledge-based economies has led to a change in reporting behaviour inside organizations, particularly banks (Zeghal & Maaloul, 2010). Knowledge is the acquisition of information along with the comprehension of how to apply it, whereas knowledge management refers to an organization's capacity to effectively manage and control its intellectual assets (Mayo, 2001). Apiti, Ugwuoke, and Chikezie (2017) argue that intangible assets, specifically intellectual capital, have gained significant attention due to their potential to enhance an organization's value and ability to acquire additional resources, ensuring its survival and continuity.

1.2 Statement of the Problem

Due to the financial crisis of 2008, classical financial reporting has been widely criticized by shareholders and other stakeholder groups as financial reports cannot explain the rising value gap between the balanced equity and the firm performance of entities. Again, Annual financial reports prepared by conventional methods are particularly far from meeting the rapidly changing market expectations, for containing retrospective financial performance information. With this aspect, annual reports prepared by conventional methods, cannot meet expectations of stakeholders and potential investors whom environmental and social awareness has increased significantly and who want firms to be more transparent. Therefore, an innovative reporting requirement is needed beyond the annual report. As a reaction, stakeholders are demanding reporting on non-financial aspects of PIEs, such as environmental or social information (Adams, (2015). Effect of integrated reporting of intellectual capital on the financial performance of deposit money banks has been an issue of research in the recent years. In 2013, the international integrated reporting council (IIRC, 2013) introduced a principle-based reporting framework for integrated reporting in order to provide an accurate guide that will help in overcoming lack of common understanding of integrated reporting and to clear the confusion surrounding its practices around the world. Integrated reporting is not just a corporate reporting form used to report financial and non-financial information of an organization, but also an arena that shows the organization's ability to create value over time. Empirical proofs to understanding and developing integrated reporting on intellectual capital (IC) concepts in a developing economy like Nigeria are still in its infancy and studies that have been conducted within and outside Nigeria showed mixed results. One of such studies that painted a clearer picture of integrated reporting prospects in Nigeria is that of Ofoegbu, Odoemelum and

Okafor (2018). While integrated reporting is emerging in the Nigerian context, several studies have been conducted on the need for adoption of integrated reporting in Nigeria and leveraging on the potential benefits associated with it.

1.3 Objectives of the Study

The main objective of the study is to examine the effect of integrated reporting of intellectual capital on the performance of listed deposit money banks in Nigeria, while the specific objectives are to:

- i. Examine the effect of integrated reporting of structural capital efficiency (IRSCE) on return on assets (ROA) and return on equity of listed deposit money banks in Nigeria
- ii. investigate the effect of integrated reporting of human capital efficiency (IRSCE) on return on assets (ROA) and return on equity of listed deposit money banks in Nigeria,
- iii. Examine the effect of integrated reporting of relational capital efficiency (IRSCE) on return on assets (ROA) and return on equity of listed deposit money banks in Nigeria

1.4 Statement of Hypotheses

- i. Integrated reporting of Structural capital efficiency (IRSCE) has no significant effect on return on assets (ROA) and return on equity of listed deposit money banks in Nigeria
- ii. Integrated reporting of Relational capital efficiency (IRRCE) has no significant effect on return on assets (ROA) and return on equity of listed deposit money banks in Nigeria
- iii. Integrated reporting of Human capital efficiency (IRHCE) has no significant effect on return on assets (ROA) and return on equity of listed deposit money banks in Nigeria

2. Review of Related Literature

2.1 Conceptual Review

2.1.1 Integrated reporting

Integrated reporting is a reporting framework that evolves to fill the gap and deficiencies of the traditional reporting systems whose main focus was provision of financial information to the primary owners of the entity (Ahmed & Anifowose, 2017). The traditional reporting system that focuses mainly on satisfying the shareholders is not holistic as it ignores non-financial measures which are now accepted as useful yardsticks for measurement of corporate success and values. IR is considered to be a new corporate reporting system where the short term focus of value creation for the shareholders is shifted toward the long term value creation encompassing all the stakeholders while supporting managers to take decisions prudently (Hsiao & Kelly, 2016). It brings together financial and non-financial measure in one piece and also shows the link among the content elements (financial, manufactured, intellectual, human, social and relationship and natural capital) in line with integrated thinking approach (IIRC, 2013). IR is a process based on integrated thinking that results in a periodic integrated report

by an organization about value creation over time. Integrated thinking is the active consideration of the relationship between an organization's various operating and functional units and the capital that are used or affected.

According to the Institute of Chartered Accountants of Nigeria (ICAN, 2018) integrated reporting improves the quality of information available to providers of financial capital thus enabling a more efficient and productive allocation of capital. It provides a more cohesive and efficient approach to corporate reporting that draws on different reporting strands and communicates the full range of factors that materially affect the ability of an entity to create value over time. IR enhances accountability and stewardship for the broad base of capital and promotes understanding of their interdependencies. It envisages that an integrated report should be prepared primarily for providers of capital in order to support their capital allocation assessment. The major aim of IR is to improve transparency and accountability by providing concise communication about how an entity's strategy, governance, performance and prospect, in the context of its external environment lead to the creation of value in the short, medium and long term. From the above qualities, it can be deduced that IR represent an innovative approach that supports integrated thinking and value creation. 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. 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. In the light of this Mirza et. al (2019), averred that information plays a vital role in decision making process of business community coupled with the fact that investment decisions rely heavily on financial information at the disposal of investors. Every investor relating with an entity is concerned mostly about the long term value and survival tendencies of such firm and information relating to this is captured in IR which is rather a voluntary disclosure framework.

2.1.4 Intellectual Capital

According to Gruian, (2011), intellectual capital is important to organizations and positively influences the business performance. Intellectual capital is the summation of all knowledge and information that is possessed by all individuals in an organization, which provide competitive advantage to organization when used correctly. Intellectual capital is the sum and synergy of company's experience, knowledge, relationship, discoveries, processes market presences, innovations and community influence. It encompasses much more than the company patents, copyrights, concepts, manuals and other forms of intellectual property. Intellectual capital is one of the most popular concepts in the field of human resource management. It has attracted a growing interest in recent years in the management field, especially due to its association with organizational performance. Intellectual capital is a collection of all informational resources a company has at its disposal that can be used to drive profits, gain new customers, create new products and improves the overall business. It is the sum of all employees' expertise, organizational processes and other intangibles that contribute to a company's bottom line. On the other hand, Lai (2013) defines intellectual capital as the difference between market value and the book values of

companies' asset as reported in the statement of financial position. Intellectual capital has become critical to sustaining competitive advantage, organizational success, innovation, superior organizational performance, new product development, enhanced shareholders value and framework for achieving organizational goal (Onyewelu & Ubesie, 2016)..

2.1.5.1 Human Capital

Human capital is the most important asset for an organization and is a source of creativity and innovation. Human capital arises from the sum of employees' professional knowledge, leadership capabilities, risk taking and problem solving capability (Suhendra, 2015). In other words, human capital is indicative of an organization's inventory of knowledge that is hidden in its employees. Human capital is a combination of individuals' knowledge, skills, capability of innovation and their ability to perform their tasks and consists of the organization's values, culture and philosophy.

2.1.5.2 Structural Capital

Structural capital on the other hand comprises the hard wares, soft wares, data bases, organizational structure, patents, trademarks, organization's exclusive rights, and all organization's capabilities that support productivity. From another perspective, structural capital is what remains in the organization when employees go home at night (Fathi, Eze & Goh, 2011). In addition to this, it could be seen as organization's culture, organizational structure, organizational learning, organization's operating process and its information system. One of the intellectual capital theorists views structural capital as the main pillar in creation of learning organizations. In his view, if an organization enjoys highly capable employees but suffers from weak systems and procedures, this would impede gaining a favourable level of performance. The idea that structural capital exists enables the production of intellectual capital and serves as a conduit for and processor of human resources into intellectual capital. After the contribution brought about by human skill, the expertise or "know-how" that belongs to the enterprise becomes structural capital.

2.1.5.3 Customer Relation Capital Efficiency

Customer capital refers to the current and future value of an organization's relation with its customers. The essence of customer capital lies in the knowledge hidden in channels of distribution and relation channels with customers, that is, the knowledge which develops and advances the organization through a change in its nature (Sedeaq, 2018). Customer capital, also known as relational capital or external capital consists of relationships with customers and suppliers, the government or related industry associations, brand names, trademarks and reputation. According to (Narval & Yadav, 2017), it refers to the "organization's relationships or network of associates and their satisfaction with and loyalty to the company". The strength and structure of customers are critical to an organization's future value since customers' relation constitutes an organization's principle of cash flows (Chang & Lee, 2012). Without customer capital, market value and business performance are not achievable by an organization.

Customer capital has direct relationship with organization's performance. Studies in Michigan University showed that customers' loyalty could safeguard relations and reduce the fluctuating price of the product and improve the organization's prestige.

2.1.6 Financial Performance

Performance, in general, refers to the achievement of organizational goals and objectives with the least amount of resources. According to Lee, Chen and Lee (2013), cited in Ofurum et al (2018), the operational concept of firm performance is that it is a measure of overall entity competitiveness, as well as the degree to which an enterprise's strategic objectives are being met. A proper firm performance evaluation provides the manager with a clear picture of the organization's current state. It is described as a company's ability to generate revenue by using its resources from its primary mode of operation or achievement of specific business objectives compared to known expectations, completeness and cost (Davis & Cobb, 2010) cited in (Ofurum et al. 2018). Financial performance refers to the act of carrying out a financial operation. Financial performance refers in a wider context to the extent to which financial goals have been fulfilled. It is used to calculate the overall financial health of a company over a certain period and can also be used for comparing similar companies in the same sector or for comparing industries or aggregate sectors.

The company's performance is used to measure the productivity of the organization's top management team, thus representing the position of any person employed in the company and performing a specific task assigned to him. Hence, performance is a measure of how well an organization is conducted and how efficiently and effectively its human and other resources were being used (Ail & Eneizan, 2018). Performance is characterized as the act of performing, enforcing, achieving and fulfilling given tasks against defined, sets of precision, money, fullness and timing. Because of its multi-dimensional meaning, the concept of performance has recently become a contentious topic in the accounting and finance field. Although many research studies have been conducted on performance-related problems as they impact organizations or companies, defining it remains a difficult task for researchers all over the world. Performance is perhaps the most commonly used dependent variable in organizational research today, but it is perhaps one of the most unclear and loosely defined constructs. It is confirmed that the struggle to define what performance means has been going on for a long time and is not focused on a single domain.

Financial performance, according to Moradi et al (2013), is a criterion that indicates how an organization uses various components of intellectual capital to gain a profit. As a result of the definitions, financial performance is defined as the financial way in which a business uses various asset categories to increase the wealth of its owners. The financial performance of a company is the inevitable product of its operating performance and can be thought of as the culmination of all corporate efforts. A calculation of how well a business uses its invested capital to produce revenue is used to assess financial performance, This term is most often used as a measure of a company's overall health over some time, and it can be used to compare related companies in the same field as well as industries and

sectors. In general, there are two types of financial performance measurement approaches currently available: methods based on accounting data analysis and methods based on market valuation, the annual financial statements are used as a source of information for performance review based on accounting metrics. On this foundation, a set of financial ratios covering a variety of quantitative and qualitative aspects of performance are measured, including profitability, liquidity, financial structure (debt) and turnover. Profit is also claimed to be the most significant result of an operation in the eyes of business owners. However, financial performance, is usually what matters most for the business owners (directly) and then for all stakeholders (indirectly). According to Ross, Westertield and Jordan (2008), producing good financial results is a core goal of any economic organization.

According to Ishaya and Abduljeleel (2014), a firm's performance is determined by how effectively and efficiently it will be able to achieve defined targets, which may be financial or operational, such as the desire to maximize profit for shareholders; and growth and expansions in terms of revenue and value. Financial performance assessments, according to Abmad and Mushraf (2011), can be used to ensure standard conformity, confirm how well organizations are performing, assess strategic assumptions, and provide a credible forum for interacting with interested parties. Financial performance can be used to identify a bank's financial strengths and weaknesses by establishing relationships between the financial position and income statement items. One of the bank's primary goals is to make a profit because it is important for offsetting necessary expenditures such as paying corporate tax, interest to depositors, salary to employees, dividends to shareholders and other expenses that may arise from time to time due to the nature of financial institutions.

2.1.7 Return on Asset (ROA)

The return on assets (ROA) is a financial ratio that determines how effectively assets have been used to generate profits. ROA is used to assess a company's ability to generate profits by using its assets. Based on the assumption that profitability indicates the, degree to which a firm's revenue outweighs its costs. In the word of Idekwulim (2014), it is the ratio of net income over a period (usually a year) divided by the average total assets of a company for a financial year (preferably total assets at the end). Chen, Cheng, and Hwang (2015) define it as the ratio of net income (less preference dividends) to book value of total assets as published in annual reports. ROA is often used to calculate the rate of return on total assets after interest expense and taxes. A high ROA indicates that the organization is more efficient in generating net profits from its properties. Because of the higher rate of return on investment, a higher ROA indicates that the company's performance is better, which in turn make the business even more appealing to investors (Heikal, Kháddafi, and Ummah, (2014). $ROA = PAT \div \text{total assets}$.

2.1.8 Return on Equity (ROE)

This analysis is critical for businesses since it is a motivator for investors to invest. The earnings (income) available to the company's owners (both ordinary

and preference shareholders) on the capital they invest in the company are measured by return on equity. Return on Equity ratios indicate how well businesses handle their capital (net worth) and calculate the profitability of investments made by owners of their capital or shareholders of the company. A higher Return on Equity (ROE) ratio leads to higher profit growth and the higher the return or profits received, the better the status of the company's owner Dyah (2015). ROSE is a profitability ratio that assesses a company's ability to generate profit based on its share capital. This ratio is often used to assess a company's ability to generate profits for all of its shareholders, including common and preferred stock. Investors would benefit greatly from a rise in the company's stock price. Return on equity = $\text{PAT} \div \text{total equity}$

2.2 Theoretical Review

2.2.1 Human Capital Theory

Gary Becker formalized the human capital theory in the year 1962. The theory proposed that education and training are investments in future productivity rather than resource consumption. In this view, firms and staff alike depend on human capital investments to boost productivity, earnings and wages. The theory goes on to say that a firm's competitive advantage is sustained when its human capital cannot be imitated or substituted by its competitors and that an employer's investment in training and development is a way of attracting and maintaining human capital while also having better returns on those investments. This theory emphasizes that people contribute to an organization's development and success by adding value. As a result, people are regarded as assets, since organizations' investments in people can yield worthwhile returns. It is of the view that investing in people has economic benefits for both individuals and society as a whole (The investment in an individual can be made in terms of education, health, nutrition, and any other development that results in long-term benefits). It's important to note that in this situation, an investor is a person who determines whether or not to put his or her time, money or other resources into an activity that will gain his or her human capital. This particular theory was also important to the study of intellectual capital and financial performance of an organization, having recognized the fact that human capital is one of the components of intellectual capital efficiency (ICE)

2.2.2 Stakeholder Theory

Stakeholder theory developed by Freeman, (1984) is based on the proposition that a firm's success or otherwise depends on a successful management of all the relationships that a firm has with its stakeholders. It is argued that stakeholder theory is one of the theories that seek to explain the practice of presenting social information, focused on the role it can play in relations between organizations, governments, individuals, associations and societies in general. Stakeholders theory is based on a model of accountability for all actors, be it normative, descriptive or the explanatory power they hold in the context of corporate social responsibility; and includes the responsibilities of the company and the transparent nature of its activities. A crucial element that the company can use to manage stakeholder relationships is precisely the information (financial, sustainability, or both) managed to gain the support and approval of corporate

strategy from the stakeholders, without raising an objection. Furthermore, stakeholder provides another theoretical framework for explaining the relationship between various stakeholders and management; and potentially useful in examining or influencing corporate social disclosures or sustainability reporting and by extension the integrated reporting by organization in the annual corporate reports.

2.2.3 Resource Based Theory

Penrose in the year 1959 developed the resource based theory as a collection of resources and capabilities that when combined, can develop competences. Resource based theory suggests that the organization is a conglomerate of different resources and capabilities such as financial, physical, human, technologies, reputational, organizational and intangible. A resource based approach to strategy analysis consists of five stages: identifying and classifying resources by appraising strengths and weaknesses and identifying opportunities for better utilization of resources, identifying the capabilities of the firm, appraising the potential for each resource and capability to generate profits, selecting the best strategy and identifying the resource gap that the organization needs to be filled. The above process corresponds with the quintessence of the integrated reporting (IR) concept. The six capitals (financial, manufacture, intellectual, human, social and relationship and natural), which are the fundamental concept of IR, have created a dialog about the resources and capabilities that the firms use and influence for their betterment and performance. As the IIRF highlights, the success of an organization depends on its various forms of resources, in other words, capitals, which act as inputs of the business model and transform it into outputs through business activities, and these activities and outputs lead to outcomes in terms of the effect on the capitals.

2.2.4 Intellectual Capital Theory

The most current theory in support of Intellectual capital was propounded by Sushua and Karam in the year 2012. The theory is of the view that tangible assets (land, buildings, equipment and money) of today's leading companies around the world have less value than intangible assets, which has not been quoted in their business balances. This theory is based on the conviction that the wealth of enterprises is based among others on the human capital, structural capital and relational capital. The value creation happens when one kind of capital turns into another. For example the value has been created whenever the human ability (the human capital) creates new business processes (the structural capital) which results in better services for consumers and increases their loyalty (the consumer capital).

2.3 Empirical Review

Ofoegbu, Odoemelam and Okafor, (2018) examined corporate board characteristics and environmental disclosure quantity: Evidence from South Africa (integrated reporting) and Nigeria (traditional reporting). The study provides evidence on corporate board characteristics influence on environmental

disclosure of quoted firms in South Africa and Nigeria. Data obtained from annual reports of 303 environmentally sensitive companies selected from South Africa (213) and Nigeria (90) was investigated using descriptive, multivariate, and regression model. Major findings indicate a significant positive association between board independence and environmental disclosure in Nigeria. In South Africa, 45% of environmentally sensitive industries significantly influence environmental disclosure, while 51% of environmentally polluting industries in Nigeria show insignificant association with environmental disclosure. Findings of the study are helpful to policymakers and other regulators forum impactful framework on environmental reporting.

Adegboyegun, Alade and Oladipo, (2020) examined the impact of integrated reporting on the performance of corporate organizations in Nigeria between 2009 and 2018. Specifically, the study intends to examine whether there is presence of a long run relationship between IR and firm performance. The study used profit after tax as the dependent variable and also used IR index as a blend of financial and sustainability reporting, debt to equity ratio and total asset as independent variables. The study employed the classical Ordinary Least Square and Panel Co-integration techniques for analysis of data sourced from thirteen banks revealing that while IR has no significant impact on corporate performance in the short run, it has a significant relationship with firm performance in the long run. Hence, it was recommended that reporting authorities such as the FRCN should mandate firms to adopt the IR standard just like in South Africa as stipulated in their King's Code of Governance in a bid to strengthen such long run relationship. Also, non- financial information that embraces long-term forecasting should be included in corporate reports in a bid to educate relevant entities about its long-term prospects and its ability to continue in the foreseeable future.

Apiti, Ugwoke and Chiekezie, (2017) examined intellectual capital management and organizational performance in Nigeria. The specific objectives of the research were to determine the relationship between intellectual capital and firm's financial performance and evaluate the impact of intellectual capital management on firm's financial performance. The study adopted ex-post facto design. Four companies were selected from food and beverage industry listed in the Nigerian stock exchange namely Guinness Nigeria Plc, Nestle Nigeria Plc, Unilever Nigeria Plc and 7up Bottling Company Plc. The research made use of purely secondary data from annual reports of the selected companies. Return on Asset (ROA) was used to measure the financial performance while Value Added Intellectual Capital Coefficient (VAICTM) and Intellectual Capital Efficiency (ICE) were used to measure Intellectual Capital. Pearson moment correlation coefficient was used to determine the relationship between intellectual capital and organizational reported financial performance, and linear regression was used to determine the impact of intellectual capital on organizational reported financial performance. The findings of the study show that there is a significant relationship between intellectual capital and firm's financial performance and that proper management of intellectual capital has an impact on firms reported financial performance.

Okforina , Siregar, Adhariani and Mita, (2021). The diffusion and adoption of integrated reporting: a cross-country analysis on the determinants. The study aims to provide empirical evidence on the determinants of voluntary integrated

reporting (<IR>) disclosure quality. The samples include companies from the Integrated Reporting; Examples Database on the International Integrated Reporting Committee's (IIRC) website, except South Africa and Brazil, where reporting is mandatory. The final sample includes 29 countries, with 148 companies and 592 observations for the study period 2014–2017. Content analysis is used to measure <IR>disclosure quality derived from the <IR>principles and elements published by IIRC (2013). The fraction regression probit model is used to test the proposed hypothesis. This study provides empirical evidence that competition from new entrants and country-level accounting competence encourages companies to implement the International Integrated Reporting Framework (IIRF). Signaling theory and diffusion of innovation theory can be used to explain this association. Meanwhile, product market competition of existing rivals has been found to reduce the adoption of the <IR> framework, which is consistent with the proprietary cost theory. Finally, this study found that company reputation does not affect voluntary<IR>disclosure quality.

Grassmann, Fuhrmann & Guenther, (2021) investigates the interaction effect between assurance quality and the disclosed connectivity of the capitals, a distinguishing feature of integrated reports. Design/methodology/approach - Content analysis is performed of the 176 assurance statements included in the 269 integrated reports of Forbes Global 2000 firms disclosed from 2013 to 2015 and the 269 integrated reports themselves. Regression analyzes are applied to examine the associations between assurance, the disclosed connectivity of the capitals and information asymmetry. Findings - The presence of an assurance statement in an integrated report significantly decreases information asymmetry. Surprisingly, assurance quality is not significantly associated with information asymmetry. However, an interaction analysis reveals that combining high assurance quality with high disclosed connectivity of the capitals allows a significant decrease in information asymmetry.

Maniora, (2017).examined the impact of integrated reporting on the integration of environmental, social, and governance issues into the business model and the related economic and ESG performance changes. To investigate these internal and external transformational effects of IR, important differences between IR and alternative ESG reporting strategies are worked out. Using three matched samples of companies from around the world for the sample period 2002–2011, IR companies are matched with companies applying no ESG reporting, stand-alone ESG reporting, or ESG reporting in the annual report. The results suggest that IR is a superior mechanism only for the integration of ESG issues into the core business model when comparing IR with the ESG reporting strategies of no ESG reporting and ESG reporting in annual reports. In comparison with, stand-alone ESG reporting, the results indicate that IR is negatively associated with the ESG integration level and with the economic and ESG performance. Moreover, this negative impact is lower for companies that have already implemented ESG management tools prior to the initiation of IR and is stronger for companies residing in countries with legal requirements for the disclosure of ESG information. A separate change analysis reveals that companies do not benefit from a switch from stand-alone ESG reporting to IR. Thus, this paper provides

empirical evidence that contradicts the general notion of IR as a superior reporting mechanism, as the benefits of IR are driven by several factors.

Nadeem, Dumay and Massaro, (2019) in their study tried to make adjustments to an existing model, the Value Added Intellectual Coefficient (VAIC), and to present an adjusted-VAIC model to measure IC. We tested our new model on data from 10 emerging and developed world markets and obtained more consistent results than prior studies. Our results indicate a significant positive relationship between IC and its components (human, innovation and physical capitals) and firm performance. Therefore, the adjusted-VAIC model can be used with confidence to measure IC.

Jian Xu and Feng Liu (2020) examines the impact of intellectual capital IC and its components on the performance of Korean manufacturing firms over the period 2013–2018. The modified and extended Value Added Intellectual Coefficient (VAIC) model was adapted to more accurately measure IC, and firm performance was systematically and comprehensively measured in three distinct parameters: profitability, productivity and market value. Our regression results show that physical capital was the most influential factor to firm performance; human capital was viewed as a performance enhancing measure; structural capital had no significant impact on firm performance; and innovation capital and relational capital hurt a firm's profitability. It is also evident that the modified and extended VAIC model performs better than the original VAIC model proposed by Pulic (1998).

Aljuboori, Singh, Hadad, Al-Ramahi & Ali, (2022) studied the impact of various intellectual capital components, including human, structural, and relational capital, on the performance of small- and medium-sized Malaysian manufacturing enterprises were examined. A correlation between intellectual capital and firm performance were established based on the mediating role of innovation capability. To achieve this goal, a stratified sampling method was used wherein 262 participants' responses from the focused manufacturing firms were obtained and analyzed via the structural equation model (SEM) and resource-based view (RBV). Statistical tools like SPSS.v²⁵ and SmartPLS.v³ were used. The results showed that the relationship between intellectual capital and firm performance was strengthened due to the mediation of innovation capability, thereby gaining higher competitive advantages.

Asare, Margaret, Joseph and Michael, (2021) examined twenty-four banks in Ghana, West Africa, from 2006 to 2015 in establishing a relationship between intellectual capital (IC) and assets quality. Intellectual capital is the independent variable of the study proxies by the Value-Added Intellectual Coefficient (VAIC) which consists of Capital Employed (CEE), Human Capital Efficiency (HCE) and Structural Capital Efficiency (SCE). Asset quality of the bank, which is the dependent variable of the study was proxies by the ratio of non-performing loans to gross loans and advances of the bank. Panel regression used in the analysis and the study found the VAIC does not affect the quality of the asset of banks. However, when VAIC broke into parts analysis that Human Capital Efficiency and Structural Capital Efficiency significantly affected the quality of the assets of the banks was evident. It was established from the literature reviewed that Value

Added Intellectual Coefficient (VAIC) broken-down into three components: Capital Employed Efficiency (CEE), Human Capital Efficiency (HCE), and Structural Capital Efficiency (SCE) served as a proxy for Intellectual capital. Most studies used Return on Assets (ROA), Return on Equity (ROE), TOBIN's Q, and Profit Margin (PM) as proxies for the dependent variable (financial performance). The effect of intellectual capital on financial performance in various sectors of the Nigerian economy and beyond were examined. However, specifically little or no studies assessed the effect of intellectual on performances of listed multinational companies operating in Nigeria. This study is undertaken to explore this gap. The study adopted Price-Earning (PE) ratio as the measure of financial performance of the Multinationals doing business in Nigeria.

3. METHODOLOGY

3.1 Research Design

Research design employed in the present study is the Ex-post facto. Ex-post research design is a form of descriptive research in which an independent variable has already occurred and it is adopted base on the assumption that ex-post facto analysis is used to establish the cause-effect relationship between variables.

3.2 Nature and Sources of Data

Data used for the study was obtained from a secondary source such as; published audited annual reports of the sampled firms under study and fact books of the Nigeria exchange group for the period under review.

3.3 Population of the Study

The twenty two (22) licensed deposit money banks which maintained existence to the year 2023 constitutes the population of the study (see appendix 2).

3.4 Determination of Sample Size

Sample size of the study was determined using purposive sampling technique. The rationale is to capture the banks whose data are readily available. First Bank Nigeria, FCMB, Stanbic IBTC Bank PLC, United Bank of Africa PLC, Zenith Bank PLC, Unity Bank PLC, Wema Bank PLC, Guaranty Trust Bank PLC, Union Bank of Nigeria PLC, Sterling Bank PLC, Access Bank PLC and Fidelity Bank PLC

3.5 Model Specification

The study modified Aluwong's (2022) model as follows:

$$ROA = B_0 + \beta_1 CEE_{it} + \beta_2 SCE_{it} + \beta_3 FSIZE_{it} + \varepsilon_{it} \dots\dots\dots i$$

And it is modified thus:

$$Y = f(\beta_0 + \beta_1 IRSCE + \beta_2 IRRCE + \beta_3 IRHCE + \beta_4 FSZ + \beta_5 FAGE + \varepsilon_{it}) \dots\dots\dots ii$$

Where:

ROA = Return on Assets

ROE = Return on Equity

IRSCE = Integrated Reporting of Structural Capital Efficiency

IRRCE = Integrated Reporting of Relational Capital Efficiency

IRHCE = Integrated Reporting of Human Capital Efficiency

FMSIZE = Logarithm of Total Assets

FMAGE = Log of Number of Years

B_0 = constant or intercept of the regression

β_{1-3} = Coefficient of explanatory Variables.

β_{4-5} = Coefficient of Control Variables

ε = Error term

i = firm

t = time

Model One:

$$\text{ROA} = F (\beta_0 + \text{IRSCE} + \text{IRRCE} + \text{IRHCE} + \varepsilon \text{ it})$$

..... iii

Model Two:

$$\text{ROE} = F (\beta_0 + \text{IRSCE} + \text{IRRCE} + \text{IRHCE} + \varepsilon \text{ it})$$

..... iv

3.6 Description of Research Variables

ROA and ROE were considered as dependent variable while IRRCE, IRSCE and IRHCE served as the independent variables of the study. The study will also consider size and age of banks as the control variables.

Dependent variables include; Return on asset calculated thus; Profit before Tax (PBT) ÷ total asset, Return on equity calculated as; profit after tax divided by total equity.

Integrated reporting of Structural Capital Efficiency (IRSCE) = Structural Capital (SC) ÷ Value Added, Integrated reporting Relational Capital Efficiency (IRRCE) = Relational capital ÷ Value added, Integrated reporting Human Capital Efficiency (IRHCE) = Value Added / Human Capital.

Size of firm = Logarithm of Total Assets, Age of firm = Logarithm of Number of years, Value added = Output (total revenue)-Input (operating exp.)

3.7 Apriori Expectation

The apriori expectation is that human capital, Relation capital and structural capital have positive and significant effect on performance proxies.

4.1 Descriptive Statistics

Table 4.1: Descriptive Statistics

VARIABLES	ROA	ROE	HCE	SCE	RCE	SIZE	AGE
Mean	0.0181	0.04929	13.0105	0.4480	0.0035	8.7959	1.2398
	30	6	9	96	90	91	44
Median	0.0197	0.10031	.2.5245	0.6114	0.0004	8.8395	1.3222
	22	0	33	41	38	63	19
Maximum	0.2828	1.77033	1264.31	2.4410	0.4999	9.6950	1.8750

	78	1	0	77	51	83	61
Minimum	0.5312	3.94318	0.94220	7.9578	0.0632	7.8603	0.0000
Std. Dev.	0.0635	0.45239	101.290	1.0752	0.0404	0.4688	0.3758
Skewness	3.6641	5.15516	12.2047	5.7333	11.918	0.1378	0.7201
Kurtosis	40.337	45.8338	151.231	39.663	147.14	2.0622	3.3259
Jarque-Bera	9410.8	12616.7	146694.	9592.0	138755	6.2102	14.173
Probability	0.0000	0.00000	0.00000	0.0000	0.0000	0.0448	0.0008
Sum	2.8282	7.69021	2029.65	69.902	0.5599	1372.1	193.41
Sum Sq. Dev.	0.6262	31.7222	159025	179.22	0.2537	34.076	21.891
Observations	192	192	192	192	192	192	192

Source: Researchers E-View Computation

In table 4.2, it was observed that ROA has a positive average mean value of 0.018130, with a minimum and maximum value of -0.531254 and 0.282878 respectively. The mean value of ROE is 0.049296 with a minimum and maximum value of -3.943182 and 1.770331 respectively, showing that the sampled banks have a positive average mean value on ROA and ROE within the study period. Again, the mean value of HCE is 13.01059 with a minimum and maximum value of -0.942202 and 1264.310 respectively. The mean value of SCE is 0.4448096, with a minimum and maximum value of -7.957833 and 2.44 1077 respectively. The mean value of RCE is 0.003590, with -0.063272 and 0.499951 as the minimum and maximum value. The mean value of size is 8.795991 with minimum and maximum value of 7.860386 and 9.695083 respectively, while that of age has a mean value of 1 .239844 with a minimum and maximum value of 0.000000 and 1.875061 respectively.

4.2 Correlation Analysis

Table 4.3: Correlation Analysis

Variables	ROA	ROE	HCE	SCE	RCE	AGE	SIZE
ROA	1.000000	0.035798	0.293218	0.224143	0.018270	-0.101095	0.044842
ROE	0.035798	1.000000	0.038085	0.253453	0.008835	0.008734	0.101406
HCE	0.293218	0.038085	1.000000	0.057401	-0.006945	0.068314	-0.082013
SCE	0.224143	0.253453	0.057401	1.000000	0.207816	0.117392	0.071001
RCE	0.018270	0.00885	-0.006945	0.20781	1.000000	-	-111344

				6		0.202322	
SIZE	0.044842	0.101406	-0.082013	0.07100 1	-0.111344	0.162677	1.000000
AGE	- 0.101095	0.008734	0.068314	0.11739 2	-0.202322	1.000000	0.162677

Source: Researcher's E-View Computation (2024)

Table 4.3 shows that ROA has a positive association with ROE; thereby justifying the use of two measures as a proxy for firm performance. The table also reveals that ROA is negatively associated with AGE and positively associated with HCE, SCE, RCE and SIZE. ROE has positive association with HCE, SCE, RCE, SIZE and AGE. HCE is positively related with SCE and AGE and negatively related with RCE, CEE and SIZE. SCE has a positive association with RCE, SIZE and AGE. RCE is negatively related with SIZE and AGE. The multi-collinearity test showed that there is no presence of auto-correlations amongst the variables.

4.4 Unit Root Test

Table 4.4 Unit Root Test

VARIABLES	ADF t- test	AT 5%	AT 10%	P-Value	Difference	@
ROA	-7.11446	-3.4490	-3.1497	0.0000	1(0)	Constant
ROE	-4.4154	-2.8862	-2.5800	0.0005	1(0)	Constant
LITC	-5.0276	-2.8862	-2.5800	0.0000	1(0)	Constant
LCV.	-5.8119	-3.4497	-3.1501	0.0000	1(0)	Constant

Source—Researchers computation 2024

Where:

ROA= Return on Assets,

ROE= Return on Equity,

LITC= Log of Intellectual Capital Coefficient

LCV = Log of Control Variables

ADF FISHER = Augmented Dickey Fuller Fisher Chi – Square Test.

The (ADF) values are >5% level of significance. The series are said to be stationary at this point since there is no evidence of unit root therefore, the null hypothesis is not rejected.

4.5 Hypotheses Testing

Table 4.5: ROA Model

Dependent Variable: ROA
 Method: Panel Least Squares
 Date:20/09/24. Time: 19:46
 Sample: 2008 2023
 Periods included: 16
 Cross-sections included: 12
 Total panel observations: 192

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.042999	0.090747	-0.473838	0.6363
IRHCE	0.000187	4.74E-05	3.937590	0.0001
IRSCE	0.013792	0.004609	2.992694	0.0032
IRRCE	-0.085856	0.124256	-0.690957	0.4907
IRSIZE	0.010106	0.010400	0.971769	0.3327
IRAGE	-0.029088	0.013260	-2.193623	0.0298
R-squared	0.291205	Mean dependent var	0.018130	
Adjusted squared	R- 0.23 1180	S.D. dependent var	0.063562	
S.E. of regression	0.059246	Akaike info criterion	- 2.776524	
Sum squared resid	0.526519	Schwarz criterion	- 2.659222	
Log likelihood	222.5689	Hannan-Quinn criter	- 2.728881	
F-statistic	6.880558	Durbin-Watson stat	1.515441	
Prob(F-statistic)	0.000086			

Source: Researcher's E-View Computation 2024

In table 4.5, the R^2 of 29% measures the goodness of fit of the panel regression line model. The R^2 of 29% shows the model reliability and the variation in the dependent variable accounted for by the independent variable with an unexplained variation of 71%. The F- statistic of 6.880558 with the matching probability value of 0.000086 infers that the model is all-inclusive and is positive and statistically significant for reliable analysis. The Durbin Watson Statistics of 1.515 approximates 1.52 shows the existence of first-order positive autocorrelation in the model as 1.5 is < 2 Durbin-Watson statistics benchmark. This means that the independent variables are statistical significant in explaining the effect of ROA.

Table 4.6: ROE Model

Dependent Variable: ROE
 Method: Panel Least Squares
 Date: 20/09/24 Time: 19:50
 Sample: 2008 2023
 Periods included: 16
 Cross-sections included: 12
 Total panel (balanced) observations: 192

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.0679325	0.677321	-1.002959	0.3175
IRHCE	0.000149	0.000354	0.421056	0.0029
IRSCE	0.109446	0.034398	3.181724	0.0018
IRRCE	-0.500554	0.927426	-0.539724	0.5902
IRSIZE	0.085308	0.077622	1.099019	0.2735
IRAGE	-0.057208	0.098971	-0.578025	0.5641
R-squared	0.346358	Mean dependent var	dependent	0.049296
Adjusted squared	R- 0.244538	S.D. dependent var	info	0.452393
S.E. of regression	0.442204	Akaike criterion	info	1.243612
Sum squared resid	29.33166	Schwarz criterion		1.360914
Log likelihood	-91.00170	Hannan-Quinn criter		1.1255
F-statistic	2.445034	Durbin-Watson stat		1.872452
Prob(F-statistic)	0.036630			

Source: Researcher's E-View Computation

In table 4.6, the R^2 of 35% measures the goodness of fit of the panel regression line model. The R^2 of 35% shows the model reliability and the variation in the dependent variable accounted for by the independent variable with an unexplained variation of 65%. The F- statistic of 2.445034 with the matching probability value of 0.036630 infers that the model is all-inclusive and is positive and statistically significant for reliable analysis. The Durbin Watson Statistics of 1.8725 approximates 2 rules out possible existence of first-order positive autocorrelation. This means that the independent variables are statistical significant in explaining the effect of ROE.

4.6 Discussion of Findings

H0₁ Integrated reporting of Structural capital efficiency (IRSCE) has no significant effect on return on assets (ROA) and return on equity of listed deposit money banks in Nigeria

Table 4.5 showed that IRSCE has a positive significant effect on ROA with p-value of 0.0032, coefficient intercept of 0.0013792 and t-statistics of 2.992694. The p-value of (0.0032) is < 0.05 meaning that structural capital efficiency influences return on assets within the period of study. This result is in line with the findings of Adegboyegun, Alade and Oladipo, (2020) who examined the impact of integrated reporting on the performance of corporate organizations in Nigeria between 2009 and 2018; found that while IR has no significant impact on corporate performance in the short run, it has a significant relationship with firm performance in the long run. The implication is that a yield from intellectual capital reporting is always futuristic as it boosts firm profit in the long run. While, Table 4.6 showed that SCE has a positive significant effect on ROE with p-value of 0.0018, coefficient intercept of 0.109446 and t-statistics of 3.181724. The p-value of (0.0018) is < 0.05 meaning that structural capital efficiency influences return on assets within the period of study. This result is in line with the findings of Ofoegbu, Odoemelum and Okafor, (2018). The authors examined corporate board characteristics and environmental disclosure quantity: Evidence from South Africa (integrated reporting) and Nigeria (traditional reporting). Major findings indicate a significant positive association between board independence and environmental disclosure in Nigeria. This implies that increase in integrated reporting of IC can boost a firm's profitability

H0₂ Integrated reporting of Relational capital efficiency (IRRCE) has no significant effect on return on assets (ROA) and return on equity of listed deposit money banks in Nigeria

Table 4.5 showed that RCE has a negative insignificant effect on ROA with a p-value of 0.4907, coefficient intercept of 0.085856 and t-statistics of -0.690957. From the p-value of RCE (0.4907) is > 0.05 meaning that integrated reporting of Relational capital efficiency did not affect return on asset within the period of study. This result is in line with the findings of Sulaiman, Mohammed, Tukur & Musa, (2020) who investigated the effect of Value Added Intellectual Coefficient (VAIC) on the financial performance of Health Care Firms in Nigeria from 2009 to 2019. The study disclosed that VAIC insignificantly affected Return on Assets of the firms under review. **While** Table 4.6 showed that RCE has a negative insignificant effect on ROE with a p-value of 0.5902, coefficient intercept of -500554 and t-statistics of -0.539724. The p-value of RCE (0.5902) is > 0.05 meaning that integrated reporting of Relational capital efficiency was not able to influence return on equity within the period of study. This result is in line with the findings of Oyedokun and Saidue (2018). The authors investigated the effect of intellectual capital on the financial performance of listed Nigerian oil marketing companies for a period of 10 years (2007-2016). The Q Tobin's monetary model and Value added intellectual coefficient have an insignificant effect on return on asset and return on equity. This implies that increase in relational activities by money deposit banks will enhance their performance in the long run.

H0₃ Integrated reporting of Human capital efficiency (IRHCE) has no significant effect on return on assets (ROA) and return on equity of listed deposit money banks in Nigeria

Table 4.5 showed that HCE has a positive significant effect on ROA as evident by p-value of 0.0001, with a coefficient intercept of 0.000187, while the t-statistics value is 3.937590. The p-value of (0.000 1) is < 0.05 meaning that Integrated reporting of Human capital efficiency can influence return on assets within the period of study. This result is in line with the findings of Grassmann, Fuhrmann & Guenther, (2021) investigates the interaction effect between assurance quality and the disclosed connectivity of the capitals, a distinguishing feature of integrated reports. Their findings revealed that the presence of an assurance statement in an integrated report significantly decreases information asymmetry the implication of this finding is that combining high assurance quality with high disclosed connectivity of the capitals allows a significant decrease in information asymmetry. While Table 4.6 showed that HCE has a positive significant effect on ROE as evident by p-value of 0.0029, with a coefficient intercept of 0.000149, while the t-statistics value is 0.421056. From the p-value of (0.0029) is < 0.05 meaning that integrated reporting of Human capital efficiency can influence return on equity within the period of study. This result is in line with the findings Apiti, Ugwoke and Chiekezie, (2017) examined intellectual capital management and organizational performance in Nigeria; findings of the study show that there is a significant relationship between intellectual capital and firm's financial performance. The implication of this finding is that increase in proper management of intellectual capital will have a positive effect on firms reported financial performance

5.1 Summary of Findings

- i. Integrated reporting of Structural capital efficiency has a positive and significant effect on return on assets and return on equity of listed banks in Nigeria with p-value of 0.0032 and 0.0018 respectively (P<5%).
- ii. Integrated reporting of Relational capital efficiency has a negative and insignificant relationship with return on assets and return on equity of listed banks in Nigeria with P-Value of 0.4907 and 0.5902 respectively; p>5%.
- iii. Integrated reporting of integrated reporting of Human capital efficiency has a positive and significant effect on return on assets and return on equity of listed banks in Nigeria, with the p-value of 0.0029 and 0.0029 respectively p<5%.

5.2 Conclusion

The study concludes that integrated reporting of intellectual capital components in money deposit banks financial statements will positively affect their performance at the long run and thereby suggest that bank managers should strive to maintain a serene working atmosphere for employees and as well expose them to research and development programs that will automatically improve their performance and productivity.

5.3 Recommendations

The study recommends that;

- i. Bank Managers should including a good welfare package and good training programs, to enhance the skills of its employees and improve bank efficiency.
- ii. Banks should invest more in its structures such as; database structures, manuals and training materials as it positively affects employee performances and service delivery which in turn help firms to achieve competitive advantage and create more value.
- iii. Banks should also exhibit high intellect of salesmanship and marketability with its sales team and open access to customers, so as to enhance effective and efficient banker-customer relationship.

5.4 Contributions to Knowledge

The study deviated a bit by looking at intellectual capital coefficients in the integrated reporting perspectives which no other author has considered; thereby contributing to the body of knowledge on this research topic. The study also used the three major intellectual capital components on two major financial performance proxies for the period of 2008 to 2023, which no previous author did; hence different periods produce different results. This most current research will assist future researchers in making proper and current references.

5.5 Suggestions for Further Study

For further research, the researcher recommends that authors who wish to write on same topic should look at other sectors using different financial performance proxies and different statistical tools.

Authors' contributions/Declarations: This work was carried out in collaboration among all authors. All authors read and approved the final manuscript

Disclaimer (Artificial Intelligence)

Authors hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT etc.) and text-to-image generators have been used during writing or editing of this manuscript.

Competing Interests

Authors hereby declare that no competing interests exist.

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References

- Adams, C. A. (2015). The International Integrated Reporting Council: A call to action. *Critical Perspectives on Accounting*, 27, 23–28. <https://doi.org/10.1016/j.cpa.2014.07.001>
- Aljuboori, Z. M., Singh, H., Hadad, H., Al-Ramahi, N. M., & Ali, M. A. (2022). Intellectual Capital and Firm Performance Correlation: The Mediation Role of Innovation Capability in Malaysian Manufacturing SMEs Perspective Sustainability, 14,154.
- Amrizah, K., & Rashidah, A. R. (2013).Intellectual capital profiles : Empirical evidence of Malaysian companies. *International Review of Business Research Papers*, 9(6), 83–101.Retrieved from <http://irbrp.com/static/documents/November/2013/6.Amrizah.pdf>
- Anuonye, N. B. (2016). Effect of Intellectual Capital on Return on Assets of Insurance Firms in Nigeria. *Global Journal of Management and Business Research*, 16(1), 41-52
- Apiti, C. U., Ugwuoke, R. O., & Chiekezie, N. R. (2017). Intellectual Capital management and Organizational Performance in selected Food and Beverage Companies in Nigeria. *International Journal of advanced scientific research and management*, 2(1), 47-5 8.
- Asare, N., Margaret, M. L., Joseph, M. O., & Michael, E. A. (2021). Intellectual capital and asset quality in an emerging banking market. *Asian Journal of Accounting Research*, 6(1), 55-68. <http://dx.doi.org/10.1108/AJAR-05-2020-0034>
- Dumay J & Cai (2014). A critical reflection on the future of intellectual capital from reporting to disclosure. *Journal of Intellectual capital* 17(1):168- 184.
- Fathi, S., Farahmand, S., & Khorasani, M. (2013). Impact of Intellectual Capital on Financial Performance. *International Journal of Academic Research in Economics and Management Sciences*, 2(1), 22-36.
- Grassmann, Fuhrmann & Guenther, (2021).. "Assurance quality, disclosed connectivity of the capitals and information asymmetry – An interaction analysis for the case of integrated reporting," *Meditari Accountancy Research*, Emerald Group Publishing Limited, vol. 30(3), pages 852-892, October.
- IIRC. (2011). Towards integrated reporting, communicating value in the 21st Century. <http://integratedreporting.org/wp-practice>. *Accounting, Organizations and Society*, 33(4–5), 349–361. <https://doi.org/10.1016/j.aos.2007.04.001>
- Institute of Chartered Accountants of Nigeria (ICAN) (2014). Corporate Reporting Study Text. United Kingdom: Emile Woolf International.
- Maniora, (2017). Is Integrated Reporting Really the Superior Mechanism for the Integration of Ethics into the Core Business Model? An Empirical Analysis. *Journal of Business Ethics* 140: 755–86. [[Google Scholar](#)] [[CrossRef](#)]
- Nadeem, M., Dumay, J., & Massaro, M. (2019). If you can measure it, you can manage

- it: a case of intellectual capital. *Australian Accounting Review*, 29 (2), 395–407. <https://doi.org/10.1111/auar.12227>
- Narwal, R. K., & Yadav, N. (2017). The impact of intellectual capital on the Indian real estate sector's profitability and productivity. *Journal of Commerce and Accounting*, 6(1), 1039-1050.
- Nassar, S. (2018). The Impact of Intellectual Capital on Firm Performance of the Turkish Real Estate Companies before and After the Crises. *European scientific Journal*, 14(1), 29-45.
- Ofoegbu, G. N, Odoemelam, N. and Okafor, R. (2018). Corporate board characteristics and environmental disclosure quantity: Evidence from South Africa (integrated reporting) and Nigeria (traditional reporting) *Cogent Business & Management* 5(1):1-27 DOI:10.1080/23311975.2018.1551510
- Ofurum, C. O., & Aliyü A. S. (2018). Intellectual Capital Component and Financial Performance of Quoted Banks in Nigeria. *International Journal of advanced academic Research/Financial Management*, 4(2), 24-46.
- Okforina, Megawati, Sylvia Veronica Siregar, Desi Adhariani, and Aria Farah Mita. 2022. The Diffusion and Adoption of Integrated Reporting: A Cross-Country Analysis on the Determinants. *Meditari Accountancy Research* 30: 39–73. [Google Scholar] [CrossRef]
- Onyewelu, U. L. & Ubesie, M. C. (2016). Effect of intellectual capital on corporate valuation of quoted pharmaceutical firms in Nigeria. *International Journal of Business and Management Review*, 4(7), 50-59.
- Rehman, A., Aslam, E., & Iqbal, A. (2021). Intellectual capital efficiency and bank performance: evidence from Islamic banks. *Borsa Istanbul Review*, 1-9.
- Saeed, R., Sami, A., Loudhi, R. N., & Iqbal, A. (2013). Intellectual Capital and Organizational Performance: An Empirical Study in Telecom sector of Pakistan. *Middle-East Journal of scientific Research*, 18(4), 517-523.
- Seddaq, N. (2018). The impact of intellectual capital on firms' performance of Turkish real estate companies before and after the crises. *European Scientific Journal*, 14(1), 29-45. Retrieved from <https://doi.org/S10.1108/00242531111100531> asset quality in an emerging banking market. *Asian Journal of Accounting Research*, 6(1), 55-68. <http://dx.doi.org/10.1108/AJAR-05-2020-0034>
- Steyn, M. (2014). Organisational benefits and implementation challenges of mandatory integrated reporting: Perspectives of senior executives at South African listed companies. *Sustainability Accounting, Management and Policy Journal*, 5(4), 476–503. <https://doi.org/10.1108/SAMPJ-11-2013-0052>
- Suhendra, E. S. (2015). The influence of intellectual capital on firm value towards manufacturing performance in Indonesia. *International Conference on Eurasian Economies* Retrieved from <http://www.icee.conf.org>.
- Villiers, C., Hsiao, P.-C. K., & Maroun, W. (2017). Developing a conceptual model of influences around integrated reporting, new insights and directions for future research. *Meditari Accountancy Research*, 25(4), 450–460. <https://doi.org/10.1108/MEDAR-07-2017-0183>
- Vitolla, F., Raimo, N., & Rubino, M. (2019b). Board characteristics and integrated reporting quality: An agency theory perspective. *Corporate Social Responsibility and Environmental Management*. <https://doi.org/10.1002/csr.1879>

Zeghal, D., & Maaloul, A. (2010). Analyzing Value Added as an Indicator of Intellectual Capital and its Consequences on Company Performance. *Journal of Intellectual Capital*, 11(1): 39-60.