EFFECT OF INTELLECTUAL CAPITAL ON PROFITABILITY OF HEALTHCARE FIRMS IN NIGERIA.

Ndueche Peter Izuchukwu*

*Msc in Accountancy., Department of Accountancy, School of Management, Anambra State Polytechnic, Mgbakwu, P.M.B 002 Mgbakwu Awka North, Anambra State, Nigeria.

*Corresponding Author

Abstract

This study examines the causal effect relationship that exist between intellectual capital and profitability of listed health care firms in NigeriaExchange Group. The study used panel data and adopted ex-post facto research design. Four objectives and hypotheses formulated for the study were tested using data collated from financial report of the health care companies used in the study between 2011 to 2021 fiscal year. The data collated were analysed using regression analysis, however some preliminary analysis such as descriptive statistics, correlation analysis, as well as some diagnostic analysis like Shapiro wilk test normality test were carried out to ascertain the presence of multi-colinearity, and the normality/fitness of the data used. The study finds that intellectual capital components have 53.5% impact on the profitability of health care companies in Nigeria. The finding from the specific objectives indicated that human capital, structural capital and capital employed have positive and significant effect on profitability of health care firms in Nigeria Exchange Group. While relational capital has positive but insignificant effects on profitability of health care firms. Based on the result and findings, the study recommends that management of Health care companies listed on the Nigeria exchange group promotes policies that would attract quality human capital and retaining them as this would enhance the possibility of achieving high profitability.

Keywords: *Intellectual Capital, Structural Capital, Human Capital, Relational Capital, Capital Employed, Nigeria Exchange Group*

1.1 INTRODUCTION

During last two decades, the business environment has shifted toward knowledge-based, fast-changing technology-intensive companies, where investments in human resources, information technology, and research and development have become critical to a firm's competitive position and future viability (Canibano,2014). Firms now compete in a complex and demanding environment, with factors such as uncertainty and dynamism linked with development necessitating knowledge for success. As a result, the focus of organizational competitiveness has switched from physical resources to knowledge, and managing knowledge-based resources has become the key for sustaining competitive advantage and superior performance.

The new economic system which is popularly known as the knowledge economy or intellectual asset have been recognized as the prominent resource needed for organizational survival. Service organizations like software, finance, pharmaceutical, banking, hotel and universities depend to a considerable extent on their intellectual for revenue drive, Production or manufacturing companies, on the other hand, combine their intellectual capital with their physical assets to improve their competitive edge (Firer & William, 2013). Notwithstanding the difference to a human capital-intensive economy, traditional accounting has managed to place a greater emphasis on physical assets in financial statements, to the exclusion of the more valuable assets, the intellectual capital. As a result of the aforementioned, management is denied access to meaningful and timely data that would allow her to make critical decisions about her human resources, particularly regarding the financial implications of certain decisions. An early empirical study found that the companies which better managed their intellectual capital had a stronger competitive advantage than the general enterprises, and that companies that strengthened their own intellectual capital management compared to companies had fared better.

Organizations typically focus on their physical assets to improve financial performance without paying enough attention to their intellectual capital. Consequently, the desired levels of financial performance are never achieved. Intangible assets such as knowledge, information, and information technology are important resources in the knowledge economy, according to various research findings. Organization for Economic Cooperation and Development (OECD) (2006) posits that many companies invest in employee training, research and development, customer relations, computer and administrative system. These investments are growing and they are competing with physical and financial investments. Some previous researchers attribute this change in investment structure to rise in knowledge based economy.

Today, intellectual capital is regarded as one of the most important factors of growth. This is especially true in advanced economies like Switzerland, the United States of America, China, and Japan, where companies employing a substantial percentage of unskilled labour have relocated to other nations due to their comparative intellectual capital advantage.

In recent years, companies especially those in the knowledge intensive industry, have experienced a dynamic and competitive environment. Domestic companies are compelled to adapt their competitive position by achieving sustainable financial performance due to cross-border competition. Intellectual capital is often a significant resource in the value generation process in knowledge-intensive industries. Traditional performance measures, which are based on traditional accounting principles, are inappropriate for the new economy (Firer & William 2013). They may lead managers, investors and other stockholders to make inappropriate decision when companies have large portion of their investment in intangible assets. Previous study assert that the issue of valuing and measuring intellectual capital is critical as it enables one understands where value lies in the firm and for developing measurements for assessing success and growth of the firm. This fact therefore question, the reliability and adequacy of traditional accounting methods used by firms in the present information age since it has failed to capture the value of information and knowledge in employee.

Earlier studies on the relationship between intellectual capital and financial performance have shown conflicting results. In some developed nations, studies revealed that intellectual capital has a favourable and significant relationship with financial performance in organizations, giving them a competitive advantage over others while other studies posit that there is no relationship between intellectual capital and organization performance thus physical assets still remain the key determinants of organizational financial performance. The above studies on intellectual capital have been carried out mostly in advanced economies. Hence, this study seeks to examine the relationship between the intellectual capital and profitability of healthcare Firms in Nigeria, where no research has been carried out.

1.2 Statement of Problem

Intellectual capital is of great importance in innovation and productivity growth, enterprise competitiveness and economic performance. However, these components are often poorly identified and measured, information is collected in widely different ways, and financial accounting and reporting practices in general fail to recognise some of them as assets.

Previous researchers argue that there is no relationship between intellectual capital and organizational performance, and that physical assets are still the most important predictors of financial performance in organizations.

Some other empirical results still could not establish any statistical relationship between intellectual capital and firms' value. Earlier study found no statistical significant relationship between intellectual capital and organizational

performance. Firer and Williams (2013) used Value Added Intellectual Coefficient (VAIC) to measure intellectual capital and submits that no significant correlation exist between IC and profitability, productivity and market value.
In all these studies, majority were conducted in the developed countries only a few were done in Nigeria, and none of the studies in Nigeria was carried out in the Healthcare Firms. Therefore, this study is aimed at filling this sectorial gap.

1.3 Objective of the study
The main objective of this study is to ascertain the effect of intellectual capital on listed firms' profitability in Nigeria. The study's specific objectives are:
1. To determine the effect of human capital on firms' profitability.
2. To ascertain the effect of structural capital on firms' profitability
3. To examine the effect of relational capital on firms' profitability
4. To determine the effect of capital employed on firms profitability.

1.4 Research Questions:
The following questions helped to address the afore-stated objectives:
1. What is the effect of human capital on firms' profitability?
2. To what extent does structural capital influence firms' profitability?
3. What is the effect of relational capital on firms' profitability?
4. To what extent does capital employed influence firms' profitability?

1.5 Research Hypotheses (Null):
The following null research hypotheses were formulated to guide this study:
H_{01}: Human capital has no significant effect on firms' profitability.
H_{02}: There is no significant relationship between structural capital and firms' profitability.
H_{03}: Relational capital has no significant effect on firms' profitability.
H_{04}: Capital employed has no significant effect on firms' profitability

1.6 Significance of the Study.
The result of this study would be of immense importance to:

i. Management.
The managers of corporate bodies will find this study as a good guide in estimating the contribution of intellectual capital in the overall corporate performance. The management will also employ this report as reference material to better appreciate the unique place and endowments of their employees and deploy this report in planning, directing, controlling and harnessing available intellectual capital for enhancing their performance.

ii.Researchers
Researchers will find this work very useful as it will assist them in building their literature for further research on intellectual capital or its components.

iv Shareholder
Shareholders through this study should be able to know the extent to which intellectual capital influences the firms' profitability.

1.7 Scope of the Study
Subject Scope: The scope of this study covers the effect of intellectual capital on selected firms within Health Care Sector in Nigeria.

Variable Scope: The study employed the following variables; human capital, structural capital, relational capital, capital employed and Earnings per Share

Period Scope: The study covered the period of 2011-2021

CHAPTER TWO
REVIEW OF RELATED LITERATURE
2.1 Conceptual Framework
2.1.1 Concepts of Intellectual Capital
Ulrich (2014) simply defines intellectual capital as competence multiplied by commitment, which means that intellectual capital equals each individual's knowledge, skills, and attributes multiplied by the person's willingness to work hard inside an organization. Many authors cited in this chapter recognize this general definition to be the simplest and most common explanation of intellectual capital. Intellectual capital, according to Klein and Prusak (2012), is intellectual material that has been formalized, captured, and leveraged to produce a higher-valued asset. Intellectual capital, according to Edvinsson and Malone (2015), is the possession of the knowledge, applied experience, organizational technology, customer relationships, and professional skills that create a competitive advantage in the

marketplace. According to Stewart (2014), intellectual capital is packaged useful knowledge. More explicitly, he writes:

Intellectual capital, according to Klein and Prusak (2012), is intellectual material that has been formalized, captured, and leveraged to produce a higher-valued asset. Intellectual capital, according to Edvinsson and Malone (2015), is the possession of the knowledge, applied experience, organizational technology, customer relationships, and professional skills that create a competitive advantage in the marketplace.

Edvinsson and Malone (2013) agree that intellectual capital is the merging of three types of capital: human capital, structural capital, and customer capital. Once an organization becomes aligned and balanced in these three foundational components, it is able to create the best possible financial capital (value).

2.1.2 Human Capital
Human capital refers to the acquired skills, knowledge, and abilities of human beings. The underlying concept is that such skills and knowledge increase human productivity and that they do so enough to justify the costs incurred in acquiring them (Hornbeck & Salamon, 2015). Although Becker (2012) is most recognized for the theory of human capital, Schultz (2013) was also one of the first theorists to identify the significance of human capital and its economic value. According to Schultz (2013):

Education and other forms of human capital investment increase output in a variety of ways: by generating new ideas and techniques that can be embodied in production equipment and procedures; by equipping workers to utilize the new production techniques and initiate changes in production methods; through strengthening links amongst consumers, workers, and managers; and by extending the productive life of people's store of knowledge and skills.

Becker (2015) defines capital as being something that yields income and other useful outputs over long periods of time. Since 2012, when Becker first published his views of human capital, the theory of human capital has become a well-accepted principle: expenditures on education, training, benefits, and so forth are investments in capital. However, human capital differs in that these investments cannot be removed from the individual and, more specifically, from his or her knowledge, skills, and abilities. According to human capital theory, some labor is more productive than other labor merely because more resources have been committed in its training, similar to how a machine with more resources invested in it is likely to be more productive (Mueller, 2014). One of the core assumptions of human capital theory is that, like any other business investment, a skill-building investment will be more lucrative and likely to be done the longer the period over which profits might accumulate.

The theory of human capital suggests that people spend on themselves in diverse ways, not for the sake of present pleasure but for the sake of future monetary and nonmonetary returns (Becker, 2015; Blaug, 2012; Mincer, 2011; Schultz, 2013). The introduction of human capital theory as an individual-oriented theory rests on the proposition that people enhance their capabilities as producers and as consumers by investing in themselves (Martin, 2014). Human capital theory includes the length of service in the organization as a proxy for job-relevant knowledge or ability. A person's job-relevant knowledge or ability influences that person's wage, promotional opportunity, or type of job (Becker, 2012; Hulin & Smith, 2013; Katz, 2011).

In summary, human capital refers to the unique values each individual possesses, which are considered as assets to an organization. Ultimately, the knowledge contained within an organization becomes that organization's competitive advantage. Although human capital is often the easiest theoretical foundation to identify and describe when discussing intellectual capital, it alone cannot support intellectual capital. This necessity to connect individuals with knowledge creates the emergence of the second foundational component of intellectual capital: structural capital.

2.1.3 Structural Capital
Structural capital belongs to the organization as a whole. It can be reproduced and shared and is entitled to legal rights of ownership. For example, technologies, inventions, data publications, and processes can be patented, copyrighted, or shielded by trade secret laws. Also among the elements of structural capital are strategy and culture, structures and systems, organizational routines, and procedures-assets that are often far more extensive and valuable than the codified ones.

According to Stewart, structural capital has two purposes:

(1) To codify bodies of knowledge that can be transferred in order to preserve the recipes that might otherwise be lost, and

(2) To connect people to data, experts, and expertise, including bodies of knowledge, on a just-in-time basis. Because knowledge sharing is dependent on various mediums of transmission, a proper organizational structure needs to be in place. Therefore, structural capital is incorporated into the theoretical framework of intellectual capital. It comes down to the importance of connecting people with people and people with information through an effective and efficient framework of communication channels. In relating structural capital to the theory of intellectual capital, knowledge should flow quickly and easily between functions Communication networks, corporate yellow pages and knowledge data bases that allow a company to put its best people on the front line while still keeping their expertise available to the entire organization.

It becomes important to understand how intellectual capital refers to knowledge and its importance in an organization. This has been defined as experience and information that can be communicated and shared (Allee, 2016). Knowledge management is the facilitation of processes for creating, capturing, sharing, storing, renewing, deploying and leveraging knowledge for enhanced organizational performance (Allee, 2016). In managing and controlling the alliance [human and structural capital], human resource practices and active monitoring of knowledge flows and information requests are key to keeping intellectual capital protected while effectively contributing to the collaborative activity (Baughn, Denekamp, Osborn, & Stevens, 2015). Structural capital becomes a significant foundational component of intellectual capital because it provides the framework and patterns for the transmission of knowledge. In order for organizations to maximize their human capital, they need to assess their investments made in building the skills central to their competitive advantage. Hamel (2017) notes that in the race to learn, the initial alliance structure and governance mechanisms are followed by ongoing micro-bargains over knowledge access. Such day-to-day bargaining may occur at multiple levels within the alliance. This condition challenges management to construct a collaborative membrane to maximize the inflow of needed skills from one's partner while minimizing unintended outflows. Here management must effectively locate the interface points; staff and train appropriately, develop sound reward systems, and monitor the exchange of information.

2.1.4 Customer (relational) Capital

According to Stewart (2014), customer capital is the most obviously valuable component to intellectual capital. This is founded on the premise that customers are supportive of the company and the company's bottom line. The value of its franchise, as well as its continuous ties with the people or organizations to whom it sells, is referred to as customer capital. Despite its significance in an organization, customer capital is often the worst managed intangible asset. Stewart proposes that most businesses do not even know who their customers are and, more specifically, who the end users are.

Customer capital as defined by Saint Onge (2017), suggests that the relationship of a company to its customers is distinct from that of its dealings with employees and strategic partners. Therefore, this customer relationship is of central importance to the company's worth. Southwest Airlines has been successful in recognizing its customer capital. It engages its more committed customers in its employee recruiting process. The philosophy behind this concept is that having the customer participate in the selection process will increase customer satisfaction because the customer has chosen the service provider (Edvinsson & Malone, 2015). Other companies, such as Nordstrom's and Sears, have been successful through the application of customer capital enhancement techniques. However, Stewart (2014) suggests that if an organization does not manage to balance customer capital properly, this third foundational component will skew its intellectual capital by not properly recognizing the customers' knowledge base.

2.1.5 Capital Employed

Capital employed refers to the amount of capital investment a business uses to operate and provide an indication of how a company is investing its money. It generally refers to the capital utilized by the company to generate profits (Daniel, 2020). The total amount of capital used by a firm or project to acquire profits is referred to as capital employed. Capital employed can also refer to as the value of all the assets used by a company to generate earnings (Sherry, 2016). The ratio between a company's dollar expenses and the dollar spent to make a product or service is known as capital employed efficiency (Hayes, 2020). This is the metric to look at because the more efficiency capital is used to produce a product or service, the better chance a company has for approaching profitability (Adam, 2020). If the amount of capital employed is high and is not sourced from equity shareholders, then it shows a higher level of risk. It shows an aggressive business expansion and growth plans. If the plan goes successfully then it may provide a higher return to the investors on their investment (Adam, 2020). By employing capital, companies invest in long-term future of the company. Capital employed is useful because it is used in conjunction with other financial measures to establish the return on a company's assets as well as the efficiency with which management employs capital. Based on the value added intellectual capital model, capital employed efficiency is one of the intellectual capital components. It's computed by dividing the value added on capital employed (Pulic, 2020).

2.1 6   Concept of Profitability

The term profitability is made up of two words: profit and ability.
The term profit has already been defined, while the word ability refers to a company's ability to make profit. A company's ability also refers to its earning power or operating performance. Profitability can be described as a firm's ability to earn a return from its investment. Profitability is a relative term, while profit is an absolute connotation. Profit and profitability are two distinct concepts, notwithstanding their close relationship and mutual interdependence.

To put it another way, despite their generic nature, each of them plays a unique role in business. As an absolute term, profit has no relevance when comparing the efficiency of a business organization. A large profit margin does not always imply strong organizational efficiency, and a low profit margin does not always imply organizational sickness.

As a result, profit is not the primary criterion by which an organization's operational and financial efficiency may be measured. Profitability analysis is regarded one of the greatest techniques for measuring the productivity of capital employed and operational efficiency.

2.2 Theoretical Framework

Theory plays nice role in rooting all variables involved in the research work. Hence, theory is backbone of every research work in academic world.

2.2. 1 Resource-Based Theory

Resource-Based Theory (RBT) was first put forward by Penrose (2009), who proposed a model on the effective management of firms' resources, diversification strategy, and productive opportunities. Penrose's publication was the first to propose conceptualizing a firm as a coordinated bundle of resources to address and tackle how it can achieve its goals and strategic behaviour (Penrose, 2009;Penrose, 2009). RBT began to take shape in the 1980s.The antecedent of RBT was the Theory of the Growth of the Firm. Later, during the 1990s, Jay Barney's work was critical to the emergence of RBT and became the dominant paradigm in strategic management and strategic planning.

RBT provides a framework to highlight and predict the fundamentals of organization performance and competitive advantage. The focus of RBT on the firm's performance based on macro perspectives was a reaction to the earlier managerial interest in the industry structure, a more macro perspective. RBT addresses an internally-driven approach by focusing on internal organization resources, as opposed to externally driven approaches to understanding the accomplishment or failure of leveraging organizational activities (Kozlenkova, Samaha & Palmatier, 2014). It aims to elaborate on imperfectly imitable firm resources that could potentially become the source of sustained competitive advantage (Barney, 1991).

Some confusion persists concerning the label for the theory, whether to appropriately use the term resource-based theory (RBT) or resource-based view (RBV). Some research papers refer to the theory as RBT based on the evidence that the view has evolved into a theory, but some others refer to RBV. However, reflecting on the research community's perspective, several research assessments support the RBT's credentials (Kozlenkova, Samaha & Palmatier, 2014; Crook et al., 2008).

There are two underlying assumptions of the RBT related to the explanation of how firm-based resources generate sustained competitive advantage and why some organizations may continually outperform others by gaining higher competitiveness (Helfat & Peteraf, 2003).

First, the bundles of resources owned by firms are different from each other (Helfat & Peteraf, 2003). One of the cornerstones of RBT is the heterogeneity of resources and capabilities in a population of firms, which differentiate the competitive advantage of each firm. The heterogeneity of resources assumes that a firm possesses unique resources in a specific situation can potentially be more skilled to perform particular activities and create competitive advantage. Second, the complexities of trading resources across firms may create persistence in differences in resources (the assumption of resource immobility).

Theory assumptions of RBT begin with the assumption that organizational characteristics are not merely modified. The organization needs to correct its orientation if it is to succeed and achieve sustainable competitive advantage. The dominant paradigm in determining a company's profits potential, such as the view of Porter (1989), suggests that a firm's internal factors, such as resources and capabilities, determine a firm's profit. The seminal work about strategic resources by Barney (1991) became the fundamental contribution to RBT, guiding the transformation perspective of the resource-based view into a developed theory as RBT. However, the traditional RBT does not elaborate on why and how some firms gain a competitive advantage in circumstances of unpredictable and rapid change (Adner & Helfat, 2003). The development of a broader RBT perspective suggests that firms can achieve competitive advantage not only by utilising critical assets, but also by building new potential capabilities via learning, skill acquisition and the accumulation of tangible and intangible assets over time. The resource-based logic suggests that if valuable resources (i.e. resources that are costly and ddifficult to imitate) are possessed by few firms, those firms that are able to control these resources potentially to generate sustained competitive advantage (Barney, 1991). Hence, firms can achieve an advantage by continually recombining or reconfiguring diverse types of resources and by creating new applications to meet market demand (Adner & Helfat, 2003).

In RBT, resources refer to assets, business processes, capabilities, the firm's attributes, knowledge, information, etc. controlled by a company to comprehend and implement strategies aiming to enhance efficiency and effectiveness (Barney, 1991). The source of firm resources can vary, coming from both within and outside the organisation. Internal resources are, for example, R&D capabilities, logistics, brand management, and low-cost processes (Kozlenkova, Samaha & Palmatier, 2014); while external resources are for instance: the role of suppliers (Lewis et al., 2010), customer demand, technology change (Li & Calantone, 1998). Company resources can be grouped into three categories, namely physical capital resources, human capital resources and organizational capital resources (Barney, 1991). Physical capital resources refer to company equipment, plant, its access to raw materials, geographical location and they include the physical technology utilized by a company. Human capital resources encompass experience, intelligence, training, judgment, relationships, and insights from employees, such as managers and workers in a company. Finally, organizational capital resources refer to a company's formal structure, the company's formal and informal system,

which comprises planning, managing, and coordinating systems. Organizational resources also relate to informal relations amongst divisions within a company and the relationships between a company and its business environments.

Categorization of company resources on RBT can also build upon two groups of tangible and intangible assets (Barney, 1991; Molloy et al., 2011). Tangible resources refer to all the assets, which include economic gains and visible business contributions, such as products and commodities. (Lyons & Brennan, 2019). Intangible resources comprise all the assets possessed by a company related to the access to capabilities and knowledge as well as organizational, strategic, and social benefits (Keränen & Jalkala, 2013). Tangible and intangible resources have different features in terms of deterioration of use, the ability for simultaneous utilisation and immateriality that are only obtained by intangible resources. Intangibles resource do not deteriorate with use, they can be used simultaneously by multiple managers, and are difficult to exchange (e.g. business process know-how, employee skills) (Molloy et al., 2011). On the other hand, tangible resource can deteriorate with use, may or may not have the ability to be used simultaneously by different managers, and can be exchanged (e.g. material goods, commodities) (Molloy et al., 2011).

2.2.2 Knowledge-Based Theory
The knowledge-based theory of the firm considers knowledge as the most strategically significant resource of a firm. Its proponents argue that because knowledge-based resources are usually difficult to imitate and socially complex, heterogeneous knowledge bases and capabilities among firms are the major determinants of sustained competitive advantage and superior corporate performance.

This knowledge is embedded and carried through multiple entities including organizational culture and identity, policies, routines, documents, systems, and employees. Originating from the strategic management literature, this perspective builds upon and extends the resource-based view of the firm (RBV) initially promoted by Penrose (1959) and later expanded by others (Wernerfelt 1984, Barney 1991, Conner 1991).

Although the resource-based view of the firm recognizes the important role of knowledge in firms that achieve a competitive advantage, proponents of the knowledge-based view argue that the resource-based perspective does not go far enough. Specifically, the RBV treats knowledge as a generic resource, rather than having special characteristics. It therefore does not distinguish between different types of knowledge-based capabilities. Information technologies can play an important role in the knowledge-based view of the firm in that information systems can be used to synthesize, enhance, and expedite large-scale intra- and inter-firm knowledge management (Alavi and Leidner 2001).

Whether or not the Knowledge-based theory of the firm actually constitutes a theory has been the subject of considerable debate. See for example, Foss (1996) and Phelan & Lewin (2000). According to one notable proponent of the knowledge-based view of the firm (KBV), "The emerging knowledge-based view of the firm is not a theory of the firm in any formal sense" (Grant, 2002, p. 135).

2.3 Empirical Review
Kehelwalatenna and Gunaratne (2010) investigated the relation between intellectual capital (IC) and firm performance. The research was conducted utilizing data from Sri Lankan listed financial services and manufacturing firms from 2002 to 2006. The Pulic's Value Added Intellectual Coefficient (VAIC) was employed to measure the IC together with the measurements of value creation efficiencies of capital employed, human capital, and structural capital of selected firms. Pearson's correlation analysis and constructed regression models were used to investigate the said relationships. Results of the main analysis showed that IC was positively associated with firm performance (market-to-book value) and investor response. In addition, it was found that the level of importance placed by investors on three components of value creation efficiencies (physical capital, human capital, and structural capital) were not uniform.

Yu, Ng, Wong, Chu and Chan (2010) measured the relationship between intellectual capital (IC) performance of Hong Kong companies and business performance. Between 2005 and 2008, audited accounting data were collected from Hang Seng Index constituent companies on the Hong Kong Stock Exchange in order to generate a set of IC efficiency indices based on VAICTM. Four accounting ratios were employed as proxies for evaluating business performance: market-to-book value (MB), return on assets (ROA), asset turnover (ATO), and return on equity (ROE). $VAIC^{TM}$ and its associated indexes, and the accounting ratios of sample companies were submitted to regression analysis for the detection of their associations. Components of $VAIC^{TM}$ were found to be able to predict a substantial variance in business performance. For example, Capital Employed Efficiently (CEE) was found to be the key factor in predicting business financial performance. In addition, Structural Capital Efficiency (SCE) has an effect on market valuation as measured by MB as well as profitability as measured by ROE. Negative correlations were observed between Human Capital Efficiency (HCE) and the financial indicators which, perhaps, were due to the existence of a gap between the traditional accounting perspective and value creation perspective which is central to the $VAIC^{TM}$ methodology in measuring IC.

Ahmad and Abbas (2011) explored the relationships between Intellectual capital and business performance in Iraqi industry from 2001-2009. The study investigated whether intellectual capital had a direct effect on business performance. Business performance was regressed against four variables of intellectual capital namely (Human capital, Customers capital, Relational capital and Structural capital) The equation for business performance. The result of the

study emphasized there was positive relationship between intellectual capital (consists of customer capital, human capital, structural capital, relation capital) and businesses performance (consists of innovation, rate of new product development, customer satisfaction, customer retention and operating costs).

Arabi and Abdalla (2013) empirically looked at the effect of human capital on economic growth in Sudan from 1982 to 2009 by using a simultaneous equation model that connects human capital, such as school attainment and investment in education and health, to economic growth, total productivity, foreign direct investment, and the human development index. The empirical findings of the study, which were based on the three-stage least squares technique, revealed that education quality has a determinant role in economic growth; health quality has a positive impact on economic growth as expected; and total factor productivity, which primarily represents the state of technology, has an adverse effect on economic growth and human development due to obsolete and out-of-date technology.

Razafindrambinina and Santoso (2013) examined the relationship between intellectual capital and firm performance. The study used panel data from publicly listed non-financial institutions on the Jakarta Stock Exchange. The study used 191 publicly listed companies on the Jakarta Stock Exchange from 2009 to 2010. The Value Added Intellectual Coefficient measured intellectual capital and its components namely human capital, structural capital, and capital employed. Market-to-book value as the dependent variable measured the worth of a company or the amount invested by shareholders. The study discovered no appreciable relationship between intellectual capital and firm performance using the multiple regression technique.Deep and Narwal (2014) looked at the relationship between intellectual capital and financial performance measures in the Indian textile industry over a ten-year period, from 2002 to 2022. Corporate annual reports, especially the profit and loss accounts, as well as the statements of financial status, of the selected companies for the relevant years, were obtained from the CMIE prowess database. The Value Added Intellectual Coefficient (VAIC) technique was used to assess the companies' intellectual capital.Correlation and OLS regression were employed in the study to look for any existing relationships between variables. It was discovered that intellectual capital in the textile industry had a considerable positive relationship with companies' profitability. Physical capital (VACA) was determined to have the greatest impact on companies' profitability across the research period, according to the empirical analysis. Results indicated that Indian investors considered only financial disclosure of the companies regarding their investment decision.

Amin, Aslam and Makki (2014) discovered the effect of intellectual capital (IC) on financial performance of pharmaceutical firms in Pakistan. The impact of intellectual capital (IC) on the financial performance of pharmaceutical companies in Pakistan was discovered.

Quantitative data on publicly traded pharmaceutical companies was gathered from audited annual reports from 2009 to 2013. The IC model of Pulic (2004) was used to assess intellectual capital. Return on assets, return on equity, and earnings per share were used to assess financial success. Partial least square (PLS), a structural equation modeling technique, was used to evaluate the study's structural and measurement model. The findings revealed that IC has a considerable favorable impact on financial performance. The study was beneficial to company directors and regulators in encouraging them to invest in IC, resulting in improved financial performance.

Isanzu (2015) researched the impact of intellectual capital on the financial performance of Tanzanian bank for the period of four years from 2010 to 2013. The data was obtained from annual reports, particularly profit and loss accounts and statements of financial condition of the selected banks. The study employed the Value Added Intellectual Capital Model (VAICTM) to calculate intellectual capital and its three key components: Human Capital Efficiency (HCE), Structural Capital Efficiency (SCE), and Capital Employed Efficiency (CEE) (CEE). When the VAICTM was separated into its three components, the regression findings demonstrated that intellectual capital has a positive relationship with financial performance of Tanzanian banks.

Eddy and Joung (2015) determined the effect of intellectual capital which was proxied with Human Capital, Structural Capital and Customer Capital on the company's financial performance measured by return on assets (ROA). Sample was the banking industry, which was listed on the Indonesian Stock Exchange (IDX) period 2008-2012. Using multiple regression analysis, intellectual Capital measurement model was that of Pulic (1998) i.e. Value Added Intellectual Co-efficiency (VAIC^{TM}) as well as elements of Human Capital Value Added (VAHU), Customer Value added Capital (VACA), and Structural Capital Value Added (STVA). The results showed THAT (1) Human Capital (HC) effect on the financial performance of +2.085 regression coefficient, that means the higher Human Capital (HC), the better the financial performance. (2)

Customer Capital (CC) effect on financial performance of + 3.568 regression coefficient. It means the higher Customer Capital, the better financial performance. (3) Structure Capital (SC) effect on the financial performance of positive regression coefficient 2.064. This means that the higher the Capital Structure, the higher the company's financial performance. Simultaneously measured by the Intellectual Capital Value added efficiency (VAIC^{TM}) consists of Human Capital (HC), Customer Capital (CC) and Structure Capital (SC) significant effect on financial performance as measured by return on assets (ROA) of: ROA 0.089 + 0.112 (HC) + 1.501 (CC) + 0.708 (SC). The Intellectual Capital component

Human Capital, Customer Capital and Structural Capital affect the company's financial performance 72.20 %, while the rest is influenced by other factors.

Federica Vinceazo, Domenico and Ida(2015) explored the effect of intellectual capital efficiency (ICE) on firm performance. The study had two goals: (1) to offer ICE measures that were specifically customized to professional football businesses, and (2) to empirically evaluate if some dimensions of ICE, namely, human capital and relational capital efficiency, are positively associated with sporting performance, used as a proxy for business performance. The study developed quantitative analysis of club-level panel data using the statistical technique known as mixed-effects linear regression for longitudinal analysis. The study covered a time period of five years and specifically the sporting seasons from 2007/2008 up to 2011/2012 in Brazil. The empirical findings of the study provided tentative evidence that ICE, especially as far as relational capital is concerned, is positively associated with on-pitch performance of professional football businesses. On the counterpart, results for the effect of human capital efficiency (HCE) did not consistently come out with the (positive) expected signs. More specifically it the findings suggested that a crucial factor for football club management is relational capital efficiency, or the capacity to create and nurture positive business relationships with relevant external stakeholders.

Mrázková Perzelova and Glova (2016) examined the role of various intellectual capital components on firm profitability. The dataset consisted of data of 289 software companies from member states of European Union during the period of three years. Data were analyzed using 95 companies from 2013 to 2015. VAIC^{TM} and its components were used as a measure of IC and represented the independent variables via OLS regression equation. Additionally, the study added one categorical variable — time. Company's performance was defined by four main indicators representing dependent variables — market to book value ratio, return on assets, return on equity and employees' productivity. Intellectual capital have significant influence on ROE and employees' productivity.

Iwan and Azhar (2016) investigated the effect of intellectual capital on financial performance of banking sector on the Island of Java, Indonesia with data processing techniques using multiple regression. The research method used purposive sampling with a -sample number 615. The data were analyzed using Eviews 7. Based on secondary data from the Bank of Indonesia there were 205 rural banks recorded that periodically reported financial statements for the year 2011 till to 2013 on the Island of Java. The research model used in the study was a VAICTM (Pulic, 1998). The results showed that the value added (VA) capital employee variables significantly influenced toward financial performance and VA human capital variables and variable structural capital VA have significant effect on toward financial performance. The overall test results produced an adjusted R2 indicated that the intellectual capital variables significantly influenced financial performance.

Onyekwelu and Ubesie (2016) examined the study used Time Series and Cross-Sectional Data and used a Panel Research Design. The data was collected during a ten-year period (2004-2013). The study's firms were chosen using simple random sampling. Using a text analysis approach, data was gathered from the companies' yearly financial statements. The Nigerian Stock Exchange provided market valuation statistics. Intellectual Capital (Independent Variable) was measured using Human Capital Efficiency (HCE), Structural Capital Efficiency(SCE) and Capital Employed Efficiency (CEE). Market to Book Value Ratio (M/BV) and Earnings per Share(EPS). The study adopted the Value Added Intellectual Coefficient (VAIC) Model as developed byPulic (1998) to examine the effect of Intellectual Capital on firms' values. Multiple Regression and Correlation Analysis were used on the data at 5% level of significance. E-View Statistical Tool version 8.0 was used in the analysis. The results reveal that Human Capital Efficiency has a positive and significant effect on Market/Book Value. SCE has a negative and insignificant effect on MIBV; CEE has negative and significant effect on M/BV; positive and insignificant effect on EPS. Based on our findings, the study recommends that companies invest a significant portion of their earnings in human capital via knowledge development, as such investments can stimulate their employees' value creation potentials and cause investors to place a larger premium on them.

Kamini, Harsh and Deepak (2016) measured the intellectual capital (IC) of publicly listed firms in India and empirically examined the relationship among IC, financial performance and market valuation of these firms. Value creation efficiency of the firms listed on CNX Nifty over the period ranging from 2004—2005 to 2013—2014 has been estimated using Pulic's Value Added Intellectual Coefficient (VAIC). It was observed that firms operating in sectors such as financial services, mining and energy had the highest VAIC scores. Further, there found a favorable relationship between VAIC and all financial performance measures, including profitability, productivity, and market valuations. Profitability, market valuation, and productivity all demonstrated a substantial positive relationship with physical capital efficiency. Human capital efficiency was discovered to have a substantial positive relationship with profitability, whereas structural capital efficiency had no meaningful impact on any of the financial performance indicators.

Onyekwelu Okoh and lyidiobi (2017), for a ten-year period, appraised the effect of intellectual capital on financial performance of Nigerian enterprises using the banking industry (2004-2013). The Value Added Intellectual Coefficient (VAIC) was used to determine the impact of intellectual capital indices on three banks' financial performance. The ex post facto research design was used in this study. Data was gathered from these banks' annual reports and accounts, as well as data from the Nigerian Stock Exchange's (NSE) publications, and evaluated using a regression technique. Return

on Asset (ROA) was utilized to assess financial performance in the study. The study found that IC has a positive and considerable impact on bank financial performance, but some were not significant. The results revealed further that the banks were statistically different in both the intellectual capital and its financial performance indicators. It also showed that the banks with high IC also show high financial performance. The study recommended banks in Nigeria should invest heavily in the development of their human capital as a crucial driver of the firm's performance. They should also supply the infrastructure required to ensure the system's virile human capital.

Nwaiwu and Alivu (2018) empirically investigatedthe relationship between intellectual capital reporting and financial performance measures of listed banks in Nigeria from 2010.-2016. Ex-post facto research was used in this study. The study's data came from the websites of fifteen (15) commercial banks' published annual financial statements as well as the Nigeria Stock Exchange as of December 31, 2016. The study adopted and modified Pulic (1998) Value Added Intellectual Coefficient (VAIC) Model which provided measurement for intellectual capital indices (SCEI) in relation to financial performance. The study employed OLS regression tool to analyze the data with the aid of SPSS version 23 and Eview version 9. The findings of the study showed mixed results as some elements of intellectual capital reporting were not significantly related to revenue growth and return on investment. It further depicted that Structural Capital Efficiency Index significantly related to return on investment. According to the findings, intellectual capital is not entirely tied to the financial success of Nigeria's publicly traded commercial banks. It was recommended that International Accounting Standards Board (IASBs) should incorporate intellectual capital elements in standards as capital investments instead of being merely expensed in income statement. The study also endorsed the implementation of the International Integrated Reporting Council (IIRC) for full disclosure of intellectual capital in financial statements so as to avoid misleading information and to enhance the quality of financial performance.

Inyada (2018) examined obvious issues on the effect of intellectual capital on the financial performance of corporate establishments in Nigeria. With the help of the Nigerian Stock Exchange Fact Book, secondary sources of data were gathered. The research was conducted over a five-year period (2013-2017) and five (5) quoted banks out of the listed banks in Nigeria wereused based on purposive sampling. The regression model was used for the analysis and testing of the hypotheses formulated through the instrumentality of the SPSS Version 15. The dependent variable of the study was financial performance measured by Returns on Equity (ROE), Returns on Assets (ROA) and Growth in Sales (GR). ROA, ROE and GR are used as proxies for financial performance. Intellectual capital, as measured by the Value Added Intellectual Coefficient (VAIC) and the Market to Book Value Ratio (M/B), is the independent variable. It was revealed that intellectual capital had a positive and considerable impact on a company's financial performance. Physical and structural capitals also have a positive relationship on the financial performance of the companies evaluated. It is therefore advanced that a vibrant and robust training and retraining programmes be put in place to ensure the availability of human resources in the proper quantity and quality. Physical and structural capitals' economic and technicalcapacities should be improved to boost the contributions of the human assets. Strategic human resources policies must also be carefully formulated and properly implemented to x-ray the possibility of including human assets in the balance sheet of corporate entities and to promote ntellectua1 capital reporting.

Sharma (2018) estimated the intellectual capital coefficient of the firms under study and to study the relationship, if any between intellectual capital and its constituents in United States. Pulic's VAIC (modified) were used to estimate the intellectual capital of BSE S&P 500 listed analyzed using Pearson correlation and linear multiple regression analysis using CMIE PROWESS. Findings revealed that almost all of the companies studied had a good VAIC score of at least 4, and the top VAIC scorer companies were mostly from the refinery, metal, cement, steel, and tobacco industries. M/B ratio has a substantial relationship with VACA, VAHU, Research and Development (Innovation capital), and Advertisement expenses (customer capital), according to correlation analysis and linear multiple regression analysis. The value of adjusted R^2 was increasing year after year, from.164 in 2007 to 607 in 2016, implying that VAIC's role in estimating the market value of the firms under study was improving.Ibrahim and Ogwuche (2018) investigated the effect of intellectual capital on market performance in Nigeria over the time of 2009-2017. Market performance was measured using Tobin Q while intellectual capital was measured based on the Value-Added Intellectual coefficient (VAIC) measurement framework by using human Capital Employed efficiency (CEE), Structural Capital Efficiency (HCE), Capital Employed efficiencyfirm size (FSIZE) and efficiency (SCE). The switch variables were capital efficiency leverage (LEV). Firm size was measured as log of total asset while Leverage was measured as Total debt divided by total asset. In testing for the formulated hypotheses, multiple OLS pooled regression was used which is the most suitable techniques for analyzing the effect of independent variables on dependent variable when the dependent variable is neither binary nor ordered and in the case of heteroscedasticity, a robust regression was used to correct the results. The study also performed preliminary preregression analysis such as descriptive statistics, correlation matrix and normality test. The results from analysis showed that out of the three VAIC components used only capital employed had positive effect on market performance. The study recommended that capital aspect of intellectual capital be given more attention by management and stakeholders that have interest in improving manufacturing companies' market performance.

Hatane, Wedysiage, Angeline and Saputra (2018) observed the effect of Intellectual Capital Disclosure (Human Capital Disclosure, Structural Capital Disclosure, and Relational Capital Disclosure), Firm Size and Leverage towards the firm value (measured by Tobin's Q). The study examined 36 Indonesia's listed companies from infrastructure, utility, and transportation industry in 5 years' period, from 2013 to 2017. The time periods that were chosen to distinguish the

performance of the two years prior to Joko Widodo's era and the three years of Joko Widodo's era (20 14-2018). Individual testing yielded a variety of outcomes. During the pre-JokowIs era, none of the lCD components had an effect on firm value. Without distinguishing the presidential era, the negative effect of RCD on firm value was discovered. In addition, the negative response from firm value was found when the interaction of lCD and the time period was increasing. The study conducted the content analysis of the IC disclosure in the annual reports, while it may not express the whole quality of IC practice. Furthermore, in addition to the annual report, the company may use other information channels to reveal its IC performance. The study's limited information was due to the small sample size; consequently, expanding the types of industries could yield more thorough results. The report added to the discussion about investors' perceptions of IC and its components disclosures.

Smriti and Das (2018) investigated the impact of intellectual capital (IC) on financial performance (FP) for Indian companies in India. Between 2001 and 2016, secondary data was gathered from Indian publicly traded firms, and the value-added intellectual coefficient (VAIC) of Pulic (2000) was utilized to measure IC and its components. The variables that significantly contribute to company performance were identified using a dynamic system generalized method of moments (SGMM) estimator. During the study period, human capital had a significant impact on company productivity. Furthermore, the empirical analysis revealed that structural capital efficiency and capital employed efficiency both contributed equally to firm sales growth and market value. The increasing relevance of IC's contribution to value creation was reflected in the financial statements of these Indian companies.

Nwaiwu and Nwaekpe (2018) investigated the impact of intellectual capital reporting on corporate financial performance of 12 quoted manufacturing firms in Nigeria from 2011- 2015. Time series data on different types of intellectual capital on debt-to-equity ratio were collected from Nigerian Stock Exchange. Descriptive statistics, Augmented Dickey - Fuller and Multiple Linear regression analysis were used in analyzing the data with the aid of E-view version 8. The econometric results indicated that intellectual capital has a significant effect on corporate financialperformance; explaining about 39.4% of the variation in debt-to-equity, Human capital was found to have appreciable effect on financial performance. As a result, the study concluded that human human capital has a high potential to contribute significantly to debt-to-equity and suggested that firms should capitalize on the benefits derived from external relationships, while practitioners must recognize that, while human capital (HR), structural capital (ICT), and relational capital (Marketing) departments of manufacturing firms are typically disparate units that often do not incorporate their services, they must try to reconcile their opposing viewpoints and coordinate their various processes so that a more holistic perspective on the intangible value of the firm can be more readily realized.

Purwaningsih (2018) determined the effect of value added intellectual capital on financial performance with ownership structure as moderating variable in Indonesia. Return On Assets used as a proxy for financial performance. Data for the study were obtained from secondary data by purposive sampling method. There are 65 manufacturing companies listed in IDX on D13-2017 that used as sample. The study used Multiple Regression Analysis (MRA) as method of analysis. The findings revealed that intellectual capital's added value had a positive impact on financial performance. The results on the moderating variable revealed that the ownership structure used as a proxy was managerial ownership, which mediated a negative relationship between intellectual capital and financial performance, while institutional ownership did not mediate this relationship.

Using data from 27 listed companies from 2004 to 2015, Sedeaq (2018) assessed the effect of intellectual capital on firm performance of real estate companies listed on Borsa Istanbul.

As a measure of intellectual ability (IC), the Value Added Intellectual Coefficient (VAIC) approach was used. The impact of intellectual capital (VAIC), human capital efficiency (HCE), structural capital efficiency (SCE), and capital employed efficiency (CEE) on market, productivity, and financial performance was investigated using OLS regression. SCE is a fundamental role of value creation in real estate firms, according to the research, and it has a positive significant relationship with MB, ROE, and EPS before the crisis and with ROA and ROE after the crisis. Before the crisis, HCE had a positive significant relationship with ROA and ROE, but a negative significant relationship with MB and ATO after the crisis.Following the crisis, CEE had a negative big impact on ATO. Before the crisis, VAIC had a large positive impact on ROA, ROE, and EPS, and it has the same relationship with ROE after the crisis. Despite the positive results of utilizing intellectual capital to create value, real estate Turkish firms are still vulnerable depending on its intellectual capital.

Hasan and Hasan (2019) investigated the impact of intellectual capital on in financial performance of banking sector in Iraq among 30 listed banks from (2011-20 16). The study used value-added intellectual coefficient approach to measure the intellectual capital by aggregating the capital-employed efficiency, Human capital efficiency and structural capital efficiency. For financial performance, two proxies were employed: return on assets (ROA) and return on equity(ROE). Ordinary least square regression analysis was utilised. Overall investigations revealed that intellectual capital has a substantial effect in the financial performance of Iraq's banking system. In addition, intellectual capital components such as capital-employed efficiency, human capital efficiency, and structural capital efficiency all have a positive and significant relationship with return on assets and return on equity, with the exception of structural capital efficiency, which has no effect on return on equity.

Tarigan, Listijabudhi, Hatane and Widjaja (2019) investigated the effect of intellectual capital on firms' financial performance. It was conducted on manufacturing companies in Indonesia which were listed in Indonesian Stock Exchange (IDX). The sample of the study was 93 listed manufacturing companies with the total number of 465 firm-year observations in five years 201 1-20 15. VAIC method by Pulic was used in measuring the intellectual capital in this research. Based on VAIC approach, intellectual capital consisted of human capital (HCE), structural capital (SCE), and capital employed (CEE). Regression models were used to assess all the relationships of independent and dependent variables. The findings revealed that VAIC had a substantial relationship with financial performance but not with companies' market value. While in regards to each component, HCE was found to have no correlation towards both market value and financial performance. Only the market value was shown to have a negative significant relationship with the SCE. Meanwhile, CEE has been shown to have a strong correlation with both market value and financial performance.

Synthesis of Empirical Review

S/N	Authors/Year	Country/Period	Variables	Statistical tools	Findings
1	Kehelwalatenna and Gunaratne (2010)	Sri Lanka (2002-2006)	Capital employed, human capital, and structural capital, Pulic's Value Added Intellectual Coefficient	Pearson's correlation analysis and regression models	A positive relation Between Capital employed, human capital, structural capital and Tobin's Q
2	Yu, Ng, Wong, Chu and Chan (2010)	Hong Kong (2005 - 2008)	Market-to-book value (MB), return on assets (ROA), asset turnover (ATO) and return on equity (ROE), VAIC	Regression Analysis	Negative correlations between Human Capital Efficiency (HCE) and ROE, MB, ROA, ATO
3	Ahmad and Abbas (2011)	Iraqi (2001-2009)	Human capital, Customers capital, Relational capital and Structural capital	Correlation and Analysis ANOVA	Positive relationship Between intellectual capital and customer satisfaction, retention
4	Arabi and Abdalla (2013)	Sudan (1982-2009)	Human capital, economic growth, total productivity, foreign direct investment	Linear regression equation	Health quality factor has a positive impact on economic growth
5	Razafindrambinna and Santoso (2013)	Indonesia (2009-2010)	Human capital, structural capital, and capital employed. Market-to-book value	Multiple regression technique,	No significant relationship between intellectual capital and market to book value
6	Deep and Narwal (2014)	India (2002-2012)	Human capital, Structuralcapital, physical capital, ROA	Correlation and OLS regression	Physical capital had the major impact on the ROA
7	Amin, Aslam and Makki	Pakistan (2009-20 13)	Return on assets, return on equity, earnings per share, intellectual capital	Partial square (PLS) Least	Significant positive impact of IC on financial performance
8	Isanzu (2015)	Tanzania (20 10-20 13)	Human Capital Efficiency Structural capital efficiency, Capital EmployedEfficiency, ROE	Correlation and multiple regression analysis	Intellectual capital has a positive relationship with financialperformance
9	Eddy and Joung (2015)	Indonesia (2008 - 2012)	Human Capital Efficiency Structural capital efficiency, Capita Employed Efficiency, ROA	Multiple regression Analysis	Intellectual capital Measures have a Significant positive effect on ROA)
10	Federica, Vincenzo, Domenico and Ida (2015)	Brazil (2007-2012)	Human capital and relational capital efficiency, pitc performance	Mixed-effects linear regression	A negative relationship between human capital efficiency and performance

CHAPTER THREE
METHODOLOGY
3.1 Research Design
The study adopted the ex post facto because the researcher determines the cause-and-effect relationship between the dependent and the independent variable using the data that already existed and the researcher made no attempt to change it nature and values. The data used has the characteristics of time series and cross sectional as the data were collected from many companies in many years. The data were collected already exist and the study would make no attempt to manipulate its nature or value

3.2 Area of Study
The study used firms listed under the health care sector of the Nigeria Exchange Group. Nigeria is located in the West Africa region and has the most active stock exchange in terms of market capitalization and number of firms quoted/stock traded in the market within the region (International Monetary Fund – IMF 2020). Besides having the most active stock market within the West Africa region, the Nigeria stock exchange has the highest number of quoted

Manufacturing firm. This can enhance the reliability of the comparative result, and form the study choice of using those countries. The Nigerian stock exchange has total of 171 firms grouped under 11 sectors. The Health care sector is one of the sectors.

3.3 Source of Data
The study used longitudinal (secondary) data that would be collected from the financial report of the quoted firms in the Nigeria Exchange Group between 2011 and 2021 financial years. The data were collected from the published financial statement of the quoted firms used in the study.

3.4 Population and Sample Size of the Study
The population of the study was all the Health care firms listed in the Nigeria Exchange Group. The sample size of the study is the same as the population of the study. All the ten Health care firms (Evans Medicals Plc, May & Baker Nigeria, Afrik Pharmaceuticals, Gateway Pharm plc, Fidson Health Plc, BCN PLC, Union Diagn. and Clinical service, Glaxo Smithkline Consumer Nigeria and Morrison Industries Plc**)** listed on the floor of the Nigeria Exchange Group was the study sample size. The Nigeria Exchange Group has a total of one hundred and twenty (120) companies in quoted in ten sectors (Health care sector, Health care, Consumer Goods, Consumer Service, Industrial goods, Conglomerates, Oil & Gas, ICT, Natural Resources Construction/Real Estate (The Nigeria Exchange Group Factbook- December 2021).

3.6 Method of Data Analysis
The study intends to use secondary data that would be collected from the annual report of the firms selected. The data was analysed using descriptive statistics, correlation and regression analysis. The descriptive statistics was used to evaluate the characteristics of the data: Mean, maximum, minimum, and standard deviation and also checks for normality of the data using the e-view software 9 version. The correlation analysis was used to evaluate the relationship between the variables and to check for the presence of multi-collinearity among the variables used. Diagnostic test was also be carried to ascertain the normality of the data, test for multi-collinearity using variance inflator factor analysis and effect test. The multivariate analysis technique would be used to evaluate the effect of the independent variables on the dependent variable.

Table 3.1: Variables Operationalization
The variables were operationalized as follow

Variables	*Proxy / Measures*
Dependent variable	
Earnings Per Share (EPS)	Net income – dividend payment/ weighted average share outstanding
Independent variables	
Human Capital (HUMCAP)	Log of market capitalization. The inspiration is drawn from the study of Katherine, Milkman and Beshearsb (2009).
Structural Capital (STCAP)	Proxy by innovative capital = patent right, copy right / total noncurrent assets. The inspiration is drawn from the study of Pretnar, Montgomery and Olivola (2016).
Relational Capital (RECAP)	Binary: disclosure of customer/ supplier list there is YES (1) None disclosure of customer/supplier list is NO (0). The inspiration is drawn from the study of Maja and Amela (2016).
Capital Employed (CAPEMP)	Log (Total Assets – Current Liabilities). It reveals the capital utilized by the company to generate profits.

3.8 Model Specification
The study adopted the model of Onyekwelu, Okoh and Iyidiobi (2017) which examine the effect of intellectual capital on firms profitability. The model of Onyekwelu et al (2017) is as follows: VAIC = CE + HC + SC 1
Where VAIC =Value Added Intellectual Coefficient, CE = Capital Employed, HC= Human Capital, SC= Structural Capital.
The model of Onyekwelu et al (2017), model was adapted/ modified to suit the objective of this study as follow:
EPS = f(HUMCAP, STCAP, RECAP, CAPEMP) ….. 2
This can be econometrically express as:
$EPS_{it} = \beta0 + \beta_1 HUMCAP_{it}, + \beta_2 STCAP_{it}, + \beta_3 RECAP_{it}, + \beta_4 CAPEMP_{it} + \mu_{it}$ 3
Equation 2 is the linear regression model used in testing the null hypotheses.

Where:
EPS = Earnings per Share
HUMCAP = Human Capital
STCAP = Structural Capital
RECAP = Relational Capital
CAPEMP = Capital Employed
d_0 = Constant; d_1… d_5 = are the coefficient of the regression equation.

μ = Error term
i= is the cross section of firms used
t = is year (time series)

Decision Rule for hypotheses testing:
Accept Ho and reject H1– when the probability value is above 5%
Accept H1 and reject Ho– when the probability value is less than 5%

Decision rule for Husmann effect test:
Ho – random effect is more preferable than fixed effect
H1 – fixed effect is more preferable to random effect
When chi-square probability value if less than 10 – rejects Ho and accepts H1
When chi-square probability value if greater than 10 – accepts Ho and rejects H1.

CHAPTER FOUR
DATA PRESENTATION, ANALYSIS AND INTERPRETATION
4.1 Data Presentation
The details of the data used for this study is presented in appendix 1. The secondary data were collated from cross section of Health care companies in Nigeria, within the period of eleven (11)years. The study adopted the ordinary least square regressions analysis to identify the causal effects relationship that exists between intellectual capital and profitability. The study however conducted some preliminary analysis such as descriptive statistics, normality test, correlation analysis variance inflator factor to ascertain the normality and presence of multi-colinearity in the data collated and analyze for the study.

4.1.1 Descriptive Statistics
The descriptive statistics result shows the mean profit for each of the variables, their maximum profits, minimum profits, standard deviation and the normality test. Table 4.1 below, is the descriptive statistics result of the data covering the period of ten years (2011 – 2021) of the quoted Health care companies is used for the study.

Table 4.1 Descriptive Statistics

	EPS	HUMCAP	STCAP	RECAP	CAPEMP
Mean	0.439273	0.155182	0.233182	0.672727	0.294273
Median	0.510000	0.150000	0.240000	1.000000	0.285000
Maximum	1.060000	0.380000	0.390000	1.000000	0.380000
Minimum	0.040000	0.070000	0.090000	0.000000	0.200000
Std. Dev.	0.250444	0.054077	0.064152	0.471365	0.044751
Skewness	0.042010	1.448092	-0.234670	-0.736235	0.146264
Kurtosis	1.493697	6.441777	2.806788	1.542042	2.242261
Jarque-Bera	10.43170	92.73783	21.18720	19.67996	13.02381
Probability	0.005430	0.000000	0.000012	0.000053	0.000490
Sum	48.32000	17.07000	25.65000	74.00000	32.37000
Sum Sq. Dev.	6.836742	0.318746	0.448586	24.21818	0.218292
Observations	110	110	110	110	110

Source: Descriptive Statistics Result Using e-view 10

The descriptive statistics result shows that on the average, Health care companies used in the study have positive profitability profit of 0.439, maximum profit of 1.060 and minimum profit of 0.040 within the period under study. The positive average profit reveals that Health care companies have positive profitability (performance) profit within the period under review. The difference between the average profit 0.439, maximum profit of 1.060 and minimum profit of 0.040 shows that only few companies have earning per share of above #0.50 (0.439) while most of the companies' profit is earning per share of less than one 50 kobo within the period under review.

Human capital which shows the extent of investment in human capital by the health care companies and used in the production process by a company. The result shows a mean profit of 0.155, maximum profit of 0.480 and minimum profit of 0.070. This reveals that Health care companies in Nigeria, spend about 15.5 percent of their total cost on employee the form of Human capital. Some Health care companies spend as high as 38percent of their assets in the form of Human capital. Spending high proportion of their resources on their Human capital reveals their profit for their personnel which drive all operation and forms of innovations. Also if effectively and efficiently used can enhance production process stability.

The result of the Structural capital reveals that on the average, Health care companies maintain about 23.3 percent of their assets in tangible assets. Having structural capital with high proportion of assets in form of non Capital employed s would result to high level of depreciation and maintenance cost however, it can be useful tool in leverage financing. If effectively and efficiently used can enhance production process stability. While some companies maintain maximum

structural capital of 0.390 percent other maintain minimum Structural capital of 0.09 percent. The differences in Structural capital mean profit, maximum and minimum profit of reveals the premium attached to Structural capital by management of Health care companies in Nigeria. As the level of technological advancement in the business environment increases, empirical findings have shown that most companies prefer holding high proportion of their assets in intangible form. The result shows that while some companies maintain high level of Structural capital when compared with other class of assets, some maintain minimum level.

The result of the Relational capital reveals that on the average, Health care companies disclose high level of relational capital. Some health care ensures they maintain high proportion of relational capital while some companies maintain Structural capital other maintain minimum level of disclosure of Relational capital disclosure. As the level of uncertainty in the business environment increases, most companies would prefer to enhance their Relational capital. The result shows that while some companies maintain high level of Relational capital other maintain minimum level.

The result of the Capital employed revealed that on the average, Health care companies maintain about 29.4 percent of their assets as Capital employed in the operation. While some companies maintain maximum Capital employed of 38percent others maintain minimum Capital employed of about 20percent. The difference in the Capital employed maximum profit, mean profit and minimum profit reveals that investment preference of management of Health care companies across Nigeria. However the mean profit shows that Health care companies on the average maintain about 29 percent. This indicates the level of Capital employed of Health care companies across Nigeria.

Normality test

Variable	Obs	W	V	z	Prob>z
eps	110	0.86828	11.779	5.500	0.00000
humcap	110	0.90330	8.647	4.811	0.00000
stcap	110	0.97854	15.919	7.454	0.00000
recap	110	0.98966	10.925	8.175	0.00000
capemp	110	0.98909	12.975	6.056	0.00000

Source: Shapiro wilk normality test usingSTATA14

The Shapiro wilk normality test shows that firm environmental disclosure, Introduction stage, Growth stage, and decline stage were normally distributed at one percent significance. While maturity stage is not normally distributed. The normality test result reveals that all the variables used are normally distributed at 1%. This indicates that the result of the analysis can be relied upon in making generalization and in policy formulation.

4.2 Correlation Analysis.
In examining the relationship that exist among the variables and check for multi-colinearity, the study employed the spearman rank correlation and the results are presented in table 4.2

Table 4.2 Pearson Correlation coefficient analysis
Correlation: EPS, HUMCAP, STCAP, RECAP, CAPEMP

	EPS	HUMCAP	STCAP	RECAP	CAPEMP
EPS	1.000000	0.112257	0.230153	0.311157	0.131088
HUMCAP	0.112257	1.000000	-0.079902	-0.055231	-0.193098
STCAP	0.230153	-0.079902	1.000000	-0.038062	-0.210259
RECAP	0.311157	-0.055231	-0.038062	1.000000	-0.150562
CAPEMP	0.131088	-0.193098	-0.210259	-0.150562	1.000000

Source: Correlation analysis result using eview 9.

The result shows that company profitability (EPS) is positively associated with Human capital(0.112), the result reveals that an increase in profitability (earning per share) would lead to increase in the amount spent on Human capital by Health care companies. However, the increase can occur if the Human capital is effectively utilize in the production process to enhance their income.

Profitability (EPS) is positively associated with Structural capital (0.230). This reveals the more company makes profit the better their Structural capital would tends to be. An increase in the profitability will lead to increase in the Structural capital of Health care companies in Nigeria. This result may holds true as the firm makes profit, they tend to invest more on expanding their operation. On the long run, the assets will lead to better profit if effectively utilize in the production process.

Profitability (Earning per share) is positively associated with Relational capital (0.311). This shows that the more company makes profit the better they invest in Relational capital and in return they make more profit. Thus, increase in the Relational capital will lead to increase in the profit of Health care companies in Nigeria. This result may hold true

especially in an economy with high inflation rate and cost of borrowing. Most companies investing in Relational capital does that to enhance their profitability.

Profitability (earning per share) has a positive association with Capital employed (0.131). This reveals that Profitability (earning per share) can lead to increase in capital employed of Health care companies as more company generate profit, the better their profit would tend to be. Thus, increase in the profits of health care companies will lead to increase in the Capital employed of Health care companies in Nigeria. Capital employed which reveals the level of liquidity, over trading or under trading and ability of companies to meet its obligation as at when due has positive association with the profit of companies. As companies hold more Capital employed can enhance their ability to meet up short term obligations to various stakeholders.

The study observed that no two variables were perfectly correlated using the 75% association benchmark. This shows the absent of multi-colinearity among the variables used in the study.

4.3 Hypothesis testing
4.3.1 Hausman Effect test: Fixed and Random Effect Test
The summary result of Tobin q model, Hausman effect test used by the study to select between fixed and random effect, which affect the data used in the study is presented below.

Table 4.3.1 Correlated Random Effects - Hausman Test
Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	12.539392	4	0.0138

Source: Summary of hausman effect test result (2022) from e-view 9

The Hausman effect test result shows a chi-square statistic profit of 12.539 and probability profit 0.0138, the chi-square probability profit is less than 10 percent. Based on the result, the fixed effect is accepted and the random effect is rejected. The study therefore used the random effect to correct the problem of heterogeneity in the data used for the study. Table 4.4 below is the regression result adjusted for random effect (detail of the result is presented in table 4 under the appendix).

Regression analysis result
Below is the analysis of return on assets model. The detail of the result is in table 4 under the appendix.

Table 4.3.4 Cross-section random effects test equation:
Cross-section random effects test equation
Dependent Variable: EPS
Method: Panel Least Squares
Date: 04/30/23   Time: 10:33
Sample: 2011 2021
Periods included: 11
Cross-sections included: 10
Total panel (balanced) observations: 110

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.162863	0.208942	-0.779463	0.4376
HUMCAP	0.821937	0.352168	2.333932	0.0217
STCAP	0.839173	0.348719	2.406448	0.0180
RECAP	0.014367	0.049539	0.290007	0.7724
CAPEMP	0.914937	0.517453	1.768156	0.0802
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.590190	Mean dependent var	0.439273	
Adjusted R-squared	0.534695	S.D. dependent var	0.250444	
S.E. of regression	0.170836	Akaike info criterion	-0.577809	
Sum squared resid	2.801764	Schwarz criterion	-0.234111	
Log likelihood	45.77947	Hannan-Quinn criter.	-0.438403	
F-statistic	10.63500	Durbin-Watson stat	1.701585	
Prob(F-statistic)	0.000000			

Source: Regression result from e-view 9

The analysis result of the firm profit model shows an R-sq of 0.590 and R-sq (adj) 0.5347 respectively. The R-squared adjusted profit of 0.535 (53.5%) indicates that intellectual capital can explain about 53.5 percent of changes in the level of firm profit among Health care companies in Nigeria. That is, about 53.5% changes in firm profit among Health care companies in Nigeria can be attributable to their intellectual capital. The F-statistics profit of 10.64, and its probability profit of 0.000, shows that the regression model used is well specified and the specification is statistically significant at 1% levels.

H01: Human capital acquisition has no significant effect on profitability of Health care companies in Nigerian.

The analysis result of the effect of Human capital acquisition on company profitability (EPS)shows coefficient profitability of 0.821. This indicates that Human capital positively affect the level of profitability of Health care companies quoted in Nigeria Exchange Groups. The probability profitability of 0.0217 shows that the positive effect of Human capital on profitability of Health care companies in Nigeria, is statistically significant at 1 percent level. This means that an increase in the level of Human capital can positively impact on profitability of companies in Nigeria. Based on the result, the study rejects the null hypothesis and accepted the alternate hypothesis.

H02: Structural capital acquisition has no significant effect on profitability of Health care companies in Nigerian.

The analysis result of the effect of Structural capital acquisition on profitability of Health care companies in Nigerian shows coefficient profitability of 0.839 and probability profitability of 0.0180. The coefficient profit indicates that Structural capital positively affect profitability of quoted Health care companies in Nigeria Exchanges Group. The probability profitability of 0.02 shows that the positive effect of asset intangible on profitability is significant on the profitability of Health care companies quoted in Nigeria. The positive effect of Structural capital on profitability of Health care companies is statistically significant. Thus increasing the level of Structural capital can drive the profitability of Health care companies in Nigeria. Based on the result, the study accepts the alternate hypothesis and concludes the effect of Structural capital on profitability significant.

H03: Relational Capital has no significant effect on the profitability of Health care companies in Nigerian countries.

The analysis result shows positive coefficient profitability of 0.014and probability profitability of 0.7724. The positive coefficient profit indicates that financial asset positively affects the profitability of quoted Health care companies in Nigeria Exchanges Group. The probability profitability of 0.00 showed that the positive effect of Relational capital on the profitability of Health care companies in Nigeria is statistically insignificant. This shows that increasing the Relational capital of Health care companies can significantly drive profitability of Health care companies in Nigeria. Based on the result, the study accepts the null hypothesis and concludes that Relational capital positively and insignificantly affect the profitability of Health care companies in Nigeria.

H04: Capital employed has no significant effect on profitability of Health care companies in Nigerian

The analysis result shows positive coefficient profitability of 0.915and probability profitability of 0.080. The positive coefficient profitability indicates that Capital employed positively affect the profitability of quoted Health care companies in Nigeria Exchange Groups. The probability profitability of 0.080 showed that the positive effect of Capital employed on the profitability of Health care companies in Nigeria is significant. This shows that increasing the Capital employed of Health care companies can significantly drive profitability of Health care companies in Nigeria. Based on the result, the study rejects the alternate hypothesis and concludes that Capital employed positively but insignificantly affect the profitability of Health care companies in Nigeria.

4.4 Discussion of findings

The study finds that intellectual capital positively affects about 53.5 percent of changes in corporate profitability among the Health care companies used in the study. The profit shows that intellectual capital can increase the level of profitability among Health care companies in the Nigeria Exchange Group. The finding is in line with the finding from the study of Zaher (2019) and Irungu, Muturi, Nasieku and Ngumi (2018) who examined intellectual capital and profitability among quoted companies in Nigeria Exchange Group. The finding of the various objectives is shown below:

Human capital and company profitability

This study finds that Human capital positively affect the level of profitability of Health care companies quoted in Nigeria Exchange Groups.

The finding is in line with the finding from the study of Onyekwelu, Okoh and Iyidiobi (2017) who evaluates the effect of asset structure on profitability of companies quoted under the manufacturing sector of the Nigeria Exchange Group and finds positive significant effect on profitability but contrary to the finding from the study of Grace and Mwangi (2018) whose finding shows a negative but insignificant relationship between tangible Capital employed and profitability.

Structural capital and company profitability

The study finds that Structural capital has positive impact on the profitability of Health care companies in the Nigerian shows however, the effect is significant. This means that Structural capital positively affect profitability of quoted Health care companies in Nigeria, the effect is significant. In Nigeria, the finding shows that Structural capital has positive effect on profitability, the effect is significant. The finding from the study is in line with the finding from similar study carried out in Mwanik and Job (2018) on the nexus Structural capital and profitability of companies under the metals industry. But contrary to the finding from the study of Ocak, and Fındık (2019) on the impact the components of Structural capital has on the profitability of companies quoted in Turkey Exchange Group who found significant impact of Structural capital on profitability of companies.

Relational capital and company profitability

This study finds that financial asset has positive and insignificant effect on the profitability of Health care companies quoted across of Nigeria. This findings means increasing the investment level in Relational capital can negatively drive the profitability of Health care companies in Nigeria. Relational capital likedebt instrument are used to raise funds to meet short-term needs, spreading of risk,and provides window for the holder to have control, protect its interest in other companies and for the reward in the form of cash, capital gain or both. The finding is in line with the finding from the study of Mwanik and Job (2018) Mwaniki and Omagwa (2017).

Capital employed and company profitability

This study finds that Capital employed has positive and significant effect on the profitability of Health care companies quoted across of Nigeria. This finding indicates that increasing the level of Capital employed can positively increase the profitability of Health care companies in Nigeria. The finding from the analysis shows that investment resources and the effective use of those resources (capital employed) can positively but insignificantly impact on the profitability of Health care companies in Nigeria (though on the long run, the impact could be significant). This reveals that increasing the investment in Capital employed can significantly improve the profitability of Health care companies in Nigeria on the long run.

CHAPTER FIVE
SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION
5.1 Summary of Findings
The finding from the study shows that assets composition can positively affect about 53.5 percent of changes in the profitability of manufacturing companies in Nigeria. This indicates that corporate capital can lead to about 53.5% increase in the profitability health care companies in Nigeria can be attributable to their assets composition.
The findings from the various objectives of the study showed that:
1. The study finds that human capital has positive and significant effect of profitability of Health care companies in Nigeria
2. The study finds that structural capital has positive and significantly affect profitability of quoted Health care companies in Nigeria. Thus structural capital positively drive profitability among Health care companies in Nigeria
3. The finding shows that Relational capital has positive but insignificant effect on profitability of quoted Health care companies quoted in the Nigeria Stock Exchanges.
4. The finding shows that capital employed has positive significant effect on the profitability of Health care companies quoted in the stock exchanges of Nigeria

5.2 Conclusion of the study
The advancement of technology has impacted on the ways business are carried out and changed the production fundamentals in most sector from tangible assets to focus more on human capital where service oriented organization dominant majority of the economic activities with high level performance. Also the globalization which provide fair level playing ground for professional migrate from one sector or region to another with less hindrances has made policies promoting retention of quality labour force has been focus of human capital management in most firms. This change has also affected the expenditure pattern as most firms spend much on human capital (intangible assets). This has made human capital one of the most important tools in driving companies goals, value, survival, competitive edge and future growth. This underscore the increased focus on human capital by most firms.

This study therefore examines the extent human capital drives profitability of firms listed under the health care sector of the Nigeria Exchange Group. The finding has shown that over 67 percent of the profitability of health care firms is driven by human capital of the firm. Except for capital employed which is not significant, the other entire variable has positive and significant impact on the profitability of health care firms.

5.3 Recommendation
1. Management of Health care companies listed on the Nigeria exchange group promotes policies that would attract quality human capital and retaining them as this would enhance the possibility of achieving high profitability.
2. The study recommends that health care companies in Nigeria should maintain the appropriate structural capital that would enhance the possibility of achieving high profitability and corporate goal.

3. Maintaining good relation with the various stakeholders enhances goodwill and loyalty. The management of Health care companies should promote policies that would enhance their relationship with stakeholder as this would enhance their goodwill and customer loyalty which would drive their profitability.

4. Management of Health care companies listed in the Nigeria should pay close attention to their capital employed as it has the potential of becoming a significant driver of corporate profitability.

APPENDIX
Table 1: Data

Firms	Sectors	Years	EPS	HUMCAP	STCAP	RECAP	CAPEMP
Fidson Health Plc	Health Care	2011	0.73	0.16	0.27	1.00	0.23
Fidson Health Plc	Health Care	2012	0.77	0.21	0.27	1.00	0.22
Fidson Health Plc	Health Care	2013	0.78	0.15	0.32	1.00	0.28
Fidson Health Plc	Health Care	2014	0.76	0.17	0.18	1.00	0.26
Fidson Health Plc	Health Care	2015	0.76	0.16	0.29	1.00	0.26
Fidson Health Plc	Health Care	2016	1.06	0.38	0.26	1.00	0.24
Fidson Health Plc	Health Care	2017	0.71	0.10	0.28	1.00	0.31
Fidson Health Plc	Health Care	2018	0.63	0.17	0.24	1.00	0.30
Fidson Health Plc	Health Care	2019	0.72	0.11	0.29	1.00	0.32
Fidson Health Plc	Health Care	2020	0.67	0.11	0.32	0.00	0.37
Fidson Health Plc	Health Care	2021	0.71	0.10	0.30	0.00	0.38
BCN PLC	Health Care	2011	0.27	0.12	0.27	0.00	0.31
BCN PLC	Health Care	2012	0.24	0.18	0.22	0.00	0.36
BCN PLC	Health Care	2013	0.27	0.15	0.28	0.00	0.37
BCN PLC	Health Care	2014	0.24	0.12	0.26	0.00	0.38
BCN PLC	Health Care	2015	0.24	0.14	0.20	0.00	0.32
BCN PLC	Health Care	2016	0.22	0.16	0.23	0.00	0.30
BCN PLC	Health Care	2017	0.26	0.11	0.18	0.00	0.32
BCN PLC	Health Care	2018	0.27	0.17	0.26	0.00	0.34
BCN PLC	Health Care	2019	0.24	0.25	0.29	0.00	0.35
BCN PLC	Health Care	2020	0.67	0.25	0.27	0.00	0.37
BCN PLC	Health Care	2021	0.49	0.28	0.30	0.00	0.35
Gateway Pharm plc	Health Care	2011	0.71	0.14	0.18	0.00	0.33
Gateway Pharm plc	Health Care	2012	0.69	0.19	0.19	0.00	0.33
Gateway Pharm plc	Health Care	2013	0.67	0.19	0.38	0.00	0.26
Gateway Pharm plc	Health Care	2014	0.68	0.15	0.30	0.00	0.20
Gateway Pharm plc	Health Care	2015	0.68	0.20	0.25	0.00	0.27
Gateway Pharm plc	Health Care	2016	0.22	0.25	0.23	0.00	0.29
Gateway Pharm plc	Health Care	2017	0.10	0.22	0.22	0.00	0.26
Gateway Pharm plc	Health Care	2018	0.09	0.18	0.23	1.00	0.26
Gateway Pharm plc	Health Care	2019	0.11	0.36	0.19	1.00	0.23
Gateway Pharm plc	Health Care	2020	0.12	0.12	0.23	1.00	0.29
Gateway Pharm plc	Health Care	2021	0.14	0.21	0.20	1.00	0.26
Morrison Industries Plc	Health Care	2011	0.16	0.13	0.26	1.00	0.28
Morrison Industries Plc	Health Care	2012	0.22	0.17	0.28	1.00	0.22
Morrison Industries Plc	Health Care	2013	0.28	0.12	0.23	1.00	0.26
Morrison Industries Plc	Health Care	2014	0.18	0.13	0.24	1.00	0.28
Morrison Industries Plc	Health Care	2015	0.23	0.19	0.22	1.00	0.26
Morrison Industries Plc	Health Care	2016	0.70	0.15	0.22	1.00	0.29
Morrison Industries Plc	Health Care	2017	0.72	0.14	0.32	1.00	0.24
Morrison Industries Plc	Health Care	2018	0.74	0.17	0.21	1.00	0.24
Morrison Industries Plc	Health Care	2019	0.65	0.15	0.27	1.00	0.25
Morrison Industries Plc	Health Care	2020	0.67	0.12	0.29	1.00	0.33
Morrison Industries Plc	Health Care	2021	0.66	0.14	0.28	1.00	0.28
NeimethInt'L Pharm Plc	Health Care	2011	0.73	0.14	0.25	1.00	0.29
NeimethInt'L Pharm Plc	Health Care	2012	0.63	0.17	0.30	1.00	0.29
NeimethInt'L Pharm Plc	Health Care	2013	0.46	0.12	0.22	1.00	0.28
NeimethInt'L Pharm Plc	Health Care	2014	0.59	0.13	0.25	1.00	0.28
NeimethInt'L Pharm Plc	Health Care	2015	0.62	0.17	0.24	1.00	0.26
NeimethInt'L Pharm Plc	Health Care	2016	0.11	0.15	0.23	1.00	0.28
NeimethInt'L Pharm Plc	Health Care	2017	0.25	0.14	0.23	1.00	0.27
NeimethInt'L Pharm Plc	Health Care	2018	0.23	0.13	0.28	1.00	0.23
NeimethInt'L Pharm Plc	Health Care	2019	0.20	0.12	0.26	1.00	0.23
NeimethInt'L Pharm Plc	Health Care	2020	0.24	0.12	0.28	1.00	0.28
NeimethInt'L Pharm Plc	Health Care	2021	0.11	0.10	0.26	1.00	0.24

Company	Sector	Year	EPS	HUMCAP	STCAP	RECAP	CAPEMP
Union Diagn. & Clinical serv.	Health Care	2011	0.22	0.13	0.29	0.00	0.21
Union Diagn. & Clinical serv.	Health Care	2012	0.23	0.17	0.20	0.00	0.28
Union Diagn. & Clinical serv.	Health Care	2013	0.22	0.12	0.26	0.00	0.27
Union Diagn. & Clinical serv.	Health Care	2014	0.21	0.13	0.25	0.00	0.28
Union Diagn. & Clinical serv.	Health Care	2015	0.16	0.19	0.22	0.00	0.25
Union Diagn. & Clinical serv.	Health Care	2016	0.60	0.15	0.25	1.00	0.28
Union Diagn. & Clinical serv.	Health Care	2017	0.62	0.14	0.29	1.00	0.25
Union Diagn. & Clinical serv.	Health Care	2018	0.61	0.20	0.21	1.00	0.28
Union Diagn. & Clinical serv.	Health Care	2019	0.62	0.18	0.23	1.00	0.27
Union Diagn. & Clinical serv.	Health Care	2020	0.63	0.16	0.28	1.00	0.25
Union Diagn. & Clinical serv.	Health Care	2021	0.80	0.19	0.25	1.00	0.26
Afrik Pharmaceuticals	Health Care	2011	0.24	0.17	0.25	1.00	0.33
Afrik Pharmaceuticals	Health Care	2012	0.10	0.07	0.21	0.00	0.27
Afrik Pharmaceuticals	Health Care	2013	0.46	0.19	0.37	0.00	0.26
Afrik Pharmaceuticals	Health Care	2014	0.20	0.15	0.23	0.00	0.22
Afrik Pharmaceuticals	Health Care	2015	0.19	0.12	0.35	0.00	0.32
Afrik Pharmaceuticals	Health Care	2016	0.13	0.15	0.28	0.00	0.27
Afrik Pharmaceuticals	Health Care	2017	0.16	0.18	0.17	1.00	0.28
Afrik Pharmaceuticals	Health Care	2018	0.11	0.29	0.11	1.00	0.27
Afrik Pharmaceuticals	Health Care	2019	0.12	0.08	0.29	1.00	0.23
Afrik Pharmaceuticals	Health Care	2020	0.15	0.10	0.31	1.00	0.28
Afrik Pharmaceuticals	Health Care	2021	0.04	0.14	0.21	1.00	0.27
Glaxo Smithkline Cons. Nig.	Health Care	2011	0.67	0.07	0.39	1.00	0.34
Glaxo Smithkline Cons. Nig.	Health Care	2012	0.66	0.07	0.31	1.00	0.33
Glaxo Smithkline Cons. Nig.	Health Care	2013	0.66	0.19	0.21	1.00	0.31
Glaxo Smithkline Cons. Nig.	Health Care	2014	0.57	0.15	0.14	1.00	0.36
Glaxo Smithkline Cons. Nig.	Health Care	2015	0.59	0.12	0.13	1.00	0.38
Glaxo Smithkline Cons. Nig.	Health Care	2016	0.66	0.15	0.13	1.00	0.33
Glaxo Smithkline Cons. Nig.	Health Care	2017	0.69	0.18	0.15	1.00	0.38
Glaxo Smithkline Cons. Nig.	Health Care	2018	0.73	0.29	0.13	1.00	0.34
Glaxo Smithkline Cons. Nig.	Health Care	2019	0.64	0.08	0.16	1.00	0.36
Glaxo Smithkline Cons. Nig.	Health Care	2020	0.66	0.10	0.14	1.00	0.31
Glaxo Smithkline Cons. Nig.	Health Care	2021	0.66	0.10	0.15	1.00	0.33
May & Baker Nigeria	Health Care	2011	0.13	0.10	0.18	0.00	0.28
May & Baker Nigeria	Health Care	2012	0.20	0.20	0.10	0.00	0.21
May & Baker Nigeria	Health Care	2013	0.19	0.16	0.09	0.00	0.33
May & Baker Nigeria	Health Care	2014	0.16	0.14	0.11	0.00	0.33
May & Baker Nigeria	Health Care	2015	0.24	0.10	0.12	0.00	0.35
May & Baker Nigeria	Health Care	2016	0.23	0.14	0.13	0.00	0.35
May & Baker Nigeria	Health Care	2017	0.23	0.12	0.13	1.00	0.31
May & Baker Nigeria	Health Care	2018	0.20	0.13	0.13	1.00	0.35
May & Baker Nigeria	Health Care	2019	0.18	0.10	0.09	1.00	0.31
May & Baker Nigeria	Health Care	2020	0.15	0.12	0.19	1.00	0.34
May & Baker Nigeria	Health Care	2021	0.18	0.09	0.16	1.00	0.32
Evans Medicals Plc	Health Care	2011	0.57	0.16	0.23	1.00	0.31
Evans Medicals Plc	Health Care	2012	0.68	0.10	0.23	1.00	0.31
Evans Medicals Plc	Health Care	2013	0.77	0.10	0.24	1.00	0.38
Evans Medicals Plc	Health Care	2014	0.73	0.17	0.27	1.00	0.27
Evans Medicals Plc	Health Care	2015	0.68	0.10	0.21	1.00	0.37
Evans Medicals Plc	Health Care	2016	0.53	0.09	0.34	1.00	0.29
Evans Medicals Plc	Health Care	2017	0.57	0.21	0.23	1.00	0.29
Evans Medicals Plc	Health Care	2018	0.57	0.20	0.13	1.00	0.27
Evans Medicals Plc	Health Care	2019	0.63	0.18	0.26	1.00	0.31
Evans Medicals Plc	Health Care	2020	0.60	0.19	0.29	1.00	0.34
Evans Medicals Plc	Health Care	2021	0.59	0.21	0.24	1.00	0.32

Descriptive Statistics

	EPS	HUMCAP	STCAP	RECAP	CAPEMP
Mean	0.439273	0.155182	0.233182	0.672727	0.294273
Median	0.510000	0.150000	0.240000	1.000000	0.285000
Maximum	1.060000	0.380000	0.390000	1.000000	0.380000
Minimum	0.040000	0.070000	0.090000	0.000000	0.200000
Std. Dev.	0.250444	0.054077	0.064152	0.471365	0.044751
Skewness	0.042010	1.448092	-0.234670	-0.736235	0.146264
Kurtosis	1.493697	6.441777	2.806788	1.542042	2.242261

Jarque-Bera	10.43170	92.73783	1.180720	19.67996	3.023810
Probability	0.005430	0.000000	0.554128	0.000053	0.220490
Sum	48.32000	17.07000	25.65000	74.00000	32.37000
Sum Sq. Dev.	6.836742	0.318746	0.448586	24.21818	0.218292
Observations	110	110	110	110	110

Table 3: Correlation analysis

	EPS	HUMCAP	STCAP	RECAP	CAPEMP
EPS	1.000000	0.112257	0.230153	0.311157	0.131088
HUMCAP	0.112257	1.000000	-0.079902	-0.055231	-0.193098
STCAP	0.230153	-0.079902	1.000000	-0.038062	-0.210259
RECAP	0.311157	-0.055231	-0.038062	1.000000	-0.150562
CAPEMP	0.131088	-0.193098	-0.210259	-0.150562	1.000000

Table 4: Regression analysis
Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	12.539392	4	0.0138

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
HUMCAP	0.821937	0.828413	0.007072	0.9386
STCAP	0.839173	0.959348	0.015255	0.3306
RECAP	0.014367	0.069411	0.000371	0.0043
CAPEMP	0.914937	1.076488	0.033465	0.3772

Cross-section random effects test equation:
Dependent Variable: EPS
Method: Panel Least Squares
Date: 04/30/23   Time: 10:33
Sample: 2011 2021
Periods included: 11
Cross-sections included: 10
Total panel (balanced) observations: 110

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.162863	0.208942	-0.779463	0.4376
HUMCAP	0.821937	0.352168	2.333932	0.0217
STCAP	0.839173	0.348719	2.406448	0.0180
RECAP	0.014367	0.049539	0.290007	0.7724
CAPEMP	0.914937	0.517453	1.768156	0.0802
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.590190	Mean dependent var	0.439273	
Adjusted R-squared	0.534695	S.D. dependent var	0.250444	
S.E. of regression	0.170836	Akaike info criterion	-0.577809	
Sum squared resid	2.801764	Schwarz criterion	-0.234111	
Log likelihood	45.77947	Hannan-Quinn criter.	-0.438403	
F-statistic	10.63500	Durbin-Watson stat	1.701585	
Prob(F-statistic)	0.000000			

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
eps	110	0.86828	11.779	5.500	0.00000
humcap	110	0.90330	8.647	4.811	0.00000
stcap	110	0.97854	1.919	1.454	0.07301
recap	110	0.98966	0.925	-0.175	0.56930
capemp	110	0.98909	0.975	-0.056	0.52214

REFERENCES
[1]. Adam, H. (2020), capital employed. Http: // investopedia.com/terms/c/capital employed.asp.   Accessed 24/03/2020.
[2]. Ahanger, R.G. (2015). The relationship between intellectual capital and financial performance: An empirical investigation in an Iranian company. African Journal of Business management Vol 5(1) PP 88-95.

[3]. Ahmad, S. & Abbas, M.M.(201 1). The Relationship between intellectual capital and business performance: An empirical study in Iraqi industry. International C on Management and Artificial Intelligence. 6 (104-109).

[4]. Amin, S., Aslam, S. & Makki, A.M.(2014). Intellectual capital and financial performance.

[5]. Amir, E., and Lev,B.(1996).Value relevance of non-financial information: The wireless communications industry. Journal of Accounting and Economics,22(1-3), 3-30.

[6]. Andriessen, D. (2014). IC valuation and measurement: classifying the state of the art. Journal of Intellectual Capital, 5(2), 230–242.

[7]. Anuonye NB (2015). Intellectual capital measurement: using the earnings per share model of quoted insurance companies in Nigeria. Int. Bus. Manage. 10(1):88-98.

[8]. Arabi, K.A & Abdalla, S.Z.(2013). The impact of human capital on economic growth: empirical evidence from Sudan. Research in World Economy, 4(2), 43-53.

[9]. Banimadh, B., Mohammadrezaei, F. and Mohammadrezaei, M.(2012). The Impact of Intellectual capital on profitability, productivity and market valuation: Evidence from Iranian high-knowledge based industries; Journal of Basic and Applied Scientific Research. 2(5) 4477- 4484. Accessed online at www.textroad.com.

[10]. Barcelona: Gestión 2000. Bernhut, S. (2014). Measuring the Value of Intellectual Capital. Ivey Business Journal, 65(4):16- 20.

[11]. Baughn, C. C., Denekamp, J G , Osborn, R N , & Stevens, J. H. (2015). Protecting intel- lectual capital in international alliances Journal of World Business, 32(2), 103-117.

[12]. Becker, G S (2015). Human capital. A theoretical and empirical analysis with special references to education (3rd ed.) Chicago University of Chicago Press

[13]. Becker, G S (2016). Human capital. A theoretical and empirical analysis with special ref- erences to education (3rd ed.) Chicago University of Chicago Press

[14]. Becker, G. S (2012) Human capital Chicago: University of Chicago Press.

[15]. Berry J (2014). Tangible strategies for intangible assets: How to manage and measure your company's brand, patents. Intellectual property and other services of value. Mcgraw-Hills Publishers company, New York.

[16]. Blaug, M. (2012) The empirical status of human capital theory A slightly jaundiced sur- vey Journal of Economic Literature, 14, 827-855

[17]. Blaug, M. (2015) The empirical status of human capital theory A slightly jaundiced survey Journal of Economic Literature, 14, 827-855

[18]. Bontis N (2013). Intellectual capita: An exploratory study that develops measures and models. Manage. Decision 36(2):63-76.

[19]. Bontis N (2015). Intellectual capital and business performance in Malaysian industries. J. Intellect. Capital. 1(1):85-100.

[20]. Bontis, N, Keow, W.C.C & Richardson, S (2000). Intellectual capital and business performance in Malaysian industries, journal of intellectual capital I (1), 85-100.

[21]. Bontis, N., C. K. Chua, and S. Richardson. (2015). Intellectual Capital and Business Performance in Malaysian Industries. Journal of Intellectual Capital, 1(1): 85-100

[22]. Canibano, Garcia, M. and Sanchez, P. (2014). Accounting for intangibles: A Literature Review. Journal of Accounting Literature No.19 PP 102-130

[23]. Chaharbaghi, K., & Cripps, S. (2016). Intellectual capital: direction, not blind faith. Journal of Intellectual Capital, 7(1), 29–42.

[24]. Christensen, P. and Peterson, R. (2014). 'Opportunity identification: mapping the sources of new venture ideas'. In Churchill, N. C. et al. (Eds), Frontiers of Entrepreneurship Research. Wellesley, MA: Babson College.

[25]. Daley, J. (2015). The intangible economy and Australia. Australian Journal of Management, 26(3) Special August Issue

[26]. Daud, S. and Yusoff, W. F. W. (2015). How Intellectual Capital Mediates The Relationship Between Knowledge Management Processes and Organizational Performance?.African Journal of Business Management, 5(7): 2607-2617.

[27]. Deep, R. & Narwal, K.P.(2014). Intellectual capital and its association with financial performance: a study of Indian textile sector. International Journal of Management Business Research, 4(1), 43-54.

[28]. Diez, M.J., Magda, L.M. Begona, P.Alicia, S. (2016).Intellectual capital and value creation in Spanish firms. Journal of Intellectual Capital. 11(3), 48-367.

[29]. Donlon, J. P, & Haapaneimi, P. (2014, January-February). Knowledge capital. Chief Executive, 120, 52-62.

[30]. Drucker PF (2013). Post-capitalsit society. Engstrom, T. E. J., Westnes, P., & Westnes, New York: Harpercollins Publishers Inc.

[31]. Drucker, P. (2013) The age of social transformation The Atlantic Monthly, 24 (1), 68-84

[32]. Eddy, W. & Joung, H.P. (2015). The influence of intellectual capital component on the company's finance performance: Case on banking sector listed in Indonesia stock exchange. Universal Journal of Accounting and Finance 393), 101-112.

[33]. Edvinsson, L., & Malone, M. (2013). Intellectual capital: Realizing your company's true value by finding its hidden brainpower New York: HarperBusiness.

[34]. Ekwe, M. C. (2012), the relationship between intellectual capital and Growth in revenue of deposit money banks in Nigeria. Research Journal of financial and Accounting 4 (12) 55-64. Available online at http://www.iiste.org/ Journals /index.php/RJFA/article/view/7759/7801.

[35]. Federica, R., Vincenzo, S., Domenico, C. & Ida, S.G. (2015). Intellectual capital and business financial performance: empirical evidence from CNX Nifty companies. https://journals.sagepub.com/dio/abs/10.1177/0972150916645703. Retrieved on 11/02/2020.

[36]. Firer, S. & Williams, S.M. (2013). Intellectual capital and traditional measures of corporate Performance. Journal of Intellectual capital vol 4 No.3 PP. 348 – 360.

[37]. Hasan, S., & Hasan, H.A. (2019). Intellectual capital and financial performance: Empirical

[38]. Hatane, S.E., Wedysiage, M., Angeline, C.O. & Saputra, V.T.(2018). Intellectual capital disclosure and firm value: does Jokowi's era matter? Advances in Economics, Business and Management Research, 69

[39]. Heylighten, F, & Joslyn, C (2016). What is systems theory? [On line]. Available at: http://www.pespmcl vub.ac.be/systheor.html

[40]. Hornbeck, D. W, & Salamon, L M. (2015) Human capital and America's future. Baltimore Johns Hopkins University Press.

[41]. Hulin, C L., & Smith, P C. (2013). Sex differences in job satisfaction. Journal of Applied Psychology, 50, 280-285.

[42]. Hulin, C L., & Smith, P C. (2017). Sex differences in job satisfaction. Journal of Applied Psychology, 50, 280-285.

[43]. Ibrahim, A.A. & Ogwuche, I.P. (2018). Effect of intellectual capital on market performance of listed manufacturing companies in Nigeria. Research in Social Sciences International Journal of Scientific & Management Studies 3(2).

[44]. IFRS, (2008). International Financial Report Standard impact of intellectual capital performance on business performance. http://web. hku. hk/ 1-an-empirical-study-of-t he-impact-of intellectual-capital.pdf. Retrieved on 14/02/2020

[45]. Inyada, S. J.(2018). Intellectual capital and bank performance in Nigeria: An empirical analysis using pragmatic models. American International Journal of Contemporary Research, 8(2), 61-68.

[46]. Isanzu, J.N (2015). Impact of intellectual capital on financial performance of banks in Tanzania. Journal of International Business Research and marketing. 1(1), 16-23.

[47]. Iwan S. & Azhar A. (2016) The empirical study on intellectual capital approach toward financial performance on rural banking sectors in Indonesia. International Journal of Economics and Financial Issues, 6(3), 1247-1253.

[48]. Kaish, S. and Gilad, B. (2016). Characteristics of opportunities search of entrepreneurs versus executives: Sources, interests, and general alertness. Journal of Business Venturing 6, 45–61. Kannan, G., & Aulbur, W. G. (2014). Intellectual capital. Measurement effectiveness. Journal of Intellectual Capital, 5(3), 389–413

[49]. Kalkan A, Bozkurt OC, Arman M (2014). The impacts of intellectual capital, innovation and organizational strategy on firm performance. Procedia – Social and Behavioral Sciences, 150, 700–707. Retrieved from http://www.sciencedirect.com/science/article/pii/S1877042814050745

[50]. Kamath GB (2017). The intellectual capital performance of Indian banking sector. J. Intellect. Capital. 8(1).

[51]. Kamini, T., Harsh P., & Deepak, T.(2016). Measuring intellectual capital and its impact on

[52]. Katz, R. (2011). Influence of job longevity on employee reactions to task characteristics. Human Relations, 31, 703-425.

[53]. Katz, R. (2014). Influence of job longevity on employee reactions to task characteristics. Human Relations, 31, 703-425.

[54]. Kehelwalatenna, S. & Gunaratne, P.S.(2010). The impact of intellectual capital on the firm

[55]. Khalique, M., J. A. N. Shaari, A. H. bin M Isa and A. Agee (2016) Role of Intellectual Capital on the Organizational Performance of Electrical and Electronic SMEs in Pakistan. International Journal of Business Management, 6(9).

[56]. Klem, D. A, & Prusak, L. (2012). Characterizing intellectual capital Boston: Ernst & Young Center for Business Innovation.

[57]. Kohli, A.K. and Jaworski, B.J. (2014), "Market orientation: the construct, research propositions, and managerial implications", Journal of Marketing, Vol. 54, pp. 1-18.

[58]. Kolaković, M. (2015). Teorija intelektualnog kapitala. Ekonomski pregled, 54(11-12), 925-944.

[59]. Lefebvre, E., and Lefebvre, L. A. (2013). Determinant of export performance and behaviour: A longitudinal study of manufacturing SMEs in Kleinknecht. Econometric Explorations of Survey Data, 5(1): 281-309.

[60]. Lev, B. & Zarowin, P. (2014). The boundaries of financial reporting and how to extend them. Journal of Accounting Research Vol 27 No.2,PP 353-385.

[61]. Lev, B. (2015). Intangibles—management, measurement and reporting. Washington: The Brookings Institution.

[62]. Luthy, D. H (2015). Intellectual capital and its measurement. Asian Pacific Interdisciplinary Research in Accounting. Japan: Osaka City University. (August).

[63]. Maheram, N., Muhammad, N., Ismael, M. (2015). Intellectual capital efficiency and firms performance: Study on Malaysian. Financial sectors. International Journal of Economics and Finance vol. 1 No.2 PP 206-212.

[64]. Mariya AM, Shakina EA (2014). Article information: J. Intellect. Capital. 15(2):206-226. intellectual capital and firms' market value and financial performance. J. Intellect. Capital. P1-20.

[65]. Marr, B. (2015). Disclosing The Invisible: Publishing Intellectual Capital Statements", CMA Management, No.August/September, pp.35-9.

[66]. Martin, T. N. (2014). A path analytic model of human capital and organizational job characteristics on female job satisfaction. Human Relations, 34(11), 975-988.

[67]. Martin, T. N. (2016). A path analytic model of human capital and organizational job characteristics on female job satisfaction. Human Relations, 34(11), 975-988.

[68]. Merriam-Webster. (2015). WWWebster Dictionary Available http://m-w.com/netdict.htm

[69]. Mincer, J. (2011). Investment in human capital and personal income distribution. Journal of Political Economy, 66, 281-302

[70]. Mincer, J. (2015). Investment in human capital and personal income distribution. Journal of Political Economy, 66, 281-302

[71]. Mrazkova, S., Perzelova, I., & Glova, J. (2016). Impact of the value-added intellectual coefficient and its components on overall performance of selected European companies. Polish Journal of Management Studies 14(2), 61-171.

[72]. Mueller, M. W (2014) Applying human capital theory to women's changing work pat- terns. Journal of Social Issues, 38(1), 89-95.

[73]. Mueller, M. W (2016) Applying human capital theory to women's changing work pat- terns. Journal of Social Issues, 38(1), 89-95.

[74]. Ngah, R. and A. R. Ibrahim. 2014. The Relationship of Intellectual Capital, Innovation and Organizational Performance: A Preliminary Study in Malaysian SMEs. International Journal of Management Innovation Systems, 1(1):1-12

[75]. Nwaiwu, J. N. & Nwaekpe, U.C.(2018). Webometric analysis of intellectual capital reporting and corporate financial performance in Nigeria. International Journal of Innovative Finance and Economics re

[76]. Nwaiwu, J.N. & Aliyu, A.S. (2018). Intellectual capital reporting and measures of financial

[77]. Onafulajo, A.K., Eke, A.O. and Akinlabi, B.H. (2011). Impact of International Finance Reporting Standards on insurance management in Nigeria, Euro- Journals Publishing No. 12, PP. 128-142.

[78]. Onyekwelu, U.L. & Ubesie, M.C, (2016). Effect of intellectual capital on corporate valuation of quote pharmaceutical firms in nigera. International Journal of Business and Management Review, 4(7), 50-59.

[79]. Onyekwelu, U.L. & Ubesie. M.C. (2013). Effect of intellectual capital on corporative valuation of quote pharmaceutical firms in Nigeria. International Journal of Business and Management Review vol. 4 No.7 PP 30-39.

[80]. Onyekwelu, U.L., Okoh, J.I. & Iyidiobi, F.C.(2017). Effect of intellectual capital on financial Organization for Economic Co-Operation and Development (2013) Human capital investment: An international comparison: Paris, OECD, Centre for Educational Research and Innovation performance and investor response: an empirical study of selected sectors in Colombo stock exchange. International Conference on Business and I http://repository.kln.ac, 1k/handle/i 23456789/7169. Retrieved on 17/02/2020. performance in professional football clubs: Evidence from a longitudinal analysis. Journal of Modern Accounting and Auditing, 11(9), 450-465.

[81]. Pucik, V. (2014). Strategic alliances, organizational learning, and competitive advantage: The HRM agenda. Human Resource Management, 27(1), 77-93.

[82]. Pulic, A. (1998). Measuring the performance of intellectual potential in knowledge economy. A paper presented at 2nd World Congress on Measuring and Managing Intellectual Capital, McMaster University, Hamilton.

[83]. Pulic, A. (2014). Intellectual capital- does it create or destroy value? Measuring Business excellence, Vol. 8, No 12PP 62-68.

[84]. Purwaningsih, E. (2018). The influence of value added intellectual capital to financial performance with ownership structure as moderating variable. International Journal of Academic research in Accounting, Finance and Management Sciences 8(3), 277-290.

[85]. Ramezan, M. (2014). Intellectual Capital And Organizational Organic Structure In Knowledge Society: How Are These Concepts Related?. International journal of Information Management, 31(1): 88–95

[86]. Razafindrabinina, D. & Santoso, S. (2013) Intellectual capital impact on investment recommendations: Evidence from Indonesia. European Journal of Business and Management 5(12), 100-110.

[87]. Roos G, Roos J (2015). Measuring your company's intellectual performance. Int. J. Strat. Manage. 30(3):413-426.

[88]. Roos, G., Bainbridge, A., & Jacobsen, K. (2014). Intellectual capital as a strategic tool. Strategic & Leadership, 29(4), 21–26

[89]. Roos, J., G. Roos, N. Dragonetti, and L. Edvinsson. (2015) "Intellectual Capital: Navigating the New Business Landscape". London: MacMillan Press.

[90]. Ruona, W. E. A. (2014) Systems theory as a foundation for HRD. In R. J. Torraco (Ed.), Academy of Human Resource Development 1998 Conference Proceedings (pp. 888-896). Baton Rouge, LA: AHRD

[91]. Saint-Onge, H (2017). Knowledge Management Symposium Presentation at Building and Leveraging Your Organization's Intellectual Capital (con- ference title), Orlando, Florida. Sponsored by Linkage, Inc.

[92]. Schultz, T W (2013) The economic values of education New York: Columbia University Press

[93]. Schultz, T W (2014) The economic values of education New York: Columbia University Press

[94]. Sedeaq, N. (2018). The impact of intellectual capital on firm performance of the Turkish real estate companies before and after the crisis. European Scientific Journal, 14 (1), DOI: 10.19044/esj.2018.v14n1p29.

[95]. Senge, P M (2013) The fifth discipline The art and practice of the learning organization New York: Doubleday Currency

[96]. Sharma P. (2018). Intellectual capital and firm value: A literature review. Journal of Business and Management 20(2), 1-8.

[97]. Smriti, N. & Das, (2018). The impact of intellectual capital on firm performance: a study of Indian firms listed in COSPI. Journal of Intellectual capital, 19(5), 935-964.

[98]. Steenkamp, N. and V. Kashyap. (2016). Importance and Contribution of Intangible Assets: SME Managers' Perceptions. Journal of Intellectual Capital, 11(3), 368-390

[99]. Stewart, J. (2014). Future state visioning technique at National Rubber Company. Strategy and Leadership Journal, 22, 20–33.

[100]. Stewart, T A (2013, October 3) Your company's most valuable asset: Intellectual capi- tal Fortune, 130, 68-76

[101]. Stewart, T. A. (2012). Brainpower: how intellectual capital is becoming America's most valuable asset. Fortune, 3, 44–60.

[102]. Stewart, T. A. (2014) Intellectual capital. The new wealth of nations. New York Doubleday/Currency

[103]. Subramaniam, M. & Youndt, M.A., (2013). The influence of intellectual capital on the nature of innovative capabilities. Academy of Management Journal, 48(3), 450-464. Sullivan, P. H. (2012). Profiting from intellectual capital. Journal of Knowledge Management, 3(2), 132–142.

[104]. Tarigan, J., Listijabudhi, S. Hatane, S.E. & Widjaja, D.C. (2019). The impacts of intellectual

[105]. Tayles, M, Pike, R. and Sofian, S. (2007). Intellectual capital, management accounting practices and corporate performance. Accounting, auditing and accountability journal 2(4), 522-48.

[106]. Ulrich, D (2014) A new mandate for human resources Harvard Business Review, 51, 125-134

[107]. Ulrich, D (2016). Human resource champions The next agenda for adding value and delivering results Boston Harvard Business School Press

[108]. Wickramansinghe, N. and S. Sharma. 2015. Key Factors That Hinder SMEs in Succeeding in Today's Knowledge-Based Economy. International Journal of Management and Enterprise Development, 2(2): 141-157.

[109]. Wu, W, Chang and Chen (2014). Dimensions of social capital and firm competitiveness improvement: The mediating role of information sharing. Journal of Management Studies, 45(1): 122-146

[110]. Yu, K.Y., Ng, H.T., Wong, W.K., Chu, S.K., & Chan, K.H. (2010). An empirical study of the Zerenler, Hasiloglu, & Mete, (2014). Intellectual Capital and Innovation Performance: Empirical Evidence in the Turkish Automotive Supplier. J. Technol. Manage. Innov., 3(4): 31-40.