Intellectual Capital and Corporate Performance of Listed Consumer Goods Firms in Nigeria Stock Exchange

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1.0   Introduction

Over the years, business organizations have recognized that resources are pivotal drivers of business success and performance. Resources such as financial, physical and intangible assets of the firm ought to be optimally managed and utilized in order to ensure that the firm achieves its financial objectives of wealth maximization. Intellectual capital is the most innovative feature for firms to act on according to the environmental changes through their knowledge, experience, and capabilities, which is applied to improve the organizational efficiency (Egolum, 2021). It is now a growing need amongst firm to strategize ways by which their resources could be best maximized for optimal financial returns, hence, the particular attention paid to intellectual capital which is popularly believed to contribute towards the value-added of the firm. (Alfiero, Brescia & Bert, 2021; Ovechkin, Romashkina & Davydenko, 2021).

Intellectual capital refers to the various intangible assets which can be converted into profits or value but are not reflected in the financial statements of the firm (Ngoc & Duc, 2020). Extant literature classified intellectual capital into three, namely, human capital, structural capital and capital employed efficiency. Human capital refers to the skills, competencies and experience of the employees which altogether enable them contribute value to the course of the firm. While structural capital is the sum of methods, processes and brands that are owned by the firm, capital employed efficiency (CEE) refers to the economic term that reflects the level of exploitation and use of capital of a firm in production and business activities with the view to creating maximum value at the barest or minimum cost. Corporate performance, which ordinarily measures or indicates the extent to which a firm achieves its financial objectives, is all about how to create knowledge and transform that same knowledge into value. Therefore, in total disagreement with the submission of Kasoga (2020) that there is a debate on the empirical nexus between intellectual capital and the corporate performance of firms, the researcher underscores that the significant contribution of intellectual capital towards the enhancement of the corporate performance of firms is undebatable, it is indubitable. This is because almost all corporate researchers in this line have a consensus that ownership of knowledge, applied experience, organization innovation, customer relationship, and professional competencies, experience and skills essentially facilitate value creation amongst firms. However, intellectual capital is often not accounted for properly in the financial reports, and some firms still have low investment in intellectual capital. And so, the corporate performance of such firms with demonstrated inadequacies in their intellectual capital continues to be eroded.

With the current globalized economy of the world, there is now an increasing need for knowledge and information which seem to jointly determine the financial success and sustainability of firms, especially the consumer industry where intellectual capital has apparently assumed the characteristic of a product (Okeke & Udeh, 2020). Furthermore, researchers have identified that there is a growing need for knowledge as the key factor towards achieving a competitive advantage (Nassar, 2020). More particularly, consumer industries are conditioned by operational know-how and knowledge-intensive policies which drive the identification of methods that could efficiently reduce and manage the available scarce resources of the firm for optimal financial results.

The business environment in Nigeria is characterized by uncertainties, changes in customer demand and preferences, changes in process of production and techniques of marketing. This explains the reason it is mandatorily required that firms that want to grow and remain in business must have an adequate level of investment in intellectual capital so as to be predisposed to learning continuously and to developing knowledge base with the aim of detecting and filling gaps between what the market desires and what the firm currently offers for the purpose of maximizing the wealth of capital providers.

Ngoc and Duc (2020) argued that even if business enterprises have good quality services, abundant financial resources, modern technology, and solid infrastructure, but does not have a high-quality labor force, it will be very difficult or even impossible for the firm to successfully realize its long term financial objectives and this thwarts

the firm's ability to create and attain a competitive advantage. Investment in intellectual capital has a paramount place in the enhancement of firm productivity and of course efficiency without which other strategies of the firm cannot be implemented nor sustained. The significance of this concept led Pulic (2000) as cited by Ngoc and Duc (2020) to introduce a value-added intellectual coefficient (VAIC) model that measures human capital efficiency, structural capital efficiency and capital employed efficiency.

Consumer industry utilizes a range of external factors such as brand, reputation, etc. and internal factors such as skills, competencies, experience, relation network, etc. in order to help them transform their tangible assets and financial resources into a system of creating value and maximizing wealth (Ovechkin, Romashkina & Davydenko, 2021). The economy of the present day is knowledge-based and it is driven by competition which now requires information and knowledge as the most pivotal building blocks for any business success. There is now a shift from physical labor and natural resources to knowledge and information. In such a competitive and shifting economy, firms, rather than rely solely on their physical assets for their growth and financial success (Nassar, 2020), increase their corporate performance through proper investment in intellectual capital in order to strengthen the competitive advantage of the firm.

However, the accounting practices of firms, especially listed consumer firms, is highly conservative towards the disclosure of firm's intellectual capital efficiency in the financial reports of the firm. In events where such investments are recognized in the financial statements, they are expensed in the income statement as a deduction in the profit whereas they are capital in nature and so should have been treated as an asset. It is against this background that the study examines the effect of intellectual capital on the corporate performance of quoted consumer firms in Nigeria.

Objectives of the Study
The main objective of this study is to examine the effect of intellectual capital on firm performance of listed consumer goods firms in Nigeria. However, the specific objectives of this study are to:
1. Examine the effect of human capital efficiency on gross profit margin of listed consumer goods firms in Nigeria
2. Investigate the effect of structural capital efficiency on gross profit margin of listed consumer goods firms in Nigeria
3. Examine the effect of capital employed efficiency on gross profit margin of listed consumer goods firms in Nigeria
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2. Concept of Intellectual Capital
Historically, the phrase "intellectual capital" was first proposed by Galbraith in 1969. The popularity which the phrase now enjoys was given to it by Stewart in fortune magazine where he introduced the concept of intellectual capital as the amount of employees' knowledge and employee ability that is capable of strengthening the competitive edge of the firm (Egolum, 2021). The very first of definition of intellectual capital is credited to Thomas Stewart who is one of the early pioneers of the concept. In 1991 in an article entitled "Brain Power-How Intellect Capital is Becoming America's most valuable Asset" he (Stewart) defined intellectual capital as the sum of everything everybody in a company knows which gives the firm a competitive edge in the market place over other firms. It is knowledge that effectively transforms raw material and adds value to raw materials.

Intellectual capital refers to the various intangible assets which can be converted into profits or value but are not reflected in the financial statements of the firm (Ngoc and Duc, 2020). It denotes economic value of human capital, relational and structural capital which are part of the intangible assets of a firm. Alfiero, Brescia and Bert (2021) conceptualized intellectual capital as the complex organization process which incorporates knowledge management, best practice transfer and organizational learning which is capable of turning employees' skills, knowledge and expertise into values that are essential to organizational performance.

Effect of Intellectual Capital Efficiency (Human, Structural, capital employed) on Gross Profit
In the submission of Nassar (2020), the Value Added Intellectual Coefficient (VAIC) approach which was developed by Ante Pulic integrates intellectual capital via three measures or components, namely, human capital efficiency, structural capital efficiency, and capital employed efficiency. Human capital efficiency refers to a series of elements which entails the knowledge and skills of workers. It is often identified within the firm as the attitude and motivation of workers, their skills, creativity and innovation abilities, experience, knowledge, personal characteristics, and efficiency (Alfiero, Brescia and Bert, 2021). According to Nassar (2020), human capital is considered to be the most effective and important component of intellectual capital because it is believed to be the main source of competitive advantage and innovation generation since it is comprised of the qualification of employees, employee experiences, the skills of the workforce, and knowledge. Ayuba, Chechet, Ahmed and Olanrewaju (2020); and Olaoye and Afolalu (2020) found that human capital efficiency as a component of intellectual capital affects firm performance positively. Okeke and Udeh (2020) found posive but unsignificant

effect in their study. The above inconsistency in the findings result in this research.
Hence, the hypothesis: human capital efficiency does not significantly affect gross profit margin of listed consumer goods firms in Nigeria.

Structural capital efficiency (SCE) is defined by Alfiero, Brescia and Bert (2021) as a set of technologies, data, inventions, publications, culture, strategies, structures and system, or simply a set of procedures and activities which a firm brings together. It entails the set of organizational properties which affect both the process and the creation of innovative capital (Wee and Chua, 2016). The technology which are adopted in the various processes, systems and structures tends to play an important role in the production, marketing and distribution processes of the firm. Similar to the above, Ovechkin, Romashkina and Davydenko (2021) posits that structural capital efficiency comprises efficiency in organizational processes, databases, trademarks, information systems, cultural aspects, and other elements of the intellectual infrastructure of the firm. Structural Capital is the dimension of intellectual capital which is not related to humans or employees but remains in the firm even if employee opts to leave the firm. Nwaiwu and Aliyu (2018); Ofurum, Onuoha and Nwaekpe (2018) submitted that structural capital efficiency as a component of intellectual capital affects firm performance. Anuonye (2016), evaluated the effect of intellectual capital on the value creation of insurance firms in Nigeria using their ROA. The result of the study found that human capital (HC), structural capital (SC) and relational capital (RC) each had a statistical weak relationship with return on assets (ROA) of insurance companies in Nigeria. Ayuba, Chechet, Ahmed and Olanrewaju (2020), examined the effect of Intellectual Capital (IC) on financial performance (FP) of all listed Nigeria's deposit money banks (NDMBs). However, the individual analysis of IC components shows a diverse result. SCE reveals a significant negative relationship with ROA while CEE and HCE show a positive significant effect on ROA of NDMBs.
Hence, the hypothesis: structural capital efficiency does not significantly affect gross profit margin of listed consumer goods firms in Nigeria.

Capital employed efficiency (CEE) refers to the economic term that reflects the level of exploitation and use of capital of a firm in production and business activities with the view to creating maximum value at the barest or minimum cost. The capital employed efficiency is revealed using a ratio which discloses the extent to which the naira spent on using capital generates value for the company. Nguyen and Doan (2020); Ewereoke (2018); Kurfi, Noraza and Saleh (2017); and Onyekwelu, Okoh and Iyidiobi (2017) submitted that capital employed efficiency as a component of intellectual capital has a positive effect on firm performance. Okeke and Udeh (2020), assessed the effect of intellectual capital on the profitability of Nigerian deposit money banks. The study revealed that Capital Employed has positive effect on the profitability of Nigerian deposit money banks, but is not statistically significant.
Hence, these variations in the findings lead to the hypothesis: Capital Employed does not significantly affect gross profit margin of listed consumer goods firms in Nigeria.

Concept of Corporate Performance
Corporate performance ordinarily measures or indicates the extent to which a firm achieves its financial and non-financial objectives. Corporate performance of firm refers to how well the firm uses its recourses from its primary mode of business to generate revenues. It can also be defined as the attainment of specified business objectives which is measured against known standards, targets and cost (Ofurum, Onuoha and Nwaekpe, 2018). In simple terms, corporate performance refers to the extent to which a firm realizes the corporate strategic goals and objectives of the enterprises with minimum resources. Nwaiwu and Aliyu (2018) argued that the corporate performance of firms is merely the natural consequence of operational performance which is understood as the final result of all corporate efforts exerted by the firm with the aim of maximizing the value or wealth of the organization such as consumer industry.

Through an appropriate corporate performance assessment, managers are able to assess the financial success, financial health and sustainability status of the firm. This tells us that the concept of corporate performance is vast as it connotes other dimensions such as firm productivity, firm efficiency and effectiveness, in addition to the traditional financial performance which is the usual concept that is examined in corporate literature. The results of financial performance can be used to carry-out a comparative analysis of similar entities in the same industry or to compare industries and sectors (Nwaiwu and Aliyu, 2018). Among the various aspects of corporate performance which cuts across financial health, environmental sustainability, growth, employee productivity, customer relations and satisfaction, social performance, etc., financial performance remains the most valued dimension of business outcome and corporate result especially in consumer firms.

Gross Profit Margin:
Gross profit margin is a financial metric that indicate how efficient a business is at managing its operations. It is

frequently expressed as a percentage of sales. It's also a metric analysts use to assess a company's financial health by calculating the amount of money left over from product sales after subtracting the cost of goods sold. Therefore, in total disagreement with the submission of Kasoga (2020) that there is a debate on the empirical nexus between intellectual capital and the corporate performance of firms, the researcher underscores that the significant contribution of intellectual capital towards the enhancement of the corporate performance of firms is indisputable. This is because almost all corporate researchers in this line have a consensus that ownership of knowledge, applied experience, organization innovation, customer relationship, and professional competencies, experience and skills essentially facilitate value creation amongst firms.

Currently, various researchers have focused on how intellectual capital influences the financial lots of firms since it is assumed everywhere that intellectual capital is now the most valued asset in the firm (Nassar, 2020; Aleem, 2020; Ngoc & Duc, 2020). Empirical evidence in intellectual capital - to - Gross profit margin relationship produced mixed results. Specifically, a study by Wong, Li & Ku (2015) suggest that companies with a higher IC efficiency tend to have a better profitability performance. This indicates that there is a causal relationship between IC and profitability of the company in which IC as the independent variable will affect the profitability as the dependent variable.

Theory of Value Added Intellectual Coefficient (VAIC^{TM})
Value Added Intellectual Coefficient was modelled by Ante Pulic in 1998. According to Pulic (1998, 2000, 2004), the intellectual capital of a firm is decomposed into human capital, structural capital and capital employed. With the use of VAIC, it is easy and possible to measures the value creation efficiency of a firm simply by finding the coefficients of human, structural and capital employed which are the intellectual capital components of the corporate entity (Anuonye, 2014). The assumption that guides the utilization of VAIC method is that companies create value or add value as a result of the efficient use of physical capital which is ably represented by the relational capital efficiency (REE) in conjunction with the intellectual capital which is ably represented by human capital efficiency (HCE) and structural capital efficiency (SCE).

Basically, there are two purposes for which the VAIC is calculated. The purposes are to generate an added value and also to ascertain the market value of the firm. Therefore, the present study adopts the VAIC model in order to calculate human capital efficiency, relational capital efficiency and structural capital efficiency. The theory considers cost of education, development, training, and staff cost as investments towards improved productivity of employees which could bring about a competitive advantage for the firm (Olaoye and Afolalu, 2020). It is this competitive edge that ultimately translates into an improved corporate performance.

The relevance of the theory to the present study is that VAIC model emphasizes the improving the level of employees' knowledge increases the employees' creativity and efficiency, since human capital efficiency tends to perfect the knowledge, attitude, ability and professional expertise and skill of the employee which then enables the employee to add value to the firm's processes and productivity. Furthermore, the theory posits that intellectual capital enables firms to carry-out better corporate planning and policy execution given that capital employed efficiency, structural capital efficiency brings about best system, procedures, corporate culture and production processes that enhance the maximization of firm value. It is on this note that the study is theoretically underpinned by the theory of Value Added Intellectual Coefficient.

Empirical Review
Alfiero, Brescia and Bert (2021), investigated the effect of intellectual capital on the performance of health organizations in the Italian healthcare system. The study was guided by an ex-post facto research design. The population of the study comprised 16 quoted Italian firms. Secondary data for the study were sourced from the annual reports of the sampled firms. Simple linear regression was used to test the statistical association between the variables of the study. The results of the analysis revealed that Intellectual Capital components significantly influence organization's performance and could be used to define the policy of allocation of resources in the sector. The efficiency of 16 regions considered in 2016 based on Slack-Based-Model constant returns-to-scale (SBM-CRS) and Slack-Based-Model variable returns-to-scale (SBM-VRS) identified a different ability to balance Intellectual Capital and performance. The research results concluded that intellectual capital, which comprises human capital, relational capital, and structural capital, is one of the main sources of competitive advantage in the health-care sector.

Nguyen and Doan (2020), determined the effect of intellectual capital on firm value in the context of Vietnam. The research sample included 61 manufacturing companies listed on Vietnam stock market for the period from 2013 to 2018. The study deployed an ex-post facto research method. Secondary data for the study were derived from the annual reports of the sampled firms. Three statistical methods approaches were employed to address econometric issues and to improve the accuracy of the regression coefficients. The methods include Ordinary Least Square (OLS), Random Effects Model (REM) and Fixed Effects Model (FEM). This research used value-added intellectual capital (VAIC) to measure the intellectual capital of a firm. Value-added intellectual capital (VAIC) is

considered as an effective measure by which a company uses material, financial, and intellectual capital to increase its value. The VAIC included the sum of three components: Human Capital Efficiency (HCE), Structure Capital Efficiency (SCE) and Capital Employed Efficiency (CEE, including physical and financial capital). In this paper, firm value was measured by Tobin's Q ratio. The empirical results showed a statistically significant positive impact of value-added intellectual capital (VAIC) on firm's profitability.

Ovechkin, Romashkina and Davydenko (2021), investigated the relationship between Intellectual Capital, its components and the level of financial profitability agricultural firms in Russia. The study was guided by an ex-post facto research design. Secondary data were utilized in the study and were derived from the annual reports of the selected agricultural firms. To conduct the analysis, the study used the system generalized method of moments for a broad sample of Russian firms that operate in the agribusiness industry. It employed two financial approaches to Intellectual Capital estimation. The first one is the Value Added Intellectual Coefficient (VAIC). The second one is own-created approach that is supposed to respond the criticism regarding VAIC. Comparison between VAIC and own-created approach to IC estimation revealed that the latter is more appropriate due to its advantages. The results showed that the efficiency of structural capital usage and the stock of human capital have a significant effect on the profitability level of the agricultural businesses.

Nassar (2020), determined the relationship between intellectual capital and corporate financial performance of firs in Palestine. The study was guided by an ex-post facto research design. The sample of the study comprised 34 from 48 companies listed on Palestine Exchange (PEX) over the period of 2012-2018. Pulic's method "Value Added Intellectual Coefficient (VAIC)" were utilized to measure the Intellectual Capital (IC), and three of traditional accounting tools involving; return on equity (ROE), return on assets (ROA), and earning per share (EPS) ratios were used as proxies of firm financial performance. Secondary data for the study were derived from the published annual reports of the sampled firms. The linear regression technique was used to test the hypotheses of the study. The findings of Panel data model showed that human capital efficiency (HCE) is consider as the most effective element of intellectual capital in the issue of value creation than structural capital and capital employed. Moreover, VAIC generally showed a statistically significant relationship with financial performance represented by return on assets (ROA).

Aleem (2020), ascertained the nature of the relationship between intellectual capital and firms' financial performance in the emerging market of Pakistan. Ex-post facto research design was deployed in the study. This study also employed an unbalanced panel data of 152 non-financial publicly firms listed at Pakistan Stock Exchange for the period of seven years (2012-2018). Value added intellectual coefficient model initiated by Pulic (1998) was incorporated for measuring and computing intellectual capital. Pooled ordinary Least Square regression analysis was used to analyze the secondary data that were sourced for the study. The pooled OLS results revealed that VAIC is highly significant and positively related with the financial performance of the selected firms in terms of Return on Assets, Returns on Equity, and Asset Turnover whereas the individual constituents of VAIC such as Human Capital Efficiency, Structural Capital Efficiency and Capital Employed Efficiency also have significant and positive effect on the financial performance of the selected firms.

Okeke and Udeh (2020), assessed the effect of intellectual capital on the profitability of Nigerian deposit money banks. The specific objectives were: to ascertain the effect of Structural Capital Efficiency (SCE) on the profitability of Nigerian deposit money banks; to determine the effect of Human Capital Efficiency Coefficient (HCE) on the profitability of Nigerian deposit money banks and to examine the effect of Capital Employed Efficiency Coefficient (CEE) on the profitability in Nigerian deposit money banks. The study adopted ex post facto research design. The study used sample of fifteen (15) Nigerian deposit money banks quoted on the Nigerian Stock Exchange from 2010 to 2018. The data for the study was collected from annual reports and accounts of the deposit money banks quoted on the Nigerian Stock Exchange. Regression analysis was employed to test the formulated hypotheses with the aid of E-view version 9.0. The study revealed that Structural Capital Efficiency (SCE) has positive significant effect on the profitability of Nigerian deposit money banks. The study also revealed that Human Capital Efficiency Coefficient (HCE) has positive effect on the profitability of Nigerian deposit money banks, but is not statistically significant. In addition, Capital Employed Efficiency Coefficient (CEE) has positive effect on the profitability of Nigerian deposit money banks, but is not statistically significant.

Ayuba, Chechet, Ahmed and Olanrewaju (2020), examined the effect of Intellectual Capital (IC) on financial performance (FP) of all listed Nigeria's deposit money banks (NDMBs) for the period 2013-2017. The study adopted the ex-post facto research design. Audited financial reports of the financial institutions were used as a source of secondary data. Value Added Intellectual Coefficient (VAIC[TM]) model of Pulic was adopted to measure the various IC components which are: capital employed efficiency (CEE), human capital efficiency (HCE) and structural capital efficiency (SCE) while return on asset (ROA) served as a measure to financial performance. Multiple regression analysis was employed to test the four hypotheses at 5% level of significance. Results of the study show that IC in aggregation (VAIC) has significant positive effect on ROA of NDMBs. However, the individual analysis of IC components shows a diverse result. SCE reveals a significant negative relationship with ROA while CEE and HCE show a positive significant effect on ROA of NDMBs.

Olaoye and Afolalu (2020), examined the effect of human capital accounting on Earning per Share (EPS) of deposit money banks in Nigeria. Secondary data were collated from annual reports of the sixteen deposit money banks listed on the Nigerian Stock Exchange between 2006 and 2017. The study employed static panel data of fixed and random effect to explore the relationship between human capital accounting and EPS of deposit money banks in Nigeria. Post estimation test (Hausman Test) was also conducted to select the best and most consistent estimator. Random effect was selected to achieve the stated objective. The results of the random effect revealed that the pension and training and development have significant positive relationship with EPS while other salaries and wages have insignificant positive relationship except director's remuneration (RENMR) that has insignificant negative relationship with EPS. This also implies that training and development, and pension are critical factors that are germane to human capital accounting to boost the earning per share so as to enhance the performance of the banks. The reported adjusted R-Square of value of 0.3876 which is 39% of the systematic variation of the EPS of the firms could be jointly explained by the salaries and wages, training and development, director's remuneration and pension.

Nwaiwu and Aliyu (2018), empirically examined the relationship between intellectual capital reporting and measures of financial performance of quoted banks in Nigeria. The study adopted ex-post facto research design. Data used in the study were collected from the published annual financial statements of fifteen (15) commercial banks' websites and the Nigeria Stock Exchange as at December 31, 2016. The study also 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 E-view version 9. The findings of this study revealed that structural capital does not significantly affect the revenue growth and the return on investment of quoted commercial banks in Nigeria during the period covered by this study. This study concluded that intellectual capital has not fully related to the financial performance of quoted commercial banks in Nigeria. 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.

Ofurum, Onuoha and Nwaekpe (2018), explored the extent to which intellectual capital reporting influences the corporate performance of quoted manufacturing firms in Nigeria. The study used secondary data of twelve (12) manufacturing firms listed on the Nigerian Stock Exchange (NSE) from 2011-2015. Public's Value Added Intellectual Coefficient (VAICTM) model was modified in measuring the Intellectual Capital indices and x-raying their impact on corporate performance. The data collected were analyzed using multiple regressions with the aid of SPSS version 22 and e-views version 8. The study findings showed a mixed result: human capital has a significant impact on corporate performance; structural capital has positive and negative relationship with market share and debt-equity ratio respectively while relational capital showcased a downhill relationship with corporate performance. The study concluded that the inputs by proficient and competitive staff of manufacturing firms yield consistent return on the share of the organization within the industry and will definitely grant the organization the status of a market leader in the long run.

Ewereoke (2018), assessed the effect of intellectual capital on performance of firms listed on Nigeria Stock Exchange. Three specific objectives were formulated to determine the extent to which intellectual capital affects corporate performance. From the specific objectives, hypotheses were also formulated and to test the hypotheses a sample of forty (40) companies were selected from 213 companies listed on Nigeria Stock Exchange using multi-phases sampling method. The study applied Ex-post Facto Research Design and made use of secondary data sourced from annual reports and accounts of sampled firms and Nigeria Stock Exchange Fact Book. Pulic 1998 Value Added Intellectual Capital Co-efficient (VAIC) model which enable the determination of specific effects of the components of intellectual capital (Human Capital Efficiency (HCE), Structural Capital Efficiency (SCE) and Capital Employed Efficiency (CEE) was adopted and transformed into ordinary least square approach and a multiple regression performed to test the hypotheses at 5% level of significance using E-view statistical software (version 8.0). The analysis of the test shows that Intellectual Capital affects significantly, Company Process measured by ADM/OPA and market to Book value ratio of companies listed on Nigeria Stock Exchange whereas there was no significant effect of Intellectual Capital on Asset Turnover (ATO).

Kurfi, Noraza and Saleh (2017), examined the impact of intellectual capital (IC) on financial performance of listed Nigerian food products companies. Ex-post facto research design guided the study. Data for the study was collected from the period of 2010 to 2014 fiscal year financial statement of the sampled firms. The sample of the data was generated only from the Nigeria food products companies. The study utilized secondary source of data. The hypotheses tested in this study using secondary data from the sample size of the firm's annual reports. Five years (2010 to 2014) data of the sampled companies were gathered from the Thomson Routers Data Stream and their annual reports. The data collected that are relevant to the study included total sales, total assets, total salaries, total expenses, net income, total debts and total intangible assets. Regression models were used to test the

hypotheses of the study where the results showed that there was positive significant influence of intellectual capital on financial performance. Specifically, the results showed that structural capital (SC) and capital employed (CE) influence the financial performance of Nigerian food products companies.

Onyekwelu and Ubesie (2016) examined the effect Intellectual Capital(IC) on corporate valuation of firms quoted in Nigeria. The study adopted the Panel Research Design and used Time Series and Cross-Sectional Data. Data for the study covered a ten-year period (2004-2013). Simple Random Sampling was employed in selecting firms for this study. Data were sourced from the firms' annual financial statements using content analysis approach. Market valuation data were sourced from the Nigerian Stock Exchange. Intellectual Capital (Independent Variable) was measured using Human Capital Efficiency (HCE), Structural Capital Efficiency (SCE) and Capital Employed Efficiency (CEE). The study adopted the Value Added Intellectual Coefficient (VAIC) Model as developed by Pulic (1998) to examine the effect of Intellectual Capital on firms' values. Multiple Regression Correlation Analysis was used on the data at 5% level of significance. E-View statistical tool version 8.0 was used in the analysis. The results revealed that Human Capital Efficiency has a positive and significant effect on Market/Book Value. SCE has a negative and insignificant effect on M/BV; CEE has negative and significant effect on M/BV; positive and insignificant effect on EPS.

Anuonye (2016), evaluated the effect of intellectual capital on the value creation of insurance firms in Nigeria using their ROA. Ex-post facto research design was adopted in the selection of data. Primary and secondary data were employed. The target population consisted of 150 workers in the 3 strategic departments of human resources, accounts and marketing of 18 insurance companies using the purposive sampling technique. 150 questionnaires were distributed and a response rate of 74% was recorded. Face validity, content validity and pilot test were used to validate the instruments. The Cronbach's Alpha reliability test gave a result of (r=0.806) and (r=0.800) respectively. Regression was used for data analyses at 5% level of significance. Results obtained from the primary data revealed that structural capital had significant positive effect on ROA at (P<0.05) while relational capital also had a significant positive effect on ROA at (P<0.05). Aggregated P value for f-statistic was significant on ROA at (F=.000<.05) from the primary data. Secondary data analysis revealed that human capital was negatively significant on ROA at (P<0.05). Relational capital was also positively significant on ROA at (P<0.05). The aggregated f-statistic on secondary data was significant on ROA at (F=.015<.05). The study concluded that human capital (HC), structural capital (SC) and relational capital (RC) each had a statistical weak relationship with return on assets (ROA) of insurance companies in Nigeria.

3. Methodology

This study used ex-post facto research design due to its wide acceptability in studies of this nature. This study employed secondary information sourced from the Nigerian Stock Exchange Fact books and related companies' annual financial reports for the study periods which has been justified by recent study. The population of this study is made up of all consumer goods firms that are listed on the floor of the Nigerian stock exchange market for the period between 2010 and 2019. However, as at 31st December, 2019 the total number of listed consumer goods firms were 19. This sample size calculation is based on $p = 0.05$ where the probability of committing type I error is less than 5% or $p < 0.05$. Therefore, the sample size for this study is computed below as:

$$S = \frac{x^2 NP(1-P)}{d^2(N-1) + x^2 P(1-P)}$$

$$S = \frac{1.96^2 \ X \ 19 \ X \ 0.5 \ (1-0.5)}{0.05^2(19-1) + 1.96^2 \ X \ 0.5 \ (1-0.5)}$$

$$S = \frac{3.8416 \ X \ 19 \ X \ 0.5 \ (1-0.5)}{0.0025 \ (19-1) + 3.8416 \ X \ 0.5 \ (1-0.5)}$$

$$S = \frac{72.9904 \ X \ 0.5 \ (0.5)}{0.0025 \ (19-1) + 3.8416 \ X \ 0.5 \ (1-0.5)}$$

$$S = \frac{72.9904 \ X \ 0.5 \ (0.5)}{0.0025 \ (18) + 3.8416 \ X \ 0.5 \ (0.5)}$$

$$S = \frac{72.9904 \ X \ 0.25}{0.045 + 3.8416 \ X \ 0.25}$$

$$S = \frac{18.2476}{0.045 + 0.9604}$$

$$S = \frac{18.2476}{1.0054}$$

S = 18.15

Out from the computed sample size of 18 consumer goods, we deselect one firm based on the condition that it got listed on the stock exchange after the study period (2021). Thus the final sample size consists of 17 consumer goods firms that are listed on the Nigerian stock exchange.

Model Specification

The model for this study is modified from the studies of Xu and Wang (2018) to suit the hypotheses of this study. Hence, the author specifies the economic metric function as;

$$GPM_{it} = \pi_0 + \pi_1 CapEmp_{it} + \pi_2 HumCap_{it} + \pi_3 StrucCap_{it} + \sum{}_t$$

Where:

GPM	=	Gross profit margin
CapEmp	=	Capital employed efficiency
HumCap	=	Human capital efficiency
StrucCap	=	Structural capital efficiency
it	=	(i = no of cross section and t = time periods)
$\sum$	=	Model Error Term

Operationalization of Variables

These are the operational definitions (tabulated) of the variables employed in the study, i.e., the dependent and independent variables.

Table 3.1   Operationalization of Variables

Variables	Measurement	Source
GPM (Dependent Variable)	Gross margin in percentage is computed as gross profit divided by revenue or sales.	Nawaiseh (2017)
Relational Capital efficiency (independent variable)	Relational capital captures the relation network which employees utilize in the discharge of their duties.	Xu and Wang (2018)
Human capital efficiency (independent variable)	Human Capital Efficiency in numbers is computed as Revenue minus cost of revenue divided by Staff Cost	Xu and Wang (2018)
Structural capital efficiency (independent Variable)	Structural Capital Efficiency in numbers is computed as Revenue minus cost of revenue and staff cost divided by Revenue minus Cost of Revenue.	Xu and Wang (2018)

Source: Researcher's Compilation 2022

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IISTE

Descriptive Statistics by Firm Year

years	gpm	struccap	humcap	capemp
2010	38.28551	.5953625	4.473956	.2937125
	16.42194	.2793968	4.267871	.1733903
	10.1068	.0877	1.0961	.0771
	61.1954	.9368	15.8241	.6192
	612.5682	9.5258	71.5833	4.6994
2011	38.25711	.5429562	3.680463	.2806375
	16.00753	.3139017	3.761917	.1325646
	11.1257	-.2849	.7783	.1455
	60.517	.9399	16.6473	.5879
	612.1138	8.6873	58.8874	4.4902
2012	37.72286	.5363688	3.384944	.2748062
	15.07002	.305839	2.69742	.1435462
	12.2102	-.0778	.9278	.1189
	62.1782	.9072	10.779	.5935
	603.5658	8.5819	54.1591	4.3969
2013	38.39697	.4883188	3.166156	.2710063
	16.53206	.2854575	3.0746	.1618463
	11.7448	-.0264	.9743	.0771
	79.0134	.9229	12.9656	.6348
	614.3516	7.8131	50.6585	4.3361
2014	31.51171	.5703375	2.422975	.2368312
	23.07519	.5985942	1.987525	.172028
	-28.4041	-.2198	-.6994	-.029
	77.0612	2.4297	8.2933	.6734
	504.1874	9.1254	38.7676	3.7893
2015	31.01711	.5567375	2.331831	.2272
	39.84617	.4564615	1.912131	.1978658
	-98.0604	-.2426	-1.1182	-.1901
	83.5877	1.8943	7.848	.7433
	496.2738	8.9078	37.3093	3.6352
2016	25.26356	.5184437	2.446956	.2109312
	54.40635	.4382952	2.381173	.2336816
	-166.2416	-.6687	-3.1284	-.3824
	81.1535	1.3197	8.0653	.7854
	404.2169	8.2951	39.1513	3.3749
2017	35.05729	.865475	2.743762	.2420813
	26.44822	2.038088	3.205148	.1601939
	-28.4712	-.5461	-.1361	-.0667
	84.0016	8.3458	13.4531	.4999
	560.9167	13.8476	43.9002	3.8733
2018	38.81491	.39876	2.522033	.2351667
	19.14887	.4272159	1.756589	.1643277
	18.5314	-.6105	.6209	.0673
	83.8447	.8657	7.4471	.6194
	543.4088	5.9814	37.8305	3.5275
2019	38.0952	.4693	2.749444	.21625
	21.18424	.2932522	2.043389	.1216712
	18.6654	-.1784	.8486	.0618
	100	.8693	7.6502	.5048
	495.2376	7.5088	43.9911	3.46
Total	35.14091	.5551837	2.995209	.2489484
	27.34811	.7333139	2.827684	.1663502
	-166.2416	-.6687	-3.1284	-.3824
	100	8.3458	16.6473	.7854
	5446.841	88.2742	476.2383	39.5828

STATA 16 Output
Authors Computation (2022)

The table above shows the descriptive statistics of the study by firm year category. From the table it is

observed that on average, gross profit margin being the dependent variable of this study reduced slightly from 38.29 in year 2010 to 38.26 in year 2011 and further down to 37.72 in year 2012. However, the fall persisted into year 2014 (31.51) and further down to 31.01 in year 2015. Overall, it is observed that gross profit margin fell thru the period under consideration as year 2016 showed a relatively low value of 25.26 and 35.06 in year 2017. We find from the analyses that on average gross profit margin was highest in year 2018 (38.81) closely followed by year 2013 (38.39) and year 2019 (38.10). For the independent variable of structural capital efficiency, we find that on average it was lowest in year 2018 (0.40) while on average it was highest in year 2017 (0.87). However, we find a reduction in structural capital employed from 0.60 in year 2010 to 0.54 in year 2011 while year 2012 showed an average value of 0.49. furthermore, we find that the variable of structural efficiency had average values of 0.57 in 2013, 0.56 in year 2014, 0.56 in year 2015, 0.52 in year 2016, 0.40 in year 2018 and 0.47 in year 2019. Similarly, on average we find that the value of human capital efficiency decreased from 4.47 in year 2010 to 3.68 in year 2011, further down to 3.38 in year 2012 and 3.16 in year 2013. It dipped further to 2.42 in year 2014 and yet another slip into 2.33 in year 2015. A slight increase from 2.45 in year 2016 to 2.74 in year 2017 is noticed with average values of 2.52 in year 2018, and 2.75 in year 2019. Overall, we find a constant decrease in human capital efficiency over the period covered in this study. Capital employed efficiency was highest in year 2010 (0.29).

Test for Normality of Residua

It is necessary to apply statistical methods in all branches of knowledge in a sensible way. The most commonly used statistical methods are correlation, regression and experimental design. But all of them are based on one basic assumption, that the observation follows normal (Gaussian) distribution. So, it is assumed that the population from where the samples are collected are normally distributed. The null hypothesis is that "sample distribution is normal." However, if the test is significant at 5% or less, the distribution is non-normal. In determining the normality of residua of the data set the researcher follows the result of Wah (2011) who concluded that Shapiro-Wilk test is the most powerful normality test since it consistently has the lowest total rank from n = 10 until n = 2000. Consequently, the researcher conducted the test for normality of residua as shown in the table below:

Table 4.2   Shapiro-Wilk W test for Normal Data

Variable	Obs	W	V	z	Prob>z
gpm	155	0.74075	31.025	7.800	0.00000
struccap	159	0.46432	65.526	9.511	0.00000
humcap	159	0.74842	30.775	7.792	0.00000
capemp	159	0.92482	9.196	5.045	0.00000

STATA 16 Output
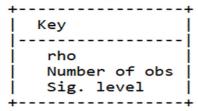
Authors Computation (2022)

From the table above, it is observed that the dependent variable of gross profit margin (Prob > z = 0.00000) is not normally distributed since the probability of the z-statistics is significant at 1%. Similarly, the independent variables of structural capital efficiency (Prob > z = 0.00000), human capital efficiency (Prob > z = 0.00000), and capital employed efficiency (Prob > z = 0.00000) are all not normally distributed since the probabilities of their z-statistics are significant at 1% level. This interpretation is justified following the study of Bera and Jarque (1982).

Data Analysis

Correlation Analysis

In data analysis, the association of two or more variables is often of interest. Measures of association are not inferential statistical tests; instead, they are descriptive statistical measures that demonstrate the strength or degree of relationship between two or more variables. Generally, the literature suggests that extremely non-normal distributions can sometimes inflate Type I error rates for tests of the Pearson correlation coefficient and increasing sample size does not necessarily alleviate this problem. Thus, with non-normal data, alternatives to the Pearson approach might be justified. The robustness of Spearman's versus Pearson's test has received relatively less empirical scrutiny. Perhaps because Spearman's rank-order correlation is widely viewed as a nonparametric technique and Pearson's r is not. In one of the few relevant studies, Fowler (1987) found that Spearman's r was more powerful than Pearson's r across a range of non-normal bivariate distributions. The power benefit of Spearman's r may be the result of rank-ordering causing outliers to contract toward the centre of the distribution (Fowler, 1987; Gauthier, 2001). Upon this understanding and based on the fact that the data set followed a non-normal distribution, we employ the Spearman Rank Correlation technique to conduct the possible association between the variables of interest shown in the table below;

Table   4.3   Spearman Rank Correlation Analysis

```
+------------------+
|  Key             |
|------------------|
|    rho           |
|  Number of obs   |
|  Sig. level      |
+------------------+

                 |     gpm    capemp    humcap struccap
     ------------+-----------------------------------------
         gpm |   1.0000
             |      155
             |
             |
      capemp |   0.4853    1.0000
             |      155       155
             |   0.0000
             |
      humcap |   0.2934    0.2602    1.0000
             |      155       155       155
             |   0.0002    0.0011
             |
    struccap |   0.1426    0.1093    0.8492    1.0000
             |      155       155       155       155
             |   0.0768    0.1757    0.0000
```

STATA 16 Output
Authors Computation (2021)

Specifically, the analysis from the spearman rank correlation showed that all the independent variables were positively correlated with the dependent variable of Gross profit margin during the period under review. Clearly no perfect association exist between the variables as they all showed coefficients which are less than 80% after which the problem of autocorrelation may begin to manifest.

Regression Analysis

When the regressors are exogenous, the Ordinary Least Square (OLS) estimator is consistent and best in the class of linear unbiased estimators when the errors are homoscedastic and serially uncorrelated. When the errors have finite variances, the Least Squares technique provides minimum-variance mean-unbiased estimate under these conditions. As a result, we first conduct Panel Ordinary Least Square regression analysis before checking for any regression errors. The results obtained from the panel least square regression are shown in the table below;

Table 4.4   Panel Least Square Regression Estimation Result

gpm	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
capemp	71.13125	10.40357	6.84	0.000	50.57588	91.68661
humcap	3.441743	.6095637	5.65	0.000	2.237367	4.646118
struccap	-8.530251	2.327046	-3.67	0.000	-13.12803	-3.932476
_cons	11.97136	3.553912	3.37	0.001	4.949544	18.99318

No of Observations = 155 Probability F- Statistics = 0.0000 R^2 = 0.4290
Authors Computation 2022

Test for Regression Errors
Test for Multicollinearity

Multicollinearity occurs when the explanatory variables in a regression model are correlated suggesting that there is a strong relationship among the independent's variables which violates the model's estimation. Correlation is a problem because independent variables should be independent. If the degree of correlation between variables is high enough, it can cause problems when you fit the model and interpret the results. In this study like in most other related studies, we employ the variance inflation factor (VIF) technique to diagnose the presence or absence of

multicollinearity in the model. Variance inflation factors (VIF) measures how much the variance of the estimated regression coefficients is inflated as compared to when the predictor variables are not linearly related. A cut-off value of 10 is given for regarding a VIF as high. Specifically, we follow Gujarati (2004) which allows VIF to be less than 10. However, our result showed that VIF (1.06) is within the threshold of 10.

Test for Homoscedasticity
The assumption of homoscedasticity states that if the errors are heteroscedastic then it will be difficult to trust the standard errors of the least square estimates. Hence, the confidence intervals will be either too narrow or too wide. The presence of heteroscedasticity tends to produce p-values that are smaller than they should be due to increased variance of the coefficient estimates which unfortunately least squares' estimators does not detect this increase. The result obtained from the regression reveals a probability value of (P-value: 0.0000) obtained from the Breusch-Pagan test. This result indicate that the assumption of homoscedasticity has been violated.

Test for Fixed and Random Effects
Wallace and Hussain estimator of component variances (a two-way random and fixed effects panel) was performed at a 0.05 level of significance. As noted by Ajibolade and Sankay (2013), the fixed-effects model which is the main technique for analysis of panel data is used when it becomes important to control for omitted variables that differ between cases but are constant over time. It allows the use of the changes in the variables over time to estimate the effects of the predictor (independent) variables on the outcome (dependent) variable.

On the other hand, the random-effects model is used when there are reasons to believe that some omitted variables may be constant over time but vary between cases, and others may be fixed between cases but vary over time. Over time, when this tool is applied researchers are usually faced with the option of choosing between using the fixed-effect panel model or the random-effect panel model. Therefore, to justify the choice of model, the Hausman specification test is largely suggested by scholars (Gujarati, 2004). Actually, this test checks for a more efficient model against a less efficient but consistent model. It ensures that the more efficient model also gives consistent results. It tests the null hypothesis that the coefficients supplied by the efficient random-effects estimator are the same as the ones estimated by the consistent fixed-effects estimator. If the p-value > $\chi2$ is larger than .05, then it is safe to use random effects, but if the p-value < $\chi2$ is less than .05, then the fixed-effects model should be adopted (Gujarati, 2004; Ajibolade & Sankay, 2013). The table below provides a summary result obtained from both fixed and random effect models.

Variables	Capital Employed	Human Capital	Structural capital
Fixed Effect Model			
Coefficient	153.441	1.278	-4.974
t_ Statistics	(8.96)	(2.11)	(-2.49)
Probability_t	{0.000} *	{0.037} **	{0.014} **
No. of Obs = 155		**Prob. F statistics = 0.0000**	**R^2 = 0.4884**
Random Effect Model			
Coefficient	117.434	2.006	-5.413
z_ Statistics	(8.17)	(3.40)	(-2.66)
Probability_z	{0.000} *	{0.001} **	{0.008} **
No. of Obs = 155		**Prob. Wald Chi^2 = 0.0000**	**R^2 = 0.4764**

Hausman = 0.0129
Note: t & z -statistics and respective probabilities are represented in () and {}
Where: ** represents 5% & * represent 1% level of significance
Source: Authors' Computations (2022)

From the tables shown above, a careful examination of the results provided by the effects models show that both models of interest suggest appropriateness as it relates to the dependent variable of gross profit margin during the period under investigation. However, a look at the p-value of the Hausman test (0.0129) implies that we should reject the null hypothesis since the p-values of the Hausman test is significant at 5% level. This suggests that the fixed effect results tend to be more appealing statistically when compared to the random effect results. However, to control for fixed effect we adopt the least square dummy variable regression estimator.

Least Square Dummy Variable Estimator
In panel data models, dummy variables may be introduced to the least squares to explain the effect of each individual unit of a cross section which is unobserved but correctly specifies the model of relation. Just like the OLS, the Least Square Dummy Variable (LSDV) estimator is also applied to the equations in level form and all the cross section is applied in the actual estimation (Islam, 1994 and Greene, 2003). It can give estimates of variances of α_{it} and ε_{it} separately. In the Least Square Dummy Variable estimation, the individual effect is assumed

to be fixed over time in each individual. The fixed effects model is a useful specification for explaining cross section heterogeneity in panel data.

However, in small sample case i.e., short time period, the LSDV estimator is inconsistent owing to the incidental parameters problem. 'The seriousness of this problem in practical terms remains to be established as there exist only a very small amount of received evidence but the theoretical result is unambiguous' (Greene, 2003). The LSDV is generally implemented by the insertion of relevant dummies but being mindful of the dummy variable trap and application of OLS on the enlarged model. Computationally, it is simpler to obtain LSDV through within estimation (Greene, 2003). From the foregoing, this study adopts the LSDV to correct for the fixed effect that is present in the model. The result is presented below:

Least Square Dummy Variable Estimates

```
---------------------------------------------------------------------------
      gpm |     Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+-------------------------------------------------------------
   capemp |  153.4413   17.11841    8.96   0.000     119.5886    187.294
   humcap |  1.277579   .6065931    2.11   0.037     .0780044   2.477154
  struccap | -4.974055   1.997987   -2.49   0.014    -8.925195  -1.022915
          |
```

No of Observations = 155 Probability F- Statistics = 0.0000 R^2 = 0.7177
STATA 16 Output
Authors Computation (2022)

Specifically, the study provide interpretation and make policy recommendation with this model. The model goodness of fit as captured by the Fisher statistics and the corresponding probability value (0.000) shows a 1% statistically significant level suggesting that the entire model is fit and can be employed for interpretation and policy implication. An R^2 value of 0.7177 indicates that about 72% of the variation in the dependent variable is being explained by all the independent variables in the model. This also means that about 28% of the variation in the dependent variable is left unexplained but have been captured by the error term.

Test of Hypotheses
Hypothesis 1: *Capital employed efficiency has no significant effect on performance of listed consumer goods firms in Nigeria.*
The results obtained from the least square dummy variable regression model of *gross profit margin* revealed that *capital employed efficiency* has a significant positive effect on *gross profit margin* of *consumer goods firms* during the period under investigation. This is shown as; *capital employed efficiency* (*CapEmp*; Coef. = 153.441, t = 8.96 and P -value = 0.000). Following the results above, it is revealed that the effect of *capital employed efficiency* on *gross profit margin* is positive and significant at *1%* level. This finding is inconsistent with the stated null hypothesis which leads to its rejection and the acceptance of the alternate hypothesis. Thus, *capital employed efficiency* has a significant effect on *performance* of listed *consumer goods firms* in Nigeria during the period under review.
Hypothesis 2: *Human capital efficiency has no significant effect on performance of listed consumer goods firms in Nigeria.*
The results obtained from the least square dummy variable regression model of *gross profit margin* revealed that *human capital efficiency* has a significant positive effect on *gross profit margin* of *consumer goods firms* during the period under investigation. This is shown as; *human capital efficiency* (*HumCap*; Coef. = 1.228, t = 2.11 and P -value = 0.037). Following the results above, it is revealed that the effect of *human capital efficiency* on *gross profit margin* is positive and significant at *5%* level. This finding is inconsistent with the stated null hypothesis. Thus, *human capital efficiency* has a significant effect on *performance* of listed *consumer goods firms* in Nigeria during the period under review.
Hypothesis 3: *Structural capital efficiency has no significant effect on performance of listed consumer goods firms in Nigeria.*
The results obtained from the least square dummy variable regression model of *gross profit margin* revealed that *structural capital efficiency* has a significant negative effect on *gross profit margin* of *consumer goods firms* during the period under investigation. This is shown as; *structural capital efficiency* (*StruCap*; Coef. = -4.974, t = -2.49 and P -value = 0.004). Following the results above, it is revealed that the effect of *structural capital efficiency* on *gross profit margin* is negative and significant at *5%* level. This finding is inconsistent with the stated null hypothesis which leads to its rejection. Thus, *structural capital efficiency* has a significant effect on *performance* of listed *consumer goods firms* in Nigeria during the period under review.

Discussion of Findings

Intellectual capital efficiency has become one of the important factors to improve financial performance of a company. In this study, we document a positive significant effect of capital employed efficiency on performance of listed consumer goods firms in Nigeria. This result is in line with the work of Nguyen and Doan (2020); Okeke and Udeh (2020); Ewereoke (2018); Kurfi, Noraza and Saleh (2017); and Onyekwelu, Okoh and Iyidiobi (2017) who submitted that capital employed efficiency as a component of intellectual capital has a positive effect on firm performance. This implies that an increase in capital employed will lead to an increase in the performance proxied by gross profit margin of listed consumer goods firms in Nigeria. However, the study opposed the position of Onyekwelu and Ubesie (2016) who found that there was no significant relationship between capital employed and market value which meant that there might be a discrepancy among investors in terms of the level of awareness on capital employed efficiency importance in companies' value creation, as this possibly exists in different countries and different capital markets.

Again, human capital efficiency has a significant positive effect on gross profit margin of consumer goods firms during the period under investigation. This is in line with the study of Onyekwelu and Ubesie (2016) who examined the effect Intellectual Capital(IC) on corporate valuation of firms quoted in Nigeria and found positive relationship and in contrast with the finding of Anuonye (2016) who found that human capital had a statistical weak relationship with return on assets (ROA) of insurance companies in Nigeria. The finding suggests the importance of firms' efficiency in using human capital effectively and efficiently to create bigger companies' profitability and productivity. This implies that an increase in the value of human capital leads to a corresponding increase of firm performance.

Nevertheless, structural capital efficiency has a significant negative effect on gross profit margin of consumer goods firms during the period under investigation. This is in line with the findings of Onyekwelu and Ubesie (2016) who examined the effect Intellectual Capital(IC) on corporate valuation of firms quoted in Nigeria. SCE has a negative and insignificant effect on Market book value. This signifies that investors had a negative view that company had higher employee-related expenditures than their investment in physical capital. This is against the findings of Kurfi, Noraza and Saleh (2017) who established that structural capital influence the financial performance of Nigerian food products companies.

Conclusion and Recommendations

In today economy, intellectual capital has become a crucial resource for an organization. To cope with rapid changes and high competition in the market, an organization should continuously make investment in updating the knowledge and development of skills of its employees so it can be successful in the long term. Companies are encouraged to put more effort and attention on their employees' quality to be able to respond to market transformation. Intellectual capital includes knowledge and skills from all levels of organization, and it has become a new important resource in today new economy replacing physical and financial capitals. From the findings of this study, the researcher carefully makes the following recommendations; Business executives should be able to channel their organization's capital employed as a source to achieve a competitive advantage. They should be held responsible for justifying the value of intangible that is being developed in their organizations. An organization's leadership should be committed to the development and implementation of strategies for investment in human asset. To take advantage of the process of globalization, it should be ensured that conditions are created through policy, law and a collective ethos that facilitate training and development of employees to boost firm performance.

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