THE INSTITUTE OF CHARTERED ACCOUNTANTS OF NIGERIA

(Established by Act of Parliament No. 15 of 1965)

6TH ANNUAL ACADEMIC CONFERENCE

CONFERENCE PROCEEDINGS

FINANCE

NATIONAL ANTHEM

Arise O compatriots
Nigeria's call obey
To serve our fatherland
With love and strength and faith.
The labour of our heroes past
Shall never be in vain,
To serve with heart and might
One nation bound in freedom,
Peace and unity

Oh God of creation
Direct our noble cause
Guide our leaders right
Help our youths the truth to know
In love and honesty to grow
And living just and true
Great lofty heights attain
To build a nation where peace
And justice shall reign

ICAN ANTHEM

Bless God ICAN Fount of Treasure
In triumph her banner raise
Standing stronger in harmony
Building our land together
Dreams of our founding fathers
We are striving to attain
Accounting values that we share
Through all ages be sustained

Chorus:
Institute of Chartered Accountants of
Nigeria, Noble ICAN, Noble ICAN
Your accuracy we cherish
We uphold your integrity

How pleasant to see a new dawn
Building on good foundation
Moulding Accountants full of trust
To raise ICAN's banner higher
Wearing new hopes and visions
Sowing seeds of greatness
Steering ICAN to victory
A bright future is now assured.

Chorus:
Institute of Chartered Accountants of
Nigeria, Noble ICAN, Noble ICAN
Your accuracy we cherish
We uphold your integrity

THE MESSAGE OF THE CHAIRMAN, TECHNICAL RESEARCH AND PUBLIC POLICY COMMITTEE (TRPPC)

On behalf of the Technical, Research and Public Policy Committee (TRPPC) of The Institute of Chartered Accountants of Nigeria (ICAN), I extend my good wishes to guests and delegates present at this Opening Ceremony of the 6th Annual International Conference on Accounting and Finance.

I am personally elated, as the Chairman of TRPPC, to be part of this event and to specially acknowledge the presence of His Excellency, the Governor of Kwara State, Mr AbdulRahman AbdulRazak. I also recognize the Vice Chancellor, University of Ilorin, Professor Sulyman Age Abdulkareem. Thank you for honouring our Institute with your esteemed presence.

This conference is an opportunity for practitioners to interact with professional colleagues in academia. This would no doubt give those of us in practice renewed insight into this great profession from the academic perspective. You would agree with me that the accounting profession is a very exciting one. With our combined decades of experience, no one can claim that they know all there is to know in the profession. The discipline is so versatile that constant update of skills and competencies are inevitable to remain relevant.

ICAN is so well-structured as an Institute, with different Committees that safeguard the efficient implementation and strict adherence to its strategic plan for continuous capacity building for professionals. Membership of these committees comprises experienced professionals who are saddled with the responsibility of moving the Institute towards achieving its vision and objectives.

One of these Council committees is the Technical, Research and Public Policy Committee whose mandate is to identify areas of research in accounting; disseminate research findings; foster links between academic research projects and technical expertise; review the technical contents of exposure drafts issued by standard setters among others.

One of the major activities of the TRPPC is the organization of the Annual International Academic Conference on Accounting and Finance. Let me inform you distinguished guests and delegates that at the TRPPC, we are open to welcoming suggestions and innovative ideas that would guarantee consistent improvement in the quality and organization of the Conference. We would be pleased to receive feedback on the planning and organization of future Academic Conferences.

We have put processes in place to ensure that you have an intellectually rewarding Conference. Considering the uniqueness of the period, we admonish all delegates and guests to abide by all the COVID-19 protocols. The Institute is interested in both your professional development and your physical wellbeing.

I thank the Chairman and members of the Academic Conference sub-committee. Prof. Emmanuel Kighir and his team worked assiduously to ensure the success of the 6th ICAN Academic Conference. The Local Organising Committee led by Associate Prof. Khadijat Yahaya, FCA has no doubt also demonstrated selfless service to the Institute and the accounting profession. Thank you all.

Once again, I recognize the presence of all the physical and virtual delegates.

We have made conscious efforts to ensure that delegates are not disadvantaged in any way irrespective of the mode of participation.

Thank you for your kind attention.

Alhaji Tijjani Musa Isa, BSc, M.IoD, FCA

1st Deputy Vice-President/Chairman, Technical, Research & Public Policy Committee (TRPPC), ICAN

April 20, 2021

MESSAGE OF THE 56TH PRESIDENT OF THE INSTITUTE OF CHARTERED ACCOUNTANTS OF NIGERIA

I am delighted to welcome you all to the 6th edition of the Annual International Academic Conference on Accounting and Finance of The Institute of Chartered Accountants of Nigeria (ICAN) jointly organized with the University of Ilorin, Ilorin, Kwara State.

At the Institute, we looked forward to this Conference with exciting anticipation as it serves as a crucible for the refinement of existing research ideas and generation of new ones.

I wish to acknowledge the presence of His Excellency, the Governor of Kwara State, **Mr AbdulRahman AbdulRazak**, for accepting our invitation to this Opening Ceremony. Sir, we are particularly pleased that you have identified with us in one of our major initiatives on capacity building in the country. You have thus raised the profile of this Conference with your esteemed presence.

Let me also express our sincere gratitude to the Vice Chancellor, University of Ilorin, **Professor Sulyman Age Abdulkareem**, for approving the collaboration with this great University. This confirms that we are partners in the task of building capacity in tertiary education in the country.

We are greatly indebted to one of the finest and oldest Chartered Accountants cum renowned academic and a former Vice Chancellor of

my alma mater, the University of Benin, Emeritus Prof. Abhulimen R. Anao, FCA. Prof. Anao is the Lead Paper Presenter at this 6th Annual International Academic Conference on Accounting and Finance ably represented by Prof Chinwuba Okafor FCA. I have no doubt that we would be fed with an enriching intellectual dish when he presents his paper as Prof. Anao is well known for his ability to simplify complex issues for the benefit of his audience.

Esteemed participants, the apt and timeless quote from Alvin Toffler summarizes the essence of our gathering at this two-day Conference: "***The illiterate of the 21st Century will not be those who cannot read and write, but those who cannot learn, unlearn and relearn.***" This Conference is an avenue to *learn, unlearn, and relearn* as we all strive as academics and practitioners to expand the frontiers of knowledge in our chosen areas of specialization in the accounting profession.

Essentially, the Conference would provide a common platform to share knowledge and ideas on contemporary topics, build enduring network, explore new business, academic and research frontiers and establish necessary mentor-mentee relationship through Ph.D colloquium and workshops.

Considering the calibre of academics at this two-day Conference, I cannot claim that issues to be discussed would be completely new. However, the Conference provides a platform to collectively look at, and constructively critique familiar issues that had been rigorously re-examined and probably explained by other academics and research analysts. I think this essentially encapsulates the concept of research.

The urgency of learning, unlearning and relearning as academics becomes more imperative in this highly dynamic business and academic environment where today's knowledge becomes obsolete tomorrow. Undoubtedly, the speed and spate of knowledge creation

and expansion have assumed an alarming dimension in the last few decades. The dynamism across every sector of the economy has been further accentuated by the coronavrius (COVID-19) pandemic. The pandemic is disrupting the educational sector and this provides huge research opportunities in the green areas that have been occasioned by the outbreak of the pandemic.

Distinguished audience, the theme of the Conference, **Contemporary Issues in Accounting, Business and Fintech**, is not just timely but is aimed at exploring the frontiers of knowledge on emerging topics such as artificial intelligence, sustainability reporting, Corporate Governance, creative accounting, Islamic accounting and new developments in tax and Management Accounting.

Ladies and Gentlemen, I am pleased to inform you that the scorecard of past Conferences speak directly to the successes that attended the previous editions.

The diverse and rich papers presented and the far-reaching recommendations from the past Conferences have been published in the Conference Proceedings and ICAN Journal of Accounting and Finance (IJAF). These publications are important reference materials for academics and practitioners alike. They have also contributed to the career progress of our colleagues in academics.

I implore all participants not to shy away from providing constructive criticisms and feedbacks on all the papers to be presented at this Conference. Our collective inputs would assist the authors to improve the quality of the papers and contribute to enriching the existing body of knowledge on the various sub-themes.

One of the major challenges to growth in the country is the inability to translate research findings to workable policy instruments. Over the years, Nigeria has failed to appropriately utilize recommendations emerging from research conducted by academics and ivory towers.

Sadly, a number of profound initiatives which are outcomes of research are allowed to rot away in the shelves of many tertiary institutions. As an Institute that is championing the required blend between research and industry, I assure participants at this Conference that in addition to creating publication outlets for delegates, we would also adopt some of the recommendations that would emerge from this Conference to deepen the advocacy mandate of the Institute. We are poised to fill the gap between the gown and the town.

Esteemed participants, it is important to note that ICAN continues to collaborate with stakeholders in tertiary education in the country. There are several other initiatives of the Institute that promote scholarship including Ph.D grant for qualified members of the Institute undergoing their doctorate degree programme in any university across the world; commissioned research grant for seasoned academic to conduct research on identified topical areas in accounting and related fields and; Inaugural Lecture Grant to encourage ICAN members to aspire to the peak of their academic career. There are different categories of scholarships for students and graduates who are interested in writing the Institute's professional examinations.

Let me also remind qualified participants in this audience to take advantage of the Institute's Inaugural Professorial Lecture Scheme and Ph.D grants which provide handsome sums to any member of the Institute who fulfils the condition for the various grants. Further details on these opportunities could be obtained from the Research and Technical Department of the Institute and on the Institute's website.

As part of our other Corporate Social Responsibilities (CSR), we recently reviewed the accounting curricula of the National Universities Commission (NUC), the National Board for Technical

Education (NBTE), the West African Examinations Council (WAEC) and the National Examinations Council (NECO).

We have presented our findings and recommendations to these examination bodies. Our review of the accounting curricula of all levels of education in the country revealed major gaps between what the students are being taught and the current needs of the market. The effort of the Institute is to ensure that the various educational institutions in the country continue to produce accountants who are fit for the labour market. The Institute is leveraging the experience of the Chairman of the syllabus review committee of the Institute, Dr Innocent Okwuosa, FCA who is also a member of the International Panel of Accounting Education of the International Federation of Accountants (IFAC), to ensure that we contribute to capacity building in accounting education in the country.

At the Institute, therefore, we remain committed to partnering with our diverse stakeholders for capacity building and continuous professional development of both academics and practitioners in our noble profession. This Annual Academic Conference is just one of such platforms in our capacity building initiatives.

In conclusion, I wish to express our deep appreciation to the Technical, Research and Public Policy Committee (TRPPC) of the Institute ably led by the 2nd Deputy Vice President of the Institute, Alhaji Tijjani Musa Isa, BSc, M.IoD, FCA. The TRPPC is the Council's Committee in charge of the Institute's academic conference. Also, the Academic Conference sub-committee of TRPPC, ably led by Prof. Apedzan Emmanuel Kighir, FCA, sacrificed their time and professional knowledge to ensure the success of this conference. I also thank the Local Organizing Committee (LOC), led by Associate Prof. Khadijat Yahaya, FCA

Once again, I welcome all our guests and delegates to this Conference.

Thank you for your kind attention and I wish you all safe trips back to your different destinations after the Conference.

Dame Onome Joy Adewuyi, B.Sc; M.Sc; FCIB; FCA
56th President, The Institute of Chartered Accountants of Nigeria
April 20, 2021

ADDRESS OF THE VICE-CHANCELLOR OF THE UNIVERSTY OF ILORIN, PROFESSOR SULYMAN AGE ABDULKAREEM, AT THE 6TH ANNUAL INTERNATIONAL CONFERENCE OF THE INSTITUTE OF CHARTERED ACCOUNTANT OF NIGERIA HELD AT THE UNIVERSITY OF ILORIN BETWEEN APRIL 20-21, 2021

PROTOCOLS

While it is my pleasure to welcome you all to the University of Ilorin, I must say I am equally elated and honoured to deliver the Keynote Address for this important 6th annual international academic conference on accounting and finance. It is a thing of joy to us at the University of Ilorin that this conference has brought academics and professionals across the length and breadth of our great nation, and even beyond, to Ilorin and onto our campus - a beautiful campus like no other.

Distinguished Ladies and Gentlemen, permit me then to warmly appreciate the 56th President of the Institute of Chartered Accountants of Nigeria Dame Onome Joy Adewuyi, M.Sc., FCA and her team on the choice of University of Ilorin (the better by far University) as the co-

host for the 2021 Annual International Academic Conference. I am aware that the theme of this conference is "**Contemporary Issues in Accounting, Business and FinTech**". Given the need for business growth in a very competitive environment, I believe this theme is apt as it will bring insights into new business trends and several financial innovations to drive success. Similarly, the Findexable 2020 Global FinTech Ranking Index, which ranked Nigeria taking the 52nd position among 65 countries in the world, has shown that huge opportunities abound in the country, given that close to 40% of our population are unbanked.

Ladies and Gentlemen, I believe the Lead Paper Presenter, Emeritus Professor Abhulimen R. Anao FCA in the field of Accounting, as well as other notable discussants, would bring to the fore the immense benefits of business innovation driven by technology; most of which appears to be disruptive in nature, but, at the same time, could offer huge job opportunities if an appropriate ecosystem for financial technology is created, particularly in Nigeria where the talents of the country's teeming unemployed youths can be harnessed.

I also hope that our discussion at this conference will not neglect the issues surrounding the regulation of technology driven businesses, the use of artificial intelligence in fraud detection and risk management, the protection of intellectual property rights, cryptocurrency and the need for Universities to support tech entrepreneurs in closing skills gap through partnership.

Let me assure you that the better by far University, the University of Ilorin, is known for its readiness in providing the necessary support for partnering businesses or corporate organisations in order to stimulate creativity and collaboration. We are also known for supporting tech-driven start-ups.

Ladies and Gentlemen, let me conclude this speech by reiterating my sincere hope that this year's conference would offer useful insights on the effective and efficient blend of accounting, business and financial technology for sustainable development; and that it would particularly recommend meaningful ways through which Universities could play impactful roles in this pursuit.

On this note, permit me to kindly declare the conference open. Thank you very much for your kind attention. I wish you a successful deliberation.

Prof. Sulyman Age Abdulkareem PhD

Vice-Chancellor, University of Ilorin, Ilorin, Kwara State

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CORPORATE GOVERNANCE AND AUDIT PERFORMANCE IN NIGERIAN PUBLIC SECTOR

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Abstract

This study examined the corporate governance and audit performance in the Nigerian public sector with the focus on the Osun State Government between 2013 and 2018. The population of the study consists of audit and accounts personnel serving in the Offices of Auditor-General and Accountant-General of Osun State Government respectively. The study utilised primary data obtained through the personal administration of open and closed ended questionnaire distributed to 50 account practitioners. The study applied Linear Multiple Regression Analysis using SPSS version 20 to determine the effect of corporate governance on the audit performance of Osun State Government. The study revealed a significant positive relationship between the corporate governance and audit performance for the period under review. The study therefore, concluded that without sound corporate governance, effective audit performance becomes elusive.

Keywords: Corporate Governance, Audit Performance, Performance Audit, Nigeria Public Sector

1. Introduction

Naturally, the agent and steward alike are expected to be accountable and responsible to the principal who has contractually appointed and authorised the agent to act lawfully and subject himself to questions. In such wise, such an appointee must provide an enabling environment to verify and examine the financial and non-financial activities to give comfort and assurance to the principal. According to Omolehinwa and Naiyeju (2015), the new performance wave in USA uses different entrepreneurial methods to transform public sector so that government can work better and cost less. The policy makers in the African public sector can also borrow this idea by using different method to measure performance of segments of government sectors. The essence of public audit in the checking of financial information is to ascertain that the operation is performed in the best interest of the populace and whether the procedures appliedare in conformity with the international best practisesand good governance. This is basically meant to achieve efficiency, effectiveness and economy in the optimal application of tax-payers' funds and government resources.

The term "performance" in the context of this paper is a rating exercise on any department by stakeholders to determine the extent of satisfaction with its activities. Ordinarily, an annual performance plan of an organisation should reflect these three main issues: one, goals and objectives expressed in an objective and quantified or non-quantifiable manner; two, description of the operations and processes; three, resources available and description of how the result can be verified (Omolehinwa & Naiyeju, 2015). Some researchers posited that an organisation's performance can be assessed through the combination of the key financial performance and non-financial indicators. These include but not limited to stakeholders' satisfaction, operational audit, employees' welfare and capacity building. Others extant literature highlighted that factors such as physical characteristics, historical performance and corporate governance affect organisational performance. In short, these measurements are usually carried out by professionals and practitioners like accountants, auditors and financial analysts. Meanwhile, management can utilise the management science techniques(MST) in the private sector to measure both financial and non-financial performance. These techniques include budgeting and budgeting control, variance analysis, balanced score cards, segment rating and others to access the divisional performances. Prior studies have showed that incentives and other employee benefits can also be tied to the afore-stated parameters. Nevertheless, in the process of computation of performance, there could be lack of access (to) and availability of data in a quantitative form to evaluate government performances which are mainly peculiar to African countries.

More importantly, corporate and good governance are often used intermittently by the professionals and academics. For instance, some literature linked corporate governance to the organised private sectors (OPS)and good governance to public sector. In international literature, good governance has been described as how public institutions conduct public affairs and manage the common wealth of the citizenry. It further refers to the sets of policies, roles, responsibilities and processes set by the government to achieve public objectives. Efobi and Bwala (2013) opined that corporate disclosure is expected to convey vital information which will require the knowledge of accounting system comprising of economic values, legal, social and political information with a view to achieving good corporate governance. Meanwhile, good corporate governance (GCG) in accounting is enhanced when managers create enabling environment for professionals to perform and in such circumstance massive disaster can be prevented. On the other hand, poor public governance can lead to wide an astronomical increase in the level of poverty which may engender a high level of corruption through legitimation of frivolous and draconian laws and fiscal policies, devastating administrative bottlenecks, weak legal structure and abuse of executive powers (Asaolu, 2009).

Meanwhile, the Pacific Report of United Nations Economic and Social Commission for Asia (2008) in its contributions towards ensuring good governance practice identified eight major characteristics which include accountability and stewardship, transparency, rule of law, consensus oriented, responsiveness, participation, effectiveness as well as efficiency, equity and inclusiveness. The words “accountability and stewardship” refer to the process of being accountable and responsible by the constituted authority who have been given authority to explain the effect of their policies on people while transparency depicts the level of access to relevant and fundamental information by the governed. Also, legal framework denotes impartiality and incorruptible system with reasonable timeframe which engenders responsiveness, participation and inclusiveness. Also, findings have revealed that effectiveness and efficiency produce results to meet stakeholder’s need, whilst equity and inclusiveness bring fairness and consensus which harmonise diverse interest of stakeholders.

The main focus of this study is to identify and determine the effect of corporate governance on audit performance as a way of contributing to the frontiers of knowledge and bridging the academic lacunae. This paper further examines factors that can assist in the determination of the performance audit by the office of the Auditor General of Osun State.

2. Review of Extant Literature

Umoren (2017) observed governments in some African countries do not adequately utilise financial information provided by professional accountants for maximum resource allocation and making informed investment decisions. Similarly, Omolehinwa and Naiyeju (2015) pinpointed that Nigerians prefer annual government budget to the audited annual financial statement. Hence, it could be perceived that an increase in public audit performance is a germane issue to restore citizenry trust and confidence in government operating activities. According to Adeyemi (2016), a qualified audit personnel can help organisations identify, monitor and report risk of inability to perform statutorily in meeting the citizenry expectations.
Furthermore, The Institute of Chartered Accountant of Nigeria (ICAN) in her 2017 Annual International Conference challenged the FederalGovernment of Nigeria to make heraudited Annual Financial Statements public for the sake of accountability and transparency. The ICAN president stated that the twin words (Accountability and Transparency) are not usually seen and reflected in the day-to-daypublic affairs. Keneth (2012);Akhalumen (2013);Oyerogba Solomon, Olaleye and Adesina (2014); Achua and Ogunjuboun(2014); Olasupo, Adewumi and Adekola (2018) shared similar view with the ICAN president. Previous literature enumerated that low performances on the part of the government resulted from lack of oversight control mechanism, technological, administrative and political will coupled with the loss of independent structure.

Existing literature described performance audit otherwise called value for money audit or operational audit as the process carried out to access the effective, efficient and economic operations of a particular arm of government (MBAs). Additionally, it is a thorough study to determine whether thattier of government optimally utilises to its comparative advantage and maximises scarce human and non-human resources. INTOSAI (2004) listed three main categories of audit that can be performed by public auditors which include financial, compliance and operational/performance audit foraccessing an entity's performance. Demirag and Khadagoo (2012) viewed that audit structure must have robust objective settings and performance appraisal framework which are essential prerequisites for achieving effective performance audit. As at present, observation from the existing literature reflected that scanty information about public sector audit exist. More so, financial audits are usually conducted by designated officers serving in the office of Auditor General while compliance audits are performed by Internal Audit Personnel from the Accountant General's office. Surprisingly, performance/operational audits are seldomly carried out in the public sector due to the reasons best known to the operators of the system. According to the accounting practitioners, non-existence of performance audit may be a risk factor in the determination of performance of public sector audit. However, this paper assumes that external factor of corporate governance may not solely affect audit performance without other internal factors.

Meanwhile, IASB with her internationalisation of accounting standards has issued out both IFRS and IPSAS for public and private sectors respectively. In sum, IPSAS 1 – 42 all center mainly on the transparency, accountability, uniformity, comparability of financial statement. In Nigeria, standardised national chart of accounts 2012 stated that the Federal Executive Council (FEC) at its meeting on 28th July, 2010 approved that Nigeria should adopt the provisions of the IFRS and IPSAS for private and public sectors respectively. In furtherance to the FEC approval, on 13th June, 2011, the federation accounts allocation committee at its meeting inaugurated in some committee work on an action plan/roadmap for the effective implementation of IPSAS in the tiers of government in Nigeria. Consequently, the FAAC Sub-Committee developed a comprehensive standardised national chart of accounts (COA) with the following key features after consulting with the federal, state and local government on the peculiar needs of each tier. In addition, the COA is developed in tangent with the provisions of Government Financial Statistics (GFS) of the IMF. The COA is meant for both IPSAS cash and accrual bases which is flexible and expandable and discuses the preparation of budgeting and accounting.

The Laws of Osun State statutorily permit the State Auditor-General to perform the auditing of the accounts of Government Ministries, Extra- Ministerial Departments and Bureau, accounts of Technical Colleges, Schools and Higher Institutions. The Auditor-General of Osun State must ensure that essential records are maintained and the rules and procedures applied are sufficient to safe guard property and public funds. The State Laws further require the Auditor-General to submit reports of the Audited Financial Statements and Annual Accounts of the State to the House of Assembly. The Osun State Laws further mandate AG Office to carry out the proper auditing of the Osun State Government and activities of the Local Governments. Also, the Lawsexpect the AG Office to serve as a “watchdog” and not “blood-hunt’.

Extant literature has consistently applied agency theory which was propounded by Stephen Ross and Barry Mitnick (1973)in connection with financial agents. Essentially, Coker (2013) argued that the theory is limited to private organisations where profit motive is the primary objective. Meanwhile, this study rests on the theory of performance management as applied by Aguinis (2009). The paper described performance measurement as a continuous process of identifying, measuring, training and retraining employees to achieve the best performance in accordance with contemporary global best practices.

3. Model Specification

This study considers Osun State Government Audit inSouthwest Nigeria as a sample of the population of public sector audit. This paper utilises multivariate regression analysis using audit performance as the dependent variable and corporate governance as the independent variable proxied by the attributes of corporate governance. Therefore, the regression equation in econometrics is stated thus:

$$\mathbf{Yi = \beta 0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \mu_i}$$

Where Y = Audit Performance; $\beta 0$ = Constant/Intercept; $\beta 1 - \beta 5$ = Coefficient of variable; X_1 = Transparency; X_2= Rule of Law; X_3= Effectiveness and EfficiencyX_4 = Accountability; X_5= Good Governance

i = Element of Cross-sectional data denoting department/unit

t = Element of Time Series Data denoting a year

μ = Stochastic Error Term/Residual

The economic a priori expectations: $X_1 – X_5 > 0$

The relationship between the dependent and independent variables is positive. Basically, this implies that the higher the value of independent variable, so the dependent variable.

4. Data Analysis and Results

4.1 Descriptive Statistics

Table 1 shows the total actual staff for the year 2013 was 116, 2014 was 131, 2015 was 124, 2016, 124 and 2017 was 126. The symbol of star represented salary owed by the state government to levels 8 – 10, 50% till 2017, and 25% till date, Level 12- and above, 50% from 2015 till date

Table 1: Presentation of Audit Staff Strength on Grade Level Basis.

Staff Strength	2013	2014	2015	2016	2017
Grade Levels					
1 – 6	16	36	30	30	17
7 – 13	80	70	75	76	74
14 – 17	19	24	18	17	34
Special Grade	1	1	1	1	1
Total	116	131	124	124	126
Areas of Salary					

Source: Survey Data (2018)

Table 2 shows that out of the 20 respondents from the Office, 65% were male and 35% female; 95% of the respondents were married which is an indication of financial responsibilities in the family. Highest educational status was 95% of BSc or HND, while 5% had MSC, an indication of lack of public researchers as insiders. 60% of the respondents has ANAN certificate while 15% has ICAN certificate, the rest of 25% have other certificates. All the respondents are senior staff, with management level having 30%, indicating they are all knowledgeable in the audit field. This shows no significant difference from the study of (Olasupo, Adewumi and Adekola 2018). However, there was an improvement in local training due to 95% of the respondents that enjoyed government training.

Table 2: Presentation of Audit Salary Scale with effect from June 2011 till date

Salary Level	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**	**Grade 6**	**Grade 7**	**Grade 8**
Basic	12,937.5	13,159.38	10,678.67	10,932.51	12,141.32	13,350.38	16,324.86	21,239.52
Total	21,600.45	22,970.90	22,286.39	22,816.15	25,338.93	27,862.7	34,070.00	44,326.88
	Grade 9	**Grade 10**	**Grade 11**	**Grade 12**	**Grade 13**	**Grade 14**	**Grade 15**	**Grade 16**
Basic	25,034.95	29,473.25		34,001.96	38,014.65	42,048.08	42.363.10	43,200.19
Total	52,247.96	61,510.68	-	70,962.10	79,336.58	87,752.67	114,006.15	140,309.37
	Grade 17	Special						
Basic	48,166.19							
Total	150797.56							

Source; Survey Data (2018)

Table 3 discusses the Demographic Profile of the respondents comprising male and female as the researcher is very conscious of gender equity with the educational and professional qualifications.

Table 3: Background Information

Parameter	**Classification**	**Frequency**	**Percentage**

Gender	Male Female **Total**	13 7 **20**	65.0 35.0 **100.0**
Age	21 – 30 31 - 40 **Total**	1 19 **20**	5.0 95.0 **100.0**
Marital Status	Single Married **Total**	1 19 **20**	5.0 95.0 **100.0**
Highest Level of Education	B.Sc./HND M.Sc. Ph.D. **Total**	19 1 0 **20**	95.0 5.0 0.0 **100.0**
Professional Qualification	ANA ACA Others **Total**	12 3 5 **20**	60.0 15.0 25.0 **100.0**
Position in Office	Senior Level Management Level **Total**	14 6 **20**	70.0 30.0 **100.0**
Length of Service	1 - 10 11 - 35 **Total**	3 17 **20**	15.0 85.0 **100.0**
Number of Training	1 – 5 times More than 5 times **Total**	15 4 **19**	75.0 20.0 **95.0**
Place of Training	Local Overseas **Total**	19 0 **19**	95.0 0.0 **95.0**
Sponsorship	Government Self Private **Total**	19 0 1 **20**	95.0 0.0 5.0 **100.0**

Source: Survey Data (2018)

Table 4 simply states the Correlation Analysis emphasising the relationship between two variables. Therefore, it's a bivariate analysis of the dependent and independent variables. It furnishes us with the correlation coefficient (r) that shows the magnitude of the relationship between the variables concerned. It implies -1.7% relationship between them but not significant, thus accepting the null hypothesis. This means that all variables examined are not significantly ($P>0.05$) correlated with audit performance in Osun state. However, significant relationships ($P<0.01$) were observed between variables other than audit performance in Osun State.

Table 4: Correlation matrix

Variables	V1	V2	V3	V4	V5	V6
V1	1	.527** .001	.444** .008	.483** 0.03	.666** .000	-.017 .921
V2		1	.265 .125	.540** .001	.698** .000	.158 .364

V3			1	.305 .074	.678** .000	.027 .878
V4				1	.678** .000	.005 .978
V5					1	.317 .068

Source; Survey Data (2019)

Where

V1 = Transparency in governance
V2 = Rule of law in good governance
V3 = Effectiveness and Efficiency in good governance
V4 = Accountability in good governance
V5 = Good governance

****P<0.01 is significant**

Meanwhile, Table 5 shows the Regression Analysis predicting the effect of corporate governance on audit performance in Osun State. It also shows the contributory effects (shown from the values of their slope) of these composite variables of corporate governance on audit performance in Osun State. The R^2 Value of.321 reveals that 32.1% of audit performance in Osun state can be accounted for by the variables of good governance. It is however observed that analysis of variance (ANOVA) for the regression is not significant (P>0.05) indicating no significant effect of good governance on Audit performance in Osun state. Thus, null hypothesis is accepted.

Furthermore, the Multiple Regression Analysis reveals the slopes(b) value for each of the composite variables of corporate governance. It simply denotes that Transparency of governance has -.012 effect contribution to Audit performance while Rule of law has .162 contributions to Audit performance in Osun State and so on. Therefore, the model predicts Audit performance in Osun State occasioned by corporate governance thus:

Table5: Multiple Regression Result

	Unstandardized Coefficients		**Standardized Coefficients**	
Predictor	**B**	**Standard Error**	**T**	**Sig**
(Constant)		.583	4.673	.000
V1	-0.12	.186		.949
V2	.162	.161		.323
V3	.210	.181		.255
V4	-.398	.232		.099
V5	.344	-.228		.143

R = .567, R^2 = 0.321, Adj R^2 = 0.104, F (2,495) = 147.80

Where

a = Intercept
b = Slope
V1 = Transparency
V2 = Rule of law
V3 = Effectiveness and Efficiency
V4 = Accountability

V5 = Good governance

a. Conclusion and Recommendations

It is crystal clear that no significant effect of corporate governance on public audit performance in the public sector as empirically reflected in the findings from the sample. The public sector audit performance should be made statutorily align with the strategic goals, yearnings, aspirations and expectations of the governed. Definitely, such a giant stride would stablise both political and social-economic environment and by extension improving the economic well-being of about 200million populace. The study recommends further research with a larger sample and that the legislative arm should perform its over-sight functions more effectively by enacting stringent laws capable of strengthening public audit performance to safeguard our commonwealth. Similarly, all 42 IPSAS issued by IASB with the financial support of World Bank and professional wizardry of IFAC should be wholly embraced by the Nigerian Public Sector for a better Nation.

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USE OF SoMoClo TECHNOLOGIES AMONG NIGERIAN PROFESSIONAL ACCOUNTANTS

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Abstract

The study identified social media, mobile and cloud (SoMoClo) technologies used among Nigerian professional accountants. We also assessed how the perception of professional accountants measured by two prominently validated proxies – perceived ease of use (PEOU) and perceived usefulness (PU)–influence their use of SoMoClo technologies. These were also moderated by age, gender, and experience. The study employed the use of an online survey and received 203 usable *responses. Use of SoMoClo technologies was measured using both self-reported use and self-reported intention to use assessed using the willingness, readiness and ableness (WRA) framework, which is a significant novel framework in the study. Using both descriptive and inferential statistics, results show that Nigerian professional accountants claim to be proficient in the use of SoMoClo technologies. However, it is noted that many of the prominently used technologies are foreign, implying that Nigerian professionally accountants are merely adopting technologies, and this has significant implications for the education of aspiring professional accountants and professional accountants. Additionally, results suggest that both PEOU and PU are significant predictors of use among Nigerian professional accountants in their professional capacities in line with previous studies in other climes. This provides insights into the development of emerging technologies for use among professional accountants. Constantly evolving disruptive and transformative technologies forges an incentive for professional accountants to constantly unlearn, relearn, initiate, adopt and adjust to emerging trends in the practice of their profession.*

Keywords: Perception, Professional accountants, SoMoClo, Technologies, Use

JEL Classification Code: M41; I25

1.0 Introduction

A professional accountant whose is unable to use emerging technologies with transformative and disruptive capacities is ultimately antiqued. Given this imperative to constantly learn, unlearn and relearn the use of technology, the study of how professional accountants can cope with the use of technology become an imperative for scholarly discourse. As we approach the second machine age, and the “war” against human workers, the behavioural intention to use (and use of) technologies by professional accountants is significant coupled with the recent reality of all sorts of virtual workspaces and bring your own device (BYOD) models. Specifically, the Coronavirus pandemic brought up the need for workplace restructuring such as the work from home (WFH) model and other such initiatives. These models hinged on the need for business sustainability and the going concern of global order despite apparent challenges relies significantly on the affordances of technological advances and offerings. Technologies are transforming the traditional role of professional accountants (Wessels, 2004) and will possibly replace some human workers (Guthrie & Parker, 2016). Technology use for accounting practice is evident in the way it has transformed accounting information systems (AIS), which by virtue of technology integration has become “faster, more accurate, more reliable, and able to process large volumes of transactions” (Wessels, 2004, p. 221). Based on the speed and applications of artificial intelligence (AI), quantum computing and cognitive computing amongst others, a significant concern emerges – can Nigerian professional accountants use basic technologies? This primarily motivated the study to assess the use of social media, mobile and cloud (SoMoClo) technologies among professional accountants. As more developed economies await the release of more precise AI systems and other disruptive technologies, Nigerian professional accountants must ask themselves about their preparedness for the future of work based on their intention to use current technologies. SoMoClo technologies, although appear simple, are shaping businesses globally, and have become a leveller of sorts for especially micro and small businesses. It is therefore no gainsaying that professional accountants should actively engage their use for sustainable business practices to enhance the performance of their clients and employers(ACCA & IMA, 2015; Meall, 2016; Wessels, 2005). Perception, although with roots in psychology and sociology has assumed a place of primary significant in technology-based studies and theories. Perception is measured using two validated constructs of perceived ease of use (PEOU) and perceived usefulness (PU) as used in many technologies uses studies. It is significant to highlight that there are other measures of perception in technology-related studies, but these prominent ones are used.

The other sections of this study include literature review, methodology, findings and conclusion and recommendations.

2.0 Literature Review

2.1 **Conceptual**

SoMoClo was coined by the Aberdeen Group and it describes the interconnectivity, convergence, interaction and overlapping of social, mobile and cloud technologies (ACCA & IMA, 2015).

> While social, mobile and cloud technologies (‘SoMoClo’) offer great opportunities to continue the automation of processes, SoMoClo should not be seen simply as more automation. Nor is it merely about ‘mobilising’ or ‘socialising’ existing processes and putting them in the cloud. Instead, SoMoClo provokes a revisiting and questioning of all processes, which may have evolved in response to constraints that no longer exist. SoMoClo will be a crucial driver to evolving the role of the finance professional (ACCA & IMA, 2015).

Social media is gaining steady acceptance in formal organisations and used by corporate entities and governments. Social media is a form of hedonic IT (Qahri-Saremi & Turel, 2016) used mainly for networking and interaction (Khan, Kend, & Robertson, 2016). One of its dark sides is addiction leading to time wasting (Wellisz, 2016) and significant misuse among students (Khan et al., 2016). Social media studies among students (Hamid, Bukhari, Ravana, Norman, & Ijab, 2016; Hong et al., 2016; Khan et al., 2016; Lee, Chen, & Chan, 2017; Stainbank & Gurr, 2016), businesses (Agostino & Sidorova, 2017; Cawsey & Rowley, 2016; Dijkmans, Kerkhof, & Beukeboom, 2015; He, Wang, & Akula, 2017; Razmerita, Kirchner, & Nielsen, 2016; Zhang, Omran, & Cobanoglu, 2017) in politics (Kalsnes, Krumsvik, & Storsul, 2014) and others (Haustein, Sugimoto, & Larivière, 2015; Kaplan & Haenlein, 2010; Zhan, Sun, Wang, & Zhang, 2016) abound. However, its study among professional accountants in emerging economies is few.

Mobile technology can be viewed as infrastructure and platform and they include devices, operating systems, and applications. There is evidence of the increasing adoption of mobile devices in African countries (Adomi, 2005b; Stork, Calandro, & Gillwald, 2013) and mobile phones have diffused rapidly than technologies (Zhang, 2017). Notwithstanding a global mobile technology divide exist (Zhang, 2017). For example, mobile technology infrastructure and internet penetration and use (Adomi, 2005a) in Africa lags when compared to for example, North America.

Businesses are going mobile (Brandas, Megan, & Didraga, 2015) with many applications (apps). Significant features of mobile technology are mobility and portability (Liang, Huang, Yeh, & Lin, 2007). Other peculiar features include the compact nature of mobile devices, low cost of acquisition, and easy availability (Bakhsh, Mahmood, & Sangi, 2017). Significant advantages of the mobile environment is in its operational requirements which include fewer ICT skills requirement, less financial resources, and less reliance on electricity (Stork et al., 2013). These features may be responsible for the greater use of mobile devices among IT gadgets (Adomi, 2005b; Stork et al., 2013). The mobile environment coupled with cloud services allow synchronisation hence performance, environment and security challenges are overcome (Brandas et al., 2015).

Cloud computing represents the convergence of IT efficiency and business agility (Dimitriu & Matei, 2014; Marston, Li, Bandyopadhyay, Zhang, & Ghalsasi, 2011). Cloud technology is the removal of physical digital space and infrastructure. It requires a device that can be connected to a network. In addition, a software application does not necessarily need to be domiciled (downloaded) on a device. One of its major features is that it frees data and disk space and promotes increased demand for processing unit capacity. Cloud services are offered in many unique business models such as Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS), Software-as-a-Service (SaaS) and Business-Process-as-a-Service (BPaaS) and cloud services can be deployed in the form of public, private, hybrid and/or community clouds (ACCA & IMA, 2015; Akinwale, Akinwunmi, Olajubu, & Aderounmu, 2015; Brandas et al., 2015; Chang, Walters, & Wills, 2013; Gupta, Seetharaman, & Raj, 2013; Ramachandran, Sivaprakasam, Thangamani, & Anand, 2014; Sultan, 2011; Tarmidi, Rasid, Alrazi, & Roni, 2014).

Cloud technology is increasing regulatory frameworks from assurance stakeholders as well (Akinwunmi, Olajubu, & Aderounmu, 2016; Dimitriu & Matei, 2015). One prominent challenge to the adoption and use of cloud technology is trust (Akinwale O Akinwunmi et al., 2015) and the fact that the mechanisms of formal accreditation and audit in the cloud to ensure trust, do not exist yet and are still in discussion poses a more significant challenge (Huang &Nicol, 2013). Others include risk (Dimitriu & Matei, 2015), data security (data loss, privacy compromise, backups and recovery issues, legal ramifications, intellectual property theft, and system updates) and internet security vulnerabilities (Brandas et al., 2015; Sabi, Uzoka, Langmia, & Njeh, 2016). Belfo and Trigo (2013) identified external and compliance reporting and real time reporting as part of present challenges in accounting domain, which cloud service technology responds to with characteristics such as shared services, business process outsourcing and managed services (ACCA & IMA, 2015). According to Sultan (2011) and ACCA & IMA (2015) economic viability and efficiency are key benefits of cloud computing. Other benefits include cost-effectiveness and advanced security algorithms (Sabi et al., 2016), reduced payments for purchases and maintenance of hardware and software (Brandas et al., 2015; Dimitriu & Matei, 2015; Lau, 2015), increased productivity (Dimitriu & Matei, 2015), adaptability and mobility (ACCA & IMA, 2015). Cloud service for accounting and business has received generous attention in literature (Brender & Markov, 2013; Chang et al., 2013; Dimitriu & Matei, 2014, 2015; Gupta et al., 2013; Ionescu, Ionescu, Bendovschi, & Tudoran, 2013; Lau, 2015; A. Lin & Chen, 2012; Marston et al., 2011; Sultan, 2011; Tarmidi et al., 2014) and in education (Ramachandran et al., 2014; Sabi et al., 2016).

Mobile technology is liberalising the idea of the work place and space such that people have access to do official business even on the 'go', especially when combined with the possibilities that the cloud affords (Brandas et al., 2015). Needless to state therefore, that an enquiry into the competent engagement of a burgeoning technology tool by professional accountants has significant implications for accounting education policy, strategies and outcomes and invariably professional accountants and the profession. These arguments lead to the first research question:

RQ1: What SoMoClo technologies do Nigerian professional accountants use?

The construct accountants' training framework (ATF) consists of academic education and professional education, leading to qualifying as a professional accountant. A professional accountant is…

> an individual who achieves, demonstrates, and further develops professional competence to perform a role in the accountancy profession and who is required to comply with a code of ethics as directed by a professional accountancy organization or a licensing authority (IAESB, 2017).

The goal of accountants' training framework is to ensure that those entering (and those in) the accounting profession possess the professional competence and capability (Howieson et al., 2014) to function appropriately. To achieve this goal, quality assurance is one of the key methods used to ensure and guarantee the adherence to 'good practices' by educators.

The primary motivation for including perception as a significant variable in this study is because it considers the psychological and sociological personality of professional accountants. Perception is a significant variable for adoption and use of technology and is a significant variable in most technology related theories (Haynes, Briggs, & Copeland, 2008). Watty *et al.*, (2016) rhetorically questions the role of accounting faculty as 'innovators or inhibitors' based on their perception and use of educational technologies. The imperative of perception to this study is also built on the idea that technology use forges a human-technology relationship, which in turn bestows "agency, perception, and choice" (Hardré, 2016) on the human user. Perception is measured in this study using two validated constructs – PEOU and PU. Other validated constructs for the measurement of perception, include perceived enjoyment (Sun & Zhang, 2006), perceived benefit (Richardson, Dellaportas, Perera, & Richardson, 2013) perceived resources, perceived expenditure and perceived cost (Zhang, 2017).

Literature is rife with technology use studies (Ahadiat, 2003, 2005; Bankosz & Kerins, 2014; Bomhold, 2013; Dowling & Leech, 2014; Liang et al., 2007; Qahri-Saremi & Turel, 2016; Rivera, Gregory, & Cobos, 2015; Venkatesh, Morris, & Ackerman, 2000; Wang & Shih, 2009; Willis, 2016; T. C. Zhang et al., 2017), however, the difference that this study adds to literature is the use of the training framework of professional accountants, especially the differentiation and integration of academic and professional accounting education.

The relevance of the ATF and perception to use of technologies birth the second research question:

RQ2: To what extent do perception and selected demographic variables (gender, age and experience) influence the use of SoMoClo technologies among Nigerian professional accountants?

2.2 Theoretical considerations

The Unified Theory of Acceptance and Use of Technology (UTAUT) was proposed as an alternative to eight (8) theories and models: Technology Acceptance Model (TAM), Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB), Combined TAM and TPB (C-TAM-TPB), Innovation Diffusion Theory (IDT), Social Cognitive Theory (SCT), Motivational Model (MM), and Model of PC Utilisation (MPCU) (Venkatesh, Morris, Davis, & Davis, 2003; Wang & Shih, 2009). This theory, which has since been cited as useful in explaining technology diffusion, acceptance and adoption (Bankole & Bankole, 2017; Zhang, 2017) and validated in literature (Wang & Shih, 2009) explains about 70% in variance of technology use behaviour/intention (Venkatesh et al., 2003). This makes it the theory with the highest explanatory powers in the field of technology use.

> The UTAUT suggests that performance expectancy, effort expectancy, social influence, and facilitating conditions are determinants of behavioral intention or use behavior; and that gender, age, experience, and voluntariness of use have moderating effects in the acceptance of IT (Wang & Shih, 2009).

Although the UTAUT gained wide acceptance, it has been discovered to be limited as it has been revised. There is a UTAUT2 (Macedo, 2017; Morosan & DeFranco, 2016) and the original UTAUT has been modified to account for cultural dimensions in ICT innovations (Bankole & Bankole, 2017) and has been amply modified in other studies (Alshehri, 2012; Wang & Shih, 2009).

The Diffusion of Innovation Theory (DIT), which is a traditional theory provides a classical framework (Zhang, 2017) forged by five constructs of relative advantage, compatibility, complexity, trialability, and observability (A. Lin & Chen, 2012; Zhang, 2017) and has appeared widely in literature (Kanellou & Spathis, 2013; Lin & Chen, 2012; Ram, Corkindale, & Wu, 2013; Tarmidi et al., 2014; Wang & Shih, 2009). This theory is tested by five variables namely, perceived attributes of innovation, type of innovation decision, communication channels, nature of social system, and change agents' promotion efforts. DIT, although first studied by French sociologist Gabriel Tarde, was developed by Everett Rogers in 1962 after an extensive study of more than 500 diffusion studies (Bhattacherjee, 2012). This theory has received different permutations of nomenclature such as Diffusion of Innovation (DOI) (Kanellou & Spathis, 2013; Sabi et al., 2016), Innovation Diffusion Theory (IDT) (Bhattacherjee, 2012; Wang & Shih, 2009), Individual Innovativeness Theory (IIT) (Adejuwon, Ilori, & Taiwo, 2016) and DIT (Lin & Chen, 2012; Zhang, 2017). Evidence suggests that technology diffusion has been slow-paced in many developing nations, but for the introduction of mobile devices (Sabi et al., 2016). DIT is limited, because for example it does not capture the behavioural aspects that affect individual willingness to adopt any innovation (Sabi et al., 2016).

The Expectancy Theory of Motivation (ETM) developed by Victor Vroom in 1964 and hinged on four significant variables of individual effort, individual performance, organisational rewards/work outcomes and personal goals (Ferris, 1977; Parijat & Bagga, 2014) as well as Expectancy Disconfirmation Theory (EDT) with roots in marketing research are other theories that explain motivation for use. Both ETM and EDT have been used to identify key variables that influence use of technology.

TAM, which is from social psychology and was specifically adapted from the Theory of Reasoned Action (TRA) to apply to the information system fields (Rivera et al., 2015; Sabi et al., 2016) is another theory that has received wide mention in literature and has been used side-by-side with DIT (Sabi et al., 2016; Zhang, 2017). TAM is credited to the works in which Davis authored and co-authored in 1989 (Zhang, 2017) although other views suggests that TAM was proposed in 1985 (Sabi et al., 2016) and first appeared in Davis' doctoral thesis of 1985 (Uthman, Ariyo, Abdul-Baki, & Mohammed, 2014). TAM is constantly being reviewed, because it does not address some of the features of modern technology diffusion and acceptance (Sabi et al., 2016), and it is limited by its account of IT infrastructure availability and competence in the form of perceived ease of use, perceived usefulness, attitude towards use and intention to use (Watty et al., 2016). It is also based on utilitarian approach (Rivera et al., 2015). TAM has been reviewed giving birth to TAM 2, which is an extension of TAM by the inclusion of two processes namely the Social Influence Process (SIP) and the Cognitive Instrumental Process (CIP) (Ogundeji, Oluwakayode, & Tijani, 2014) and TAM 3 (Venkatesh & Bala, 2008).

It is also noteworthy that TAM only explains about 40% to 50% of technology acceptance (Ogundeji et al., 2014). Notwithstanding, TAM and its counterparts TAM 2 and 3 have received wide mention in literature as significant explanatory theories of technology use (Bankole & Bankole, 2017; Gallego, Bueno, & Noyes, 2016; Gupta et al., 2013; Merello-Gimenez & Zorio-Grima, 2016; Ogundeji et al., 2014; Ramachandran et al., 2014; Tarmidi et al., 2014; Venkatesh et al., 2000; Wang & Shih, 2009; Watty et al., 2016; Zhang, 2017). Most studies that have used TAM measure usage through intention to use rather than actual usage (Watty et al., 2016) and it may be important to agree that actual usage of technology may be difficult to measure. The use of technology is becoming mandatory for professional accountants (Birt, Wells, Kavanagh, Robb, & Bir, 2018), making acceptance of its use somewhat mandatory. This is a significant limitation making TAM inadequate for this study.

For learning and knowledge theories, the Legitimation Code Theory (LCT) has been used to explain students' learning perception (Myers, 2016) and the curriculum theory, which has been used to explain the differences between explicit and hidden curricula (Lubbe, 2016). The curriculum theory explains the influence of curriculum design and delivery pedagogy on students' comprehension and performance.

2.3 Empirical

Social media studies abound (Agostino & Sidorova, 2017; Cawsey & Rowley, 2016; Dijkmans et al., 2015; Hamid et al., 2016; Haustein et al., 2015; He et al., 2017; Kalsnes et al., 2014; Stainbank & Gurr, 2016). Works on mobile technology in many empirical researches include studies on devices such as Smartphone (Bankole & Bankole, 2017; Bomhold, 2013; X. Zhang, 2017) mobile broadband (Jamaluddin, Ahmad, Alias, & Simun, 2015), iPods (Richardson et al., 2013). Mobile and cloud technologies have received significant attention in literature among accountants, while social media has been apparently less linked, probably due to accountants' unwillingness to be 'exposed' (ACCA & IMA, 2015). Tarmidi *et al.* (2014) examined the level of cloud technology awareness and adoption among accounting practitioners in Malaysia and found significantly low levels of awareness and competence. Sutton *et al.* (2016) studied the application of AI techniques to support accounting decision making by accounting educators. Many of these studies do not address use practice of technologies among professional accountants and only few in the accounting domain.

Significant studies of technologies among accountants (Ahadiat, 2003, 2005; Damasiotis, Trivellas, Santouridis, Nikolopoulos, & Tsifora, 2015; Humphrey & Beard, 2014; Kearns, 2016; Lin, 2008; Tarmidi et al., 2014; Watty et al., 2016) have been solitary and are not related to professional accountants in emerging economies.

General technology use studies among accountants abound (Ahadiat, 2005; Belfo & Trigo, 2013; Boulianne, 2014; Bradbard, Alvis, & Morris, 2014; Dijkmans et al., 2015; Kaplan & Haenlein, 2010; Khan et al., 2016; Lee et al., 2017; Ragland & Ramachandran, 2014; Ramachandran Rackliffe & Ragland, 2016; Watty et al., 2016; Webb & Chaffer, 2016) but these studies on the combination of SoMoClo technologies have been solitary and are not related to professional accountants in emerging economies. For example, Bradbard *et al.* (2014) studied management accountants' use of electronic spreadsheet and Watty *et al.* (2016) studied educational technologies in higher education. There are studies that have combined two of the SoMoClo technologies, such as studies on social media and mobile (Zhang et al., 2017), and cloud and mobile (Brandas et al., 2015); both studies are not in the accounting domain. Focus of technology adoption and use studies have been on IT expertise, cost of adoption (Uthman et al., 2014), benefits and challenges (Dimitriu & Matei, 2014; Okolie & Taiwo, 2014; Wellisz, 2016), and sustainability in business (Kanellou & Spathis, 2013; Lin & Chen, 2012).

More than thirty (30) years ago, an important study reviewed the impact of new technology on accounting education and how training can be used to ensure that students learn how to use new technology (Shaoul, 1988). Apart from the *out datedness* of the study, although the study named some existing technologies such as e-mails, social media and mobile technology, its focus was on the educational value of technology. Many of the studies that have assessed the relationship between training and use of technology have limited their factoring to level of education, that is between and among educated and non-educated, degree holders and non-degree holders, those that received formal education, non-formal education and informal education (Ahadiat, 2005; Chaffer & Webb, 2017; Gammie, Cargill, & Hamilton, 2010; Tarmidi et al., 2014). In addition, their factoring of education/training was within other variables, such that they were used as cross-tabulations for more "cogent" independent variables. The accountants' training framework construct of this study is therefore significant owing also to the fact that it is treated as an independent variable.

Perception has been found to be a significant predictor of technology use. Students' perception for example, is established in literature as a significant variable in skills development (Bui & Porter, 2010; Khan et al., 2016; Mushtaq & Khan, 2012; Richardson et al., 2013; Sabi et al., 2016), and has been used as a predictor for technology use (Alshehri, 2012; Bakhsh et al., 2017; Sun & Zhang, 2006; X. Zhang, 2017) . From the reviews of Rivera *et al.* (2015), perception as with PEOU and PU were found to be significant for mobile technology adoption. Age and gender were significant varying factors in most studies. Ahadiat (2005) for example found gender and age to be significant explanatory factors for use of technology.

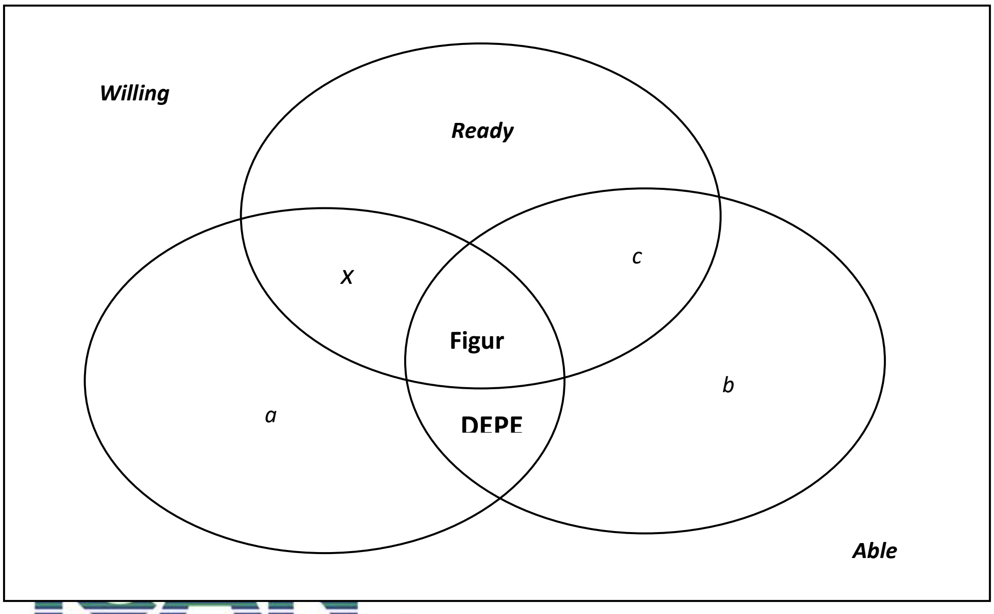
Perception studies in accounting is pervasive, bordering on technology use (Humphrey & Beard, 2014; Ragland & Ramachandran, 2014; Ramachandran Rackliffe & Ragland, 2016; Richardson et al., 2013; Worrell, Bush, & Di Gangi, 2014), accounting education and practice (Ali, Kamarudin, Suriani, Saad, & Afandi, 2016; Howieson et al., 2014; Steenkamp & Baard, 2009; Stivers, Onifade, & Reynolds, 2011) and the accounting profession (Hamilton, 2013). Richardson *et al.* (2013) assessed students' learning experience based on a perception of benefits derivable from the use of iPod. They found that the most significant motivating factor was the portability of the device.

3.0 Methodology

The survey research design was adopted. The use of Google Forms, a cloud-enhanced survey manager was premised on the study's focus on use of technology and efficiency and convenience that online surveys afford (Sabi et al., 2016). Although the use of cloud-based survey has received attention in literature and has been upheld for the ease it affords, its major challenge especially in economies with IT infrastructural deficit remains that of response rate. This study captured a group of SME and/or key informants – members of any or both of ANAN and ICAN.

The survey starts with an introduction of the researcher, the research thrust, confidentiality notification and respondents' responsibility and consent. The questionnaire included validated items and scales from literature (Ahadiat, 2005; Boulianne, 2014; Jamaluddin et al., 2015; Richardson et al., 2013; Stainbank & Gurr, 2016; Venkatesh et al., 2000; Wang & Shih, 2009).

Use of SoMoClo technologies were measured in two ways. First, a pointed question on the use of the technologies and secondly behavioural (intention to) use SoMoClo technologies measured using the tripartite concepts of willingness, readiness and 'ableness'. Venn diagram model of set theory was used to determine the behavioural intention (BI) for use. Points (*p, q, and r*) represents possession of any of the three constructs without the other two, while each intersection (*a, b, and c*) showcases possession of any two combination without the third. The centre (*x*) is assumed to validate possession all three values, qualifying as "use" as shown in Figure 1.



Source: Author's construction (2019)

Perception was measured using two validated constructs – PEOU and PU. The measurement of accountants' training framework was limited to the dyadic variables of academic and professional education – academic qualifications and participation in IPD and CPD initiatives and modes. Despite the fact that literature has identified a positive and significant relationship between perception and use of technology (Bakhsh et al., 2017; X. Zhang, 2017), this study differs and is a significant contribution, because it is done in a professional accounting domain.

For data analysis logistic regression was applied, given that the dependent variable is measured as a binary variable while the independent variables are both categorical and continuous (Olubusoye, 2016).

The use of SoMoClo technologies ($SoMoClo_{Use}$) is the dependent variable. The independent variable is the Perception (PCT), while gender (GD), age (AG) and experience (XP) are moderating variables.

The model for the logistic regression analysis is stated as:

$$SoMoClo_{Use} = f(PCT)$$

$$PCT = PEOU + PU$$

The extended version of the model is given as

$$SoMoClo_{Use} = \beta_0 + \beta_1 PCT + \beta_2 GD + \beta_3 AG + \beta_4 XP + \varepsilon$$

Figure 2: Multidimensional Measurement of 'Use'

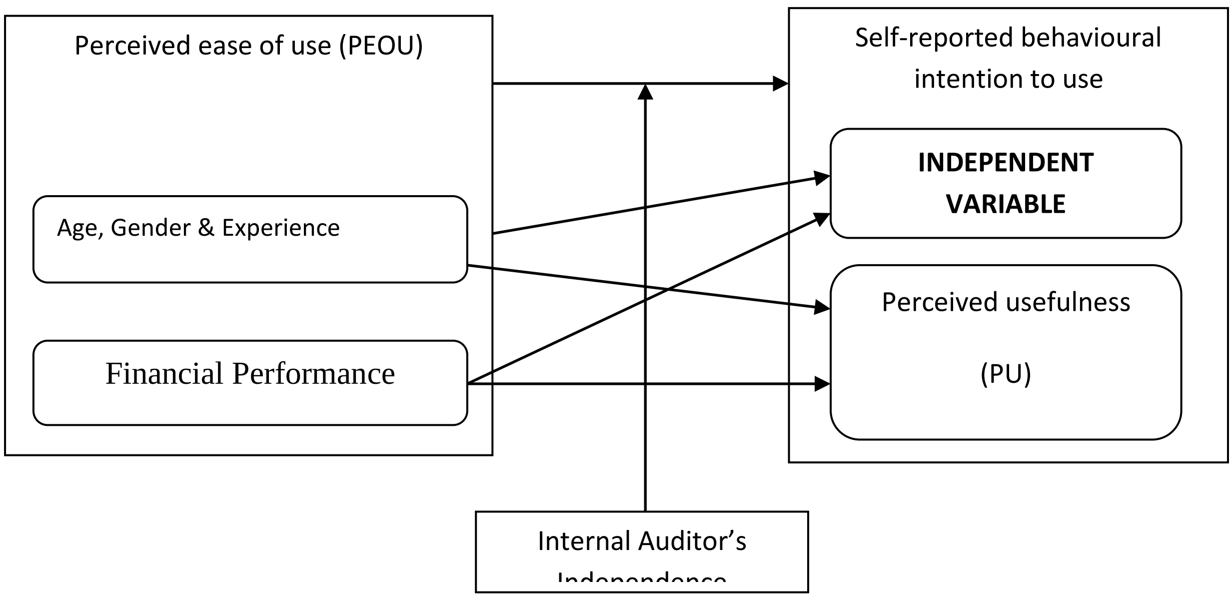


Figure 3: Framework for analysis

4.0 Findings

Use of SoMoClo technologies among professional accountants

The study presents results to gain insight into the environment where Nigerian professional accountants work. This is conceptualised as the institutional adoption of technology. Most of the respondents, that is, 163 (80.3%) specified that their organisation operated both manual and automated systems, while 35 (17.2%) respondents claimed to work in organisations that were fully automated and the remaining 5 (2.5%) respondents claimed that they worked in fully manual organisations as shown in Table 2.

Table 1: Statistics of institutional adoption of technology

Variables	**Frequency**	**Percent**
Process automation adoption practice		
Operates both manual and automated systems.	163	**80.3**
Operates a fully automated system.	35	**17.2**
Operates a fully manual system.	5	**2.5**
Total	**203**	**100.0**

Variables	**No Freq. (%)**	**Yes Freq. (%)**	**I don't know/Not applicable Freq. (%)**	**Total Freq. (%)**
Social media adoption practice				
One (or more) dedicated social media platform(s) for communication	23 (11.3)	172 (84.7)	8 (3.9)	**203 (100.0)**
Use of any social media platform for in-house communication	76 (37.4)	107 (52.7)	20 (9.9)	**203 (100.0)**
Allows the use of popular social media platforms for clientele and third-party communications	59 (29.1)	118 (58.1)	26 (12.8)	**203 (100.0)**
Mobile technology adoption practice				
Allow "Bring Your Own Device" (BYOD) policy.	74 (36.5)	111 (54.7)	18 (8.9)	**203 (100.0)**
Use of a particular type of mobile device	112 (55.2)	60 (29.6)	31 (15.3)	**203 (100.0)**
Provides a particular mobile device to staff for official use	96 (47.3)	82 (40.4)	25 (12.3)	**203 (100.0)**
One (or more) dedicated mobile application(s)	47 (23.2)	134 (66.0)	22 (10.8)	**203 (100.0)**
Cloud technology adoption practice				

Subscribes to at least one cloud service	40 (19.7)	138 (68.0)	25 (12.3)	**203 (100.0)**
Allow staff to access office database off the premises.	75 (36.9)	106 (52.2)	22 (10.8)	**203 (100.0)**
Allow staff to store official document in the personal cloud	121 (59.6)	55 (27.1)	27 (13.3)	**203 (100.0)**

Source: Field survey, 2019

Social media adoption practice was measured using three items of (1) availability of at least one dedicated social media platform, (2) use of any social media platform for in-house communication and (3) use of popular social media platform for clientele and third-party communications and results showed (84.7%, 52.7% and 58.1%) respectively. This points to a gradual acceptance of popular social media for both in-house and third-party communications. While the use popular social media may be convenience for employees, IT risks are high.

For mobile technology, results showed that 54.7% of respondents claimed to work in organisations that allowed the BYOD policy. Organisations where more than 70% of the respondents worked did not require a specific mobile device type. 40.4% of respondents worked in organisations where staff are provided with a particular brand of mobile device for official assignments. 66.0% of respondents worked in organisations that had at least one dedicated mobile application.

68% of the respondents reported that organisations subscribed to at least one cloud service, while many also has access to work database off the premises. Finally, only few of the respondents (27.1%) worked in organisations such that allowed staff to store official document in their personal cloud.

It is necessary to posit that evidence suggests a trade-off between security and convenience and technology users are initially inclined to choose a convenient option as against a secure option (Kim & Park, 2012; Weir, Douglas, Carruthers, & Jack, 2009). It appears from the data that some of the organisations were more concerned about security than the convenience of technology use of their staff. IT risk is real and as such it is not uncommon for organisations to guide their IT resources jealously.

Conclusively on both fronts of institutional general and SoMoClo technologies adoption, results showed a promise towards an ICT-driven workplace for professional accountants in Nigeria. This is also a good deal for providers of accounting education, such that the move towards blended learning driven by IT should become the norm and as occasioned by the impact of COVID-19. The current trends towards SoMoClo technology adoption challenges the competence of professional accountants, as well as the teaching and learning policies implemented by providers of accounting education and other educators and challenges the status quo.

Use of social media

Only 2.5% of the respondents claimed they do not use any social media platform in their professional capacity; they were among respondents who claimed to work in organisations that operated both manual and automated systems.

Among social media platforms claimed to be used by respondents, WhatsApp toped the chart, followed closely by LinkedIn and then electronic mailing. Few respondents claimed to use bespoke platforms developed by their organisation(s) and the results are shown in Table 3.

Table 2: Ranked statistics of the use of SoMoClo technologies

Social media		**Mobile apps**		**Mobile operating systems and devices**					**Cloud technology**	
					Frequency					
Platforms	***Freq.***	***Platforms***	***Freq.***	***Operating system***	***Phone***	***Tablet***	***PDA***	***Laptop***	***Platforms***	***Freq.***
WhatsApp	163	Payment System	145	Android	181	101	48	39	Google Drive	154
LinkedIn	154	Customer Service	43	iOS	20	17	7	10	One Drive	54
E-mail	121	Accounting Service	38	BlackBerry	14	6	3	2	DropBox	89
Facebook	98	Specialised apps	35	Symbian	0	0	0	0	Audit modules	10
YouTube	77	Document Entry	17	Java	1	1	0	2	Working papers	46
Skype	75	Don't use	39	Windows	10	27	42	156	SAP	12
Twitter	66			Other	0	0	8	5	NetSuite	2
Instagram	55			None	2	59	96	2	Bespoke service	7
Hangout	22								Box	1
Mendeley	14								Don't use any	22
SnapChat	10									
Bespoke	6									
WeChat	3									
Flickr	1									
Telr	1									
Don't use any	5									

Source: Field survey, 2019

The use of social media platforms require a level of communication proficiency, yet according to Simons & Riley (2014)there are concerns to the level of communication apprehension and proficiency among professional accountants. The level of use of these platforms among professional accountants may be related to their career success as suggested that “presence on SNSs [social networking sites] such as LinkedIn and the amount of activity therein has a strong and consistent association with metrics of professional success…” (Sainty & Nikitkov, 2014, p. 273).

Use of mobile technology

The preference for mobile technology as highlighted in literature is influenced significantly by its unique features such as mobility, portability, fewer ICT skills requirement, less financial resources, and less reliance on electricity, as well as its proximity as handheld (Adomi, 2005b; Bakhsh et al., 2017; Liang et al., 2007; Stork et al., 2013). Since the survey was disseminated using electronic mailing and online campaigns and given the increasing use of synchronised apps on mobile devices, it was expected that many of the respondents would use their mobile phones since only two (2) respondents claimed not to use a mobile phone. This is representative of the findings that “mobile phone is now the key entry point for internet use” (Stork et al., 2013)in many African countries.

The distinct measured use of mobile application among professional accountants showed that 39 (19.2%) respondents did not use any mobile application in their professional capacity. The most used mobile application was mobile payment system while the least used application apart from bespoke or employer-developed applications was automatic document entry.

Android is the most used mobile operating system. Although there is no consensus as to a Laptop being a mobile device, its claimed use was pervasive, and many ran the Windows operating system.

Mobile technology studies have focused more on students (Bomhold, 2013; Kutluk & Gülmez, 2014; Richardson et al., 2013), consumers (Liébana-Cabanillas, Sánchez-Fernández, & Muñoz-Leiva, 2014; Morosan & DeFranco, 2016) and other general users (Akinwale, Aworinde, & Adewale, 2016; Bankole & Bankole, 2017; Liang et al., 2007; Rivera et al., 2015; Zhang et al., 2017). Some works however studied the use of mobile devices and applications within professional domain, such as in the work place (Bankosz & Kerins, 2014; Brandas et al., 2015; Jamaluddin et al., 2015), however, these studies were not particularly linked to professional accountants.

Use of cloud technology

Google Drive was highlighted as the most used cloud service, while more than 10% of respondents claimed not to use any cloud service. In Malaysia there was evidence of low awareness of cloud technology among professional accountants (Tarmidi et al., 2014).

It appears from literature that the use of cloud service is gaining steady adoption and this results on the use of cloud technology by Nigerian professional accountants supports the growing rate of its adoption. Google suite appears to be the leading provider of cloud services used among Nigerian professional accountants in the study and it is instructive to state that the survey was powered by a Google product – Google Forms. The results also showed that organisations are beginning to build their own clouds, and this points to an adoption of the private cloud and/or hybrid cloud models. These models allow organisations to develop their infrastructure in line with their own peculiar needs.

Reciprocity and Correlations on the Use of Somoclo Technologies

A reciprocity statistic was computed for the use of SoMoClo technologies. The results showed that for social media and mobile application, there was a somewhat weak, statistically positive and insignificant relationship. For mobile devices and social media, the relationship was negatively weak and statistically insignificant. Social media and cloud service showed a positive correlation, albeit statistically insignificant. Mobile device and mobile application were expected to have a strong correlation, howbeit, it had a negatively weak and statistically insignificant correlation. In another relationship, cloud service and mobile application usage had a positive and statistically significant correlation. Finally, the relationship between the uses of cloud service and mobile device had a positive and statistically significant result.

Furthermore, a bivariate correlation was performed using the four items used to measure use of SoMoClo technologies and the ten items used to measure institutional adoption practices of SoMoClo technologies. The results are shown in Tables 4 and 5.

Table 3: Correlation statistics on the use of SoMoClo technologies

	Use of SoMoClo technologies	**Frequency**	**Percent**		
	No	53	26.1		
	Yes	150	73.9		
	Total	203	100.0		
		Use social media	**Use mobile application**	**Use mobile device**	**Use cloud service**
Use social media	Frequency	--	162	196	179
	Percentage		98.8%	99.0%	90.4%
	Spearman's rho		.165*	-.016	.054
	Sig. (2-tailed)		.019	.822	.443
Use mobile application	Frequency	162	--	162	152
	Percentage	81.8%		80.6%	83.1%
	Spearman's rho	.165*		-.049	.174
	Sig. (2-tailed)	.019		.491	.013*
Use mobile device	Frequency	196	162	--	183
	Percentage	97.5%	98.8%		100.0%
	Spearman's rho	-.016	-.049		.302**
	Sig. (2-tailed)	.822	.491		.000
Use cloud service	Frequency	179	152	183	--
	Percentage	97.8%	92.7%	91.0%	
	Spearman's rho	.054	.174	.302**	

Sig. (2-tailed)	.443	.013*	.000

Table 4: Reciprocity and correlation statistics on the use of SoMoClo technologies

Variables		Use of social media	Use of mobile app	Use of mobile device	Use of cloud service
At least one dedicated social media platform for communication.	SR	.102			
	Sig.	.148			
Allows staff to use any social media platform for in-house communication.	SR	.024			
	Sig.	.738			
Allows the use of popular social media platforms for clientele & third-party communications.	SR	-.022			
	Sig.	.757			
Allows "Bring Your Own Device" (BYOD) policy.	SR			.045	
	Sig.			.527	
At least one dedicated mobile application(s).	SR		.235**		
	Sig.		.001		
Expects staff to use a particular type of mobile device.	SR			.095	
	Sig.			.175	
Provides a particular mobile device to staff for official use.	SR			.504**	
	Sig.			.000	
Subscribes to at least one cloud service.	SR				.230**
	Sig.				.001
Allows staff to access office database off the premises.	SR				-.062
	Sig.				.379
Allows staff to store official document in the personal cloud of staff members.	SR				.072
	Sig.				.306
**. Correlation is significant at the 0.01 level.					
*. Correlation is significant at the 0.05 level.					

SR: Spearman's rho; Sig.: Sig. (Two-tailed)
Source: Field survey, 2019

Availability of at least one dedicated social media platform and use of social media was positive and statistically insignificant (r = .102, p = .148), and the allowance of any social media platform for in-house communication and use of social media was as well positive and statistically insignificant (r = .024, p = .738), while the allowance of use of popular social media platforms for clientele and third-party communications with use of social media was negative and statistically insignificant (r = -.022, p = .757).

The relationship between use of mobile technology and mobile technology adoption was measured using four items. One of the four items had to do with the use of mobile application and mobile application adoption, which showed a positive and statistically significant correlation (r = .235, p = .001). Other items had to do with the use of mobile device and institutional adoption of mobile devices. The correlation between the use of mobile devices and BYOD policy adoption was positive, but statistically insignificant (r = .045, p = .527), and the relationship between expectancy to use an exact type of mobile device and use of mobile device was also positive, but statistically insignificant (r = .095, p = .175). The item "provision of a particular mobile device for official use and use of mobile device had a positive, and statistically significant correlation (r = .504, p = .000).

Cloud technology adoption practices correlated with the use of cloud service resulted in a positive and statistically significant correlation (r = .230, p = .001) for subscription to at least one cloud service. The item on allowance of staff access to office database off the premises produced a statistically insignificant and negative correlation (r = -.062, p = .379) and the correlation between the last item that is, allowance to store official document in personal cloud with use of cloud service was positive, but statistically insignificant (r = .072, p = .306).

Predictability of PCT on use of SoMoClo Technologies

The dependent variable – use – was measured using two distinct models as highlighted earlier. Results of the binary logistic regression showed that the model were good, although better with the behavioural intention to use as the dependent variable. Both the Cox & Snell and Nagelkerke R Squares were better under the BI-use model.

Predictability statistics decreased from 73.9% to 73.4% with the use model but increased slightly from 79.3% to 80.3% for the BI-use model. The results of both models are presented in the equations below:

$$SoMoClo_{Use} = -3.352 + .341PCT + .698GD + (-.608)AG + .348XP$$

$$SoMoClo_{BI\_use} = -1.040 + .111PCT + .426GD + .332AG + (-.226)XP$$

Under the use model, only age had a negative βvalue (-.608), while only experience had a negative βvalue (-.226) under the BI-use model, asides the constant. Perception clearly has a significant effect on use of SoMoClo technologies as shown in the results. Gender also moderates the relationship well, noting also that the female gender is the reference.

The odds ratio (Exp(β)) and a 95% Confidence Interval for odds ratio (95% C.I. for Exp(β)) give more insight into the predictability results. The decision rule is that a variable with an odds ratio that is greater than 1 has a significant effect and when 1 emerges between the lower and upper bounds of the CI, then the variable is a significant predictor.

PCT under both models pass the significance test, while age and experience under the corresponding models do not. The overall regression result is shown in Table 6.

Table 5: PCT, GD, AG, XP Logistic regression results

Items and details			Use	BI_Use
Classification of response and equation (without independent variables)	Response (Yes)		150	161
	Predictability %		73.9%	79.3%
	β		1.040	1.344
	S.E.		.160	.173
	Wald		42.386	60.146
	df		1	1
	Sig.		.000	.000
	Exp (*β*)		2.830	3.833
Omnibus tests of model coefficients	Chi-square		4.928	16.130
	df		4	4
	Sig.		.295	.003
-2 Log likelihood			228.192[a]	190.855[b]
Cox & Snell R Square			.024	.076
Nagelkerke R Square			.035	.119
Hosmer and Lemeshow Test	Chi-square		2.313	6.975
	df		8	8
	Sig.		.970	.539
Classification of response and equation (with independent variables)	Response (Yes)		149	158
	Predictability %		73.4%	80.3%
PERCEPTION	β		.111	.341
	S.E.		.096	.106
	Wald		1.320	10.398
	df		1	1
	Sig.		.251	.001
	Exp (*β*)		1.117	1.406
	95% C.I. for EXP(*β*)	Lower	.925	1.143
		Upper	1.349	1.730
GENDER	β		.426	.698
	S.E.		.367	.417
	Wald		1.349	2.803
	df		1	1
	Sig.		.245	.094
	Exp (*β*)		1.532	2.011
	95% C.I. for EXP(*β*)	Lower	.746	.888
		Upper	3.144	4.554
AGE	β		.332	-.608
	S.E.		.324	.331
	Wald		1.049	3.379
	df		1	1
	Sig.		.306	.066
	Exp (*β*)		1.394	.544
	95% C.I. for EXP(*β*)	Lower	.738	.284
		Upper	2.631	1.041
EXPERIENCE	β		-.226	.348

	S.E.		.250	.262
	Wald		.813	1.757
	df		1	1
	Sig.		.367	.185
	Exp (β)		.798	1.416
	95% C.I.	Lower	.488	.847
	for EXP(β)	Upper	1.304	2.368
Constant	β		-1.040	-3.352
	S.E.		1.406	1.505
	Wald		.547	4.962
	df		1	1
	Sig.		.460	.026
	Exp (β)		.354	.035

[a]Estimation terminated at iteration number 4 because parameter estimates changed by less than .001

[b]Estimation terminated at iteration number 5 because parameter estimates changed by less than .001

Source: Field Survey, 2019

5.0 Conclusions and Recommendations

Technologies will continue to evolve, and this implies that for professional accountants to continue to remain relevant, they must constantly learn, unlearn, and relearn. Results showed that professional accountants are using SoMoClo technologies and training as well as perception plays a significant role in the use of technology. Perception as a significant factor needs to be attended to by developers of technologies especially ease of use and usefulness variables. Providers of accounting education may no longer undermine the place of technologies as embedded learning goals.

It is recommended that a standard policy on technology training for aspiring professional accountants and professional accountants should be developed in a collaboration with tertiary institutions, professional accounting bodies and other stakeholders. This will ensure that professional accountants are able to use modern technologies for efficiency and productive sustainability.

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HUMAN RESOURCE ACCOUNTING AND PROFITABILITY OF DEVELOPMENT BANKS IN NIGERIA

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Abstract
Human resource accounting has been brought to fore in recent time particularly when the economy of the world has drifted to the knowledge-based economy where intellectual capacity, creativity and skills are surrogates that drive organisational success. Studies focusing on development banks in Nigeria have not been fully explored and needed further enquiry. Hence, the study assessed the effect of human resource accounting on the profitability of development banks in Nigeria. Data were collected from the annual reports and management accounts of the sampled banks spanning 2012-2019. The research design adopted was an ex-post facto. The population of the study was all 6 (six) development banks in Nigeria and a purposive sampling technique was used to select five (5) development banks in Nigeria. Descriptive statistics, Correlation and OLS regression methods were used for data analysis. The correlation results revealed that salaries and wages, employees' benefits, have negative relationships with profitability, staff training and development and directors emolument have positive relationship with profitability but only significant for directors' remuneration, and insignificant for staff training and development at 0.05 level. The regression results showed that human resource accounting explained about 54% variation in the profitability of development banks in Nigeria but increased to 61% when control variable was introduced. The study concluded that both staff training and directors' emoluments have potential to increase performance of development banks in Nigeria. In view of these results, it was recommended that staff should be well compensated for improved performance; ensure relevant training and retraining of staff, and sustain payment of good packages to the directors in a bid to mitigate agency conflicts.
Keywords: Development bank, employees' benefit, human resource accounting, profitability, staff training

JEL Classification Code: M41

1.0. Introduction

As observed in the available literatures, accounting for human resource continues to generate a lot of debates by both accounting scholars and practitioners. The interest shown by scholars led to many researches being conducted on the subject which opened way to its development. Human resource accounting passes through many developmental stages before reaching its current status; and this trend is expected to continue until is universally accepted and applied as wide as possible.

Initially, the idea of recognising human resources as assets seems impossible. This is due to the fact that human beings are only hired for production purpose and paid accordingly without much consideration on improvement and development of the workforce. Entrepreneurs and proprietors of businesses hire and fire at will without attaching value to the human asset. For these reasons, it was difficult to convince people that human resource or employees are assets to organisations since its ownership cannot be owned or controlled as enshrined in the International Accounting Standards (IAS 38, Intangible asset). Furthermore, Ogenyi and Oladele (2015) were of the views that, recognition of human resource as asset violates the asset recognition criteria.

There is now a paradigm shift from the economy of the old that was manufacturing-based to the knowledge-based economy (Chukwu, Ugo & Osisioma, 2019). The knowledge-based economy became necessary as a result of globalisation, dynamic business environment, accelerated growth and massive deployment of technology to drive organisation success.With this, creativity, skills, knowledge and intellectual capacity became surrogates to coordinate other resources for optimal performance (Akintoye, Siyanbola, Adekunle & Benjamin (2018). In addition, Akindehinde, Enyi and Olutokunbo (2015) assert to the fact that human beings constitute the most critical asset as they drive the resources of an organisation to achieve success. Workers may not be owned as such, but the convention of substance over form postulates that what matter in transaction are the economic substance and not the legal form. Oyewo (2013) points to the fact that leased assets are recognised in the books despite the fact that they are not owned. The matching concept of accounting seems to be violated because expenditures in human capital are made with intention of providing beyond the current period (Ijeoma, 2015). This position was reinvigorated by Gbalam and Nelson (2020) that human asset produce returns over an extended period of time over the years.

Entities acknowledge in their slogan that members of staff are their greatest assets. To be specific, Atedo's report as Cadbury Nigeria Plc Chairman alluded to the fact that "in Cadbury Nigeria Plc., our people are our number one asset". Further to this, Dangote Plc. affirms that "the company continues to place premium on its human capital". Akintoye *et al*., (2018) assert that directors of Fan Milk, Ghana, and PZ Ghana applauded the invaluable contributions of management and staff that led to the sterling performance achieved in their organisations. With these comments and remarks, it presupposes that human asset is paramount to the success of any organisation.

Robbins (2001) as cited in Nangih, Obuah, Wali and Turakpe (2020) observe that, major distinction between a successful and failed organisations depend on the quality of people they are able to get and retain. However, getting quality people are not without costs such as reward for labour in form of wages and salaries, enhanced staff benefits, training and development and enhanced directors' benefits. All these costs constitute a major component of recurrent costs in the financial statement. Despite these huge proportion of shareholders' wealth that are committed to payment of these costs, it appears that improvement in profitability is not yet guaranteed as corporate failures are yet to abate among corporate organisations.

Review of extant literature has shown that an increasing number of studies have been conducted on human resource accounting over the past years not only in Nigeria but all over the world linking the variable concept to organisational performance, financial performance, profitability, valuation and quality of financial reporting using listed Deposit Money Banks (DMBs) like Access bank Plc., Zenith bank Plc., First bank Plc, Fidelity bank Plc, FCMB Plc as a domain focus. Most of these studies are relevant to the present work in the sense that it touches on the similar variables of investigation and provides clue for this study. Despite research studies being conducted on this topic, it is expedient to state that there exists a domain gap as previous researchers only focussed on DMBs.

The present study addresses the limitation in the “domain” of various researchers by extending the discourse of human resource accounting to Development Financial Institutions (DFIs) in Nigeria rather than only Deposit Money Banks (DMBs) that have been so much talked about. Furthermore, there have been mixed findings among researchers whether human resource accounting has effect on the profitability of banks or not. These conflicting positions therefore give room for further research. The main objective of this study was to assess the effect of human resource accounting on the profitability of development banks in Nigeria with specific attention to human resource costs, such as salaries & wages, staff training & development, employees’ benefits and directors’ emoluments as area scope.

The outcome of this paper was envisaged to assist the management of development banks to put additional efforts towards the development of their human assets, see clearly the link between human resource costs and profitability of banks especially in the area of staff costs and serve as eye opener for corporate policy makers regarding better result oriented means of compensating their human assets.

2.0. Conceptual Review

2.1 Profitability

Tulsian (2014) brings to fore that the word “profitability” consists of two words, namely, profit and ability. While the profit connotes the power of a business entity to earn profit, the ability denotes the earning power. Hence, profitability is explained as the ability of an investment to earn returns from its asset. Profit is an absolute means of earning capacity while ability connotes a relative measure of earning capacity (Nishanthini & Nimalathasan, 2013). Oshiole, Elamah and Ndubuisi (2020) refer to profitability as a left over when the expenses for the period are charged against the revenues of same period. As posited by the work of Onyam, Usang and Enyisi (2015), profitability represents the degree by which business activities yields financial gains. Without profitability, the business cannot survive in the long run.

All staff costs comprising of staff salaries and wages, Staff training and development, employees’ benefits, directors’ emolument and other staff related expenses contribute immensely to the factors that could determine the profitability of firms. For instance, Nangih*et al*. (2020) state that if remuneration is poor, it becomes constant source of strive and frustration. With this, productivity tends to diminish which in turn affect the profitability by extension. Asika*et al*. (2017) submit that when salaries and wages of staff are increased, it spurs motivation to do more and hence influence organisational profitability.

Furthermore, organisation exists for a common goal and this cannot be realised if people do not have the requisite education, training and development. By so doing, human capital theory explains that when staff are trained and developed, it sharpens cognitive stock that will add enhance productivity and by extension translate to the profitability of the firm. Inua and Oziegbe (2019) were of the view that board of directors perform the task of monitoring, supervising and other oversight functions to mitigate agency conflict. Hence, remuneration is broadly used as incentive that will enable better supervision. If firms are well supervised, it blocks some revenue leakages which must have impacted negatively on the profitability.

2.2 Human Resource Accounting (HRA)

Various authors and bodies have defined and explained human resource accounting in different ways. American Accounting Association (1973) defines HRA as a way of identifying, measuring data relating to human resource and communicates such information to the related party with the purpose of making decisions. Flamholtz (1999) expresses a similar view that HRA involves the measurement and reporting the cost and value of people in the organisation. Corroborating this assertion was the work of Suhasimi and Thirumagal (2019) that HRA is a process of measuring the cost of employees and considers them as core asset to the organisation.

Amirul, Kamruzzaman and Redwanuzzaman (2013) opine that HRA entails the art of valuing, recording and reporting the work of all human resources in accounts of the organisation. Supriya (2019) avers that HRA is the accounting methods, systems and techniques that assist management in the valuation of personnel in their knowledge, ability and motivation. From all these definitions, it could be deduced that HRA is not limited to measuring of data relating to employees alone, but also, cost and value. Staff costs are expenditures incurred by entities for its members of staff which form major components of an organisation running costs. Example of staff costs includes salaries and wages, training cost, employees' benefits and directors' emolument. However, all these costs vary in relation to staff strength of the organisation.

2.2.1 Salaries and Wages

From the perspective of Nangih*et al*. (2020), salaries and wages are expenditures incurred by entities for its members of staff. Further to this statement, salaries represent remunerations paid or payable to staff for work or services rendered on behalf of an employer. Such amount could be fixed amount of money on monthly and annual basis and different from wages which are on hourly basis. As pointed by Inua and Oziegbe (2018), staff salary consists of the amount paid to workers as wages and salaries, medical, welfare expenses, and expenses relating to post-employment defined. This submission clearly shows that staff cost are not only about salaries and wages alone.

2.2.2 Training and Development

Flamholtz (1999) affirms that success of any organisation depends on its intellectual capabilities rather than its physical assets. For production of goods to be actualised, it involves the use of skills, talents and knowledge of people. Employee training has been perceived as a way in which an organisation enhances the quality of both existing and new staff in a bid to improve the operational excellence of a firm; Employee development refers to activities leading to the acquisition of new knowledge or skills for the purpose of growing capabilities (Nda&Fard,

2013). Since employees constitute backbone of an organisation. Joel and Kelly (2017) were of the submission that training and development will assist the organisation and employees in attaining diverse goals. When employees are trained, it improves productivity and in turn enhances the profitability of the organisation (Nangih*et al*., 2020).

Yusuf, Mohammed, Sanni, Ale and Jimoh (2018) were of the views that dearth of training lowers efficiency and hence have impact on the profitability of a firm. As posited by Youngsang and Robert (2013), training constitutes an important management practices that are used to achieve firm performance. Therefore, charging expenses on training and development of human resources to the current period's profit and loss account tends to understate profits, overstate losses and concealing the net worth of a firm (Edom *et al*., 2015).

2.2.3 Employees Benefits

Ekere and Amah (2014) aver that employees' benefits form a major part of compensation package to the employees and play a major role in employees' choice of employment and the desire to remain on the job. Continuing, Employee benefits is defined as any form of compensation provided by the organisation other than wages and salaries that are paid in whole or in part by the employer. This is done to improve workers retention across the organisation. As captured in the work of Stalmasekova, Genzorova and Corejova (2017), employees benefits spur motivation and could be social in nature, benefits of work nature and benefits associated with position.

2.2.4 Directors Emoluments

Inua and Oziegbe (2019) explain that board of directors is considered as one of the pillars of corporate governance because it ensures that the interest of stakeholders are protected and guaranteed. This body performs the duty of monitoring and supervising the activities of the Chief Executive Officer in a bid to ensure that shareholders interests are protected (Makhlouf, Laili, Busah& Ramli, 2017). To perform this duty, Mohd, Josephine and Akmal (2018) point to the fact that remuneration is used as incentives for effective performance that may impact firm profitability. Director cost consist of travelling costs, board expenses, sitting allowances and other allied costs.

2.2.5 Staff Strength

Stanko, Zeller and Melina (2014), notice that organisation may have all the world's information and machinery, but it would be useless without the right people to convert them into production. Inua and Ozeigbe (2018) infer that staff represents backbone of any organisation and the strength they have assist firm to operate efficiently and effectively. The success of failure of a firm could be influenced based on the quality of staff. Edom, Inah and Adanma (2015) opine that staff strength allows companies to stay financially solvent and have competitive advantage above others. The success of a firm is extremely dependent on its human resource. Scholars like Inua and Ozeigbe (2019) and Chukwu, Ugo and Osisioma (2019) measures staff strength as number of staff disclosed in the annual report.

2.3 Interaction between Human Resource Accounting and Profitability

It has been observed with displeasure in some quarters that while every factors of production like land, capital and entrepreneur are accounted for in the financial statement, labour is not given much attention and hence its expenditure only represents periodic cost. What this supposed to mean is that all expenses relating to employees are sunk cost that have no future benefit.

Based on failure to capitalise human asset, Osemeke (2017) condemned in its entirety the idea of treating human capital as an expense. Other extant studies that condemn this idea are Eze (2016), Thomas (2016), Stanko *et al*. (2014) with a view that the idea of treating human capital as a periodic cost will understate the profit of the firm and the integrity of the financial statement. The figure that is reflected as net income is distorted in the sense that accountants treat all expenditures made to acquire and develop human resources as expenses during the period incurred. Furthermore, the balance sheet figure labelled as “total asset” is further distorted since it does not include organisation’s human assets.

Agbiogwu, Ihendinihu and Azubuike (2016), Ofurum and Adeola (2018) are of the opinion that non inclusion of human assets in the financial statement of companies creates difficulty in measuring the real profit of a company and thus reduce business value. The profit of any company is expressed in terms of net profit margin, return on capital employed or earning per share (Agbiogwu*et al*., 2016).

Akintoye (2012) and Akindehinde, Enyi and Olutokunbo (2015) subscribe to the fact that traditional accounting that merely expense human resource costs reduces profit which sub optimise financial reporting. Rather than holding to the imperfect conventions, accounting is expected to change with the present reality (Oluwatoyin, 2014). Failure to account for this valuable asset leads to profit erosion in the organisation (Suhasini &Thirumagal, 2019). Scholars like Oladele, Aribaba, Ahmodu and Omobola (2018), Abubakar (2011), Mohiuddin and Banu (2017), Idowu and Ajape (2019), Amiru and Redwanuzzaman (2013) subscribe to the fact that investment in human capital should be capitalised and amortised over their expected useful life.

Despite the huge resources committed on the acquisition, training and development of human resources, it has been painfully noted by Pradip (2018) that these expenses are wrongly reflected on the debit side of the profit and loss account. Furtherance to this, resources of this magnitude qualify for capital expenditure because of long benefits it offers to the organisation. Edom, Inah and Adanma (2015) are of the view that the net worth of a firm is concealed in the sense that profits are understated while losses are overstated since human efforts are merely recognised as salaries and wages. It has been brought to glare that some companies are still hesitant in bringing investment in the human capital to book as a result of a notion that such consume profit (Masuluke, 2018).

2.4 Theoretical Review

2.4.1 Human Capital Theory

The theory assumes that education and training enhance the productivity and efficiency of workers particularly the cognitive stock. The original idea of human capital theory could be traced to Adams Smith in the 18th century but made popular by Shultz (1961) and Becker (1964). This theory was applied in the studies of Chukwu, Ugo and Osisioma (2019), Akintoye *et al* (2018), Inua and Oziegbe (2018), Adebayo, Enyi and Adebawo (2015), Edom, Inah and Eyisi (2015). The studies submit that skills, knowledge and combined intelligence constitute cognitive stock. This theory is related to the present study because one of the human resource costs is investments in training and development. When the productivity of worker is improved, it enhances high productivity of banks.

2.4.2 Expectancy Theory

As put forward by Vroom (1964), this theory postulates that individual does certain thing in anticipation of reward. There are three variables at play under this theory. They are expectancy, reward and valence. Expectancy explains that if you work hard, you will be able to meet your target that has been set. This could be achieved through skills, experience and confidence on ability. Instrumentality explains whether hitting the target lead to reward while valence refers to the perceived value of the reward to the employee. The present study looks at rewards in term of salaries & wages, employees' benefits and investment in training and development. Other related works that used this theory include Nangih*et al*. (2020) and Akintoye *et al.* (2018). Both theories are relevant to human asset, but this paper is premised on expectancy theory as this theory espouses that individual does certain thing in anticipation of a reward.

2.5 Empirical Review

Nangih*et al*. (2020) examined the interconnectedness of staff costs and firms' profitability of listed oil and gas firms in Nigeria, using staff salaries, medical expenses and training costs as proxies. The study employed the use of descriptive, correlation and regression analysis tools, for the period 2013-2018. Data were gleaned from the annual reports of the sampled companies. The outcome of the study revealed that staff salaries have positive and insignificant effect on the profit margin while training costs enjoy statistical positive and significant effect on the profit margin. However, Employee benefits as measured by medical expenses have negative and insignificant impact.

Chukwu, Ugo and Osisioma (2019) examine the effect of human capital on the market value of banks in Nigeria using proxies of human capital related to remuneration and staff strength. The study was conducted using secondary data over a period 2010-2014. Running multiple regression analysis, result revealed that staff strength is not significantly but positively correlated with market value.

In Nigeria, Ofurum and Adeola (2018) investigated the relationship between human resource accounting and the profitability of 9 quoted service firms from 2011-2015. Staff remuneration was used as proxy for HRA. Data were sourced from the audited financial reports and analysed using OLS and correlation methods. The findings revealed that there is no significant relationship between staff remuneration and the profitability of the firms.

The study of Inua and Oziegbe (2018) assessed the effect of HRA on the performance of 18 quoted Deposit Money Banks (DMB) in Nigeria using annual reports of 2009 – 2017. Data were analysed though the use of regression estimation. The results confirmed a positive and significant relationship between staff cost, staff number and firm performance, while directors remuneration has a positive and insignificant relationship with the firm performance.

Yusuf *et al*. (2018) examined the impact of staff training on the organisational profit in Cyprus. The study used primary data only to collect needed information for the study. Through the use of Partial Least Panel (PLS), the result shows that no significant and negative link between the on the job training and the profitability of the organisation.

Abdulateef, Shawai and Ekundayo (2018) study assessed the effect of HRA on profitability of 5 listed DMBs in Nigeria covering time scope 2006 -2015. Data were sourced secondarily from the audited financial statements. Correlation and regression methods were adopted to ascertain the effect of explanatory variables (staff benefits, salaries & wages). The outcome of the study showed that staff benefits have positive and insignificant relationship with the profitability and salaries & wages have negative and significant relationship.

Asika, Chitom and Chelichi (2017) appraised the extent by which staff costs as indicated by staff salaries, number of staff and retirement benefits affect profitability of 10 DMBs in Nigeria. The study spanned from 2010-2014. Data were collected and analysed with t-test statistical tools. It was depicted form the study that staff salaries, staff number and retirement benefits have positive and significant relationship with organisational profitability.

Agbiogwu, Ihendinihu and Azubike (2016) investigate the effect of human resource cost on the profitability of First Bank Nigeria (FBN) and Zenith Bank (ZB) Nigeria Plc from 2010-2014. The study adopted linear regression model to test the stated hypotheses. Finding showed that staff cost significantly and positively affect profitability banks.

Edom, Inah and Adanma (2015) examined the impact of human resource accounting on the profitability of Access Bank Plc. in Nigeria covering time scope 2003-2012. Through the use of Ordinary Least Square (OLS), the result suggests positive and significant relationship between staff training &development while number of staff depicts positive and insignificant relationship with the profitability of the selected bank.

Okpako and Olufawoye (2014) determined the relationship between HRA and firm performance of 7 listed manufacturing and construction companies in Nigeria from 2006-2010. Primary and secondary data were used for the study. The parametric analysis results alluded to the fact that staff training & development, welfare impact significantly and positively on the firm performance.

Herdan and Szczepaoska (2011) examined the effect of directors' remuneration on company performance of listed companies on London Stock Exchange (LSE) and Warsaw Stock Exchange (WSE) in Poland and U.K. from 2007-2010. Data were collected from the annual reports of the companies and analysed with the aid of linear regression statistical tool. Result revealed that positive relationship was found to exist between director remuneration in both British and Polish companies and performance.

Hristos, Janto and Saeed (2007) explore the relationship between the directors pay and banking industry in Australia using panel data spanning 1992-2005. The outcome of inferential statistics shows absence of relationship between directors pay and Australian banks.

Webometric Analyses of Empirical Literature (see Appendix I)

2.5.1 Gap in Literature

The study of Nangih*et al*. (2020) did not consider other measures of human resource accounting. Furthermore, the work of Ofurum and Adeola (2018) only used one HRA indicator and did not measure the long run effect of HRA on the profitability of firms as the time scope was limited to 5 years. Hence, effort was made in the present study to accommodate more variables like directors' emoluments, employees' benefits, and staff strength to quantify the effects of HRA on the profitability of firms, and also cover a time scope of 8 years.

The study of Chukwu, Ugo and Osisioma (2019), Inua and Ozeigbe (2018), Abdulateef, Shawai and Ekundayo (2018), Okpako and Olufawoye (2014), though conducted in Nigeria are outdated because they did not consider the trend in HRA and profitability beyond 2014, 2017, 2015 and 2010 respectively. The present study extends the time scope to 2019 in a bid to reflect current happenings in the field of human resource accounting and profitability of firms. Furthermore, Asika, Chitom and Chelichi (2017)concentrated on short run relationship between HRA and the firm profitability and hence did not reflect current happening in HRA literature as it affects firms' profitability.

The outcome of findings of Agbiogwu, Ihendinihu and Azubike (2016), Edom, Inah and Adanma (2015) are narrow in scope and cannot be generalised. The former used two (2) DMBs (First Bank of Nigeria & Zenith Bank) while the latter used One (1) DMB (Access Bank) out of 21 DMBs in Nigeria. The closer the sample to the population, the closer,to the empirical truth (Afolabi, 1993).The present study used a population whose findings can be generalised by selecting 5 out of the 6 development banks in Nigeria.

The study of Yusuf *et al*. (2018), Herdan and Szczepaoska (2011), Hristos, Janto and Saeed (2007) were conducted in Cyprus, Poland, UK and Australia respectively. These studies did not consider Nigerian experience and hence, inapplicable. Thus, studies linking human resource costs to profitability of development banks in Nigeria seem to be scanty. This study therefore was an attempt to fill this gap by linking human resource costs to development banks in Nigeria. In view of the theoretical and empirical review, this study advanced a null hypothesis that there is no significant effect of human resource costs on the profitability of Development Banks in Nigeria.

3.0 Data and Methods

The study adopts *ex-post facto* research design using data from the audited annual financial reports for the period 2012-2019. The base year 2012 was the year development bank in Nigeria commenced preparation of financial statements using International Financial Reporting Standards (IFRs). Furthermore, there was no audited financial statement from the sampled banks beyond 2019 as at the time of carrying out this study. The population of the study comprised all 6 (six) development banks in Nigeria as at the time of this study. Five of this development banks were purposively chosen based on the availability of data. The banks are; Bank of Agriculture (BoA), Bank of Industry (BoI), Nigerian Export Import Bank (NEXIM), The Infrastructure Bank (TIB) and Development Bank of Nigeria (DBN). Data were not available for Federal Mortgage Bank of Nigeria FMBN) as at the time of concluding this study.

Descriptive statistics, Correlation and Ordinary Least Square (OLS) regression were used for the data analysis. However, control variable (staff strength) was further introduced to the regression analysis in a bid to determine its influence on the profitability of development banks in Nigeria. Furthermore, all variables were subjected to diagnostic (multicollinearity and heteroscedasticity) tests.

The model that was estimated in this work has profitability as dependent variable and established against the proxy of human resource costs (staff salaries and wages, staff training and development, employees' benefits and directors' emoluments). For simplicity, the model was estimated in form of linear equation as follows;

$LogPF_{it} = \beta + \log \beta_1 logSW_{it} + \beta_2 logSTD_{it} + \beta_3 logEB_{it+} \beta_4 logDE_{it} + e_{it}$............................. (1)

$LogPF_{it} = \beta + \log \beta_1 logSW_{it} + \beta_2 logSTD_{it} + \beta_3 logEB_{it+} \beta_4 logDE_{it} + \beta_5 logSS_{it+} e_{it}$............ (2)

Where: PF = Profit; SW = Salaries and Wages (SW); STD = Staff training and Development (STD); EB= Employees Benefits (EB); DE = Directors Emoluments (DE); SS= Staff Strength (SS)

The measurement of the variables were both adopted and adapted as follows:

Table 1.Variables measurement

Variables	Definition	Measurement	Source	Method of analysis	Outcome	A priori Expectation
PF	Dep.Variable	Log of Net Profit	Agbiogwu *et al.* (2016)		NA	NA
SW	Ind. Variable	Log of Salaries & Wages	Ofurun and Adeola (2018)	OLS & corr.	Positive	+

STD	Ind. Variable	Log: staff STD cost	Edom *et al*. (2015)	OLS	Positive	+
EB	Ind. Variable	Log of benefits	Nangih*et al*. (2020)	Reg. & corr.	Negative	+
DE	Ind.Variable	Log of Emoluments	Herdan and Szczepaoska (2011)	Linear reg.	Positive	-
SS	Control Variable	No of staff disclosed in annual report	Asika*et al*. (2017)	t-test	Positive	-

Source: Authors' compilation (2021)

4 Data analysis and discussions

4.1 Descriptive analysis

The descriptive statistics of the dependent and independent variables are reported below.

Table 2.Descriptive Statistics Results

Variables	Mean	Std. Dev.	Minimum	Maximum	Skewness	Kurtosis
Profit	3343058.97	16898395.16	-35394405	46883288	0.565	1.392
SW	2658498.32	2819886.68	290348	12098290	2.213	4.967
STD	394588.13	481046.41	6273	2021842	1.943	3.706
EB	414788	354268.23	5158	1381708	0.707	0.189
DE	123643.25	117137.20	7011	511567	1.655	3.449

Source: Authors' computation (2021)

Table 2 shows that, on the average, the sampled banks made a profit of N3.3billion for the years under study. What this suggests is that these banks made efficient utilisation of its asset to generate profits with a standard deviation of N17billion which indicates the existence of dispersion in sizes among the sampled banks. There was a minimum loss of N35billion and a maximum of N46billion in the observation as far as profit is concerned in the samples. Salaries and wages, Staff training and development, Employees benefits and Directors emoluments on the average expended N2.6billion, N394million, N414million and N123million respectively within the period under review. All variables are positively skewed. Furthermore, all variables have positive kurtosis and hence leptokurtic in nature indicating that the data set are heavily tailed.

4.2 Correlation Matrix

The correlation test was carried out to determine the relationship among the variables of the study at 5% level of significance.

Table 3. Correlation Results

	PF	SW	STD	EB	DE
PF	1.0000				
SW	-0.0235	1.0000			
	0.9002				
STD	0.2721	0.8033*	1.0000		
	0.1458	0.0000			
EB	-0.2529	0.8753*	0.7065*	1.0000	

	0.1699	0.0000	0.0000		
DE	0.5094*	0.0538	0.1656	-0.2320	1.0000
	0.0066	0.7897	0.4188	0.2443	

Source: Authors' Computation (2021)

Table 3 presents the correlation among the variables. Generally, the results present correlation below a threshold of 0.8 rule of thumb. Thus, possibility of multicollinearity among the variable is not expected. The results are further discussed as follows;

From Table 3, it could be seen that SW does not have significant relationship with the profitability of sampled development banks in Nigeria at the (p-value =0.9002). This implies that SW does not matter in determining the profit of the banks. The insignificant relationship that was demonstrated in this result aligned with the position of Nangih *et al*. (2020) and Ofurun and Adeola (2018). However, Inua and Oziegbe (2018), Abdulateef, Shawai and Ekundayo (2018), Asika, Chitom and Chelichi (2017), Agbiogwu, Ihendinihu and Azubike (2016) opine that significant relationship exist between SW and the profitability of firms.

Furthermore, Table 3 depicts that STD has an insignificant relationship with the profitability of the sampled banks at the (p-value= 0.1458). This indicates that whether staff are trained or not, it does not really reflect on the profitability. Reinforcing support for this finding is the study of Yusuf *et al*. (2018) that opine no significant link between the job training and the profitability of the firm. Nangih *et al*. (2020), Edom, Inah and Adanma (2015), Okpako and Olufawoye (2014) studies argued to the contrary that STD has significant relationship with the profit of the sampled banks.

The outcome from Table 3 further shows that there is no significant relationship between EB and the profitability at the (p-value =0.1699). Extant studies supporting insignificance relationship are Nangih *et al*. (2020) and Abdulateef, Shawai and Ekundayo (2018). Arguing in favour of significant relationship was the study of Asika, Chitom and Chelichi (2017).

The outcome of the study indicates that there is significant relationship between DE and the profitability of the sampled development banks in Nigeria at (p-value=0.0066). This means directors' emoluments play a major role in determining the profit of the banks. Inua and Ozeigbe, Herdan and Szczepaoska (2011) allude to this finding. Hristos, Janto and Saeed (2007) disagreed with this finding and posit absence of significant relationship with the profit.

4.3Robustness Tests

In a bid to ensure reliability and validity of all statistical inferences, multicollinearity and heteroscedasticity tests were conducted.

4.3.1 Multicollinearity

A multicollinearity test was performed to ascertain the degree of correlation among the independent variables and the result is presented in Table 4

Table 4.Multicollinearity Results

Variable	VIF	1/VIF
EB	6.74	0.148318
SW	6.37	0.157096
STD	3.83	0.261040
DE	1.71	0.583505
Mean VIF	4.66	

Source: Authors' Computation (2021)

The outcome confirmed suitability of the model and reliability of variables because Variable Inflation Factor (VIF) of 4.66 is less than the threshold of 10 as pointed out by Ilaboya and Ohiokha (2016) and Abdulateef, Shawai and Ekundayo (2018).

4.3.2 Heteroscedasticity

Heteroscedasticity test was performed as suggested by Studenmund (2011) to investigate whether there is dispersion or constancy in the error terms along line of best fit. Evidence from Breuch Pagan/Cook-Weisberg indicates constancy in the error terms as the p-value is greater than 0.05 Hence, homoscedastic.

Chi2(1) = 2.28
Prob > chi2= 0.1311

4.4 Regression Results

Ordinary Least Square (OLS) method was used to estimate the effect of human resource costs on the profitability of development banks in Nigeria using model in equation (1).

Table 5. Regression Results

Variables	Coefficient	Std. Err.	t-stat	p-value
SW_{it}	-4.115373	6.378035	-0.65	0.526
STD_{it}	12.42742	3.352921	3.71	0.001
EB_{it}	-8.485109	3.847984	-2.21	0.039
DE_{it}	4.101977	2.711515	1.51	0.145
_cons	-22.30635	30.27651	-0.74	0.469
R-squared	0.612			
Adj. R-squared	0.5381			
Prob > F	0.0004			

Source: Authors' computation (2021)

The overall R-squared(R^2) of 0.61 suggests that 61% in the profit of development banks in Nigeria was explained by human resource costs (Salaries and wages, Staff training and development, Employees benefits and Directors emoluments) while other factors account for 39% variation in the profitability (adjusted R^2 = 54%). The (p-value =0.0004) indicates that the regression model fits to the data at more than 95% confidence level. This shows that there is strong linear relationship between human resource costs and the profitability of development banks in Nigeria.

Table 5 further shows that Salaries and Wages affect profit negatively (Coeff. = -4.115373) and statistically insignificant at 0.05 level. This implies that, an increase in the salaries and wages lead to decrease in the profit of development banks in Nigeria. This however contradicts economic criterion. Expectancy theory postulates that individuals do thing in anticipation of rewards which tends to improve productivity and by extension profitability. The outcome of the study aligned with the finding of Abdulateef, Shawai and Ekundayo (2018), contrary to a priori expectation. Nangih*et al*. (2020), Asika, Chitom and Chelichi (2017) and Agbiogwu, Ihendinihu and Azubike argued to the contrary that staff salaries affect profit positively.

Staff training and development has positive (Coeff. = 12.42742) and statistical significant (p-value < 0.01) effect on the profitability of the sampled Development banks. This suggests that when employees are continually trained, it sharpens skills that will enhance productivity and by extension increase profitability. This position lends credence to human capital theory. Other extant studies that agreed with this finding are Edom, Inah and Adanma (2015), Okpako and Olufawoye (2014) and Nangih*et al*. (2020). This finding supports a priori expectation of this study. But, Yusuf *et al*. (2018) argued to the contrary.

The Employees benefits has negative (Coeff = -8.485109) and statistical significant (p-value = 0.039) effect on the profit of the sampled banks meaning that an increase in the employees' benefits costs tend to reduce profit performance of development banks in Nigeria. This position was supported by Nangih*et al*. (2020), contrary to the expectation of this study. Studies that support positive effect of employees benefits on profitability include Asika, Chitom and Chelichi (2017), Abdulateef, Shawai and Ekundayo (2018) and Okpako and Olufawoye (2014).

Furthermore, Directors emoluments have a positive effect on the profitability of the sampled banks which is statistically not significant at 0.05. Inua and Ozeigbe, Herdan and Szczepaoska (2011) alluded to this finding. This suggests that an increase in the DE leads to an increase in the profit in the sense that increased emoluments will spur directors to perform oversight functions dutifully and without compromise from the Chief Executive Officer, but with no statistical significance evidence. Hristos, Janto and Saeed (2007) disagreed with this finding and posit negative effect on profitability.

Based on these findings, the regression model for equation (1) was presented as follows;

$Profit_{it} = -22.30635 -4.115373SW_{it} +12.42742STD_{it} -8.485109EB_{it}+4.101977DE_{it}+e_{it}$

Table 6 shows the regression result when control variable (staff Strength) was introduced into the equation (2). Control variable was introduced to determine its influence on the profitability of development banks in Nigeria. The cumulative influence of all exogenous variables put together was able to explain the dependent variable up to 69% as indicated by the R^2 with about 61% adjusted R^2 (p-value=0.0002). This implies that staff strength has increasing control effect of about 7% on the link between human resource costs and the profit of development bank in Nigeria.

Table 6. Regression Coefficients with control variable

Variables	Coefficient	Std. Err.	t-stat	p-value
SW_{it}	12.48394	9.636155	1.3	0.21
STD_{it}	6.401754	4.15106	1.54	0.139
EB_{it}	-4.707921	3.949034	-1.19	0.247
DE_{it}	-1.089313	3.456468	-0.32	0.756
SS_{it}	-14.92061	6.863605	-2.17	0.042
_cons	-83.41068	39.60592	-2.11	0.048
R-squared	0.6862			
Adj. R-squared	0.6077			
Prob > F	0.0002			

Source: Authors' compilation (2021)

Upon the introduction of control variable, Staff salaries and wages have a positive and statistical insignificant effect on profitability suggesting that increase in Salaries and Wages will lead to increase in profit which is in tandem with economic criterion. The findings support those of Nangih *et al*. (2020), Asika, Chitom and Chelichi (2017), Agbiogwu, Ihendinihu and Azubike who found that staff salaries affect profit positively. Furthermore, staff training and development have positive and statistical insignificant effect on the profitability. Employees' benefits have negative and statistical insignificant effect with profitability. Directors Emoluments have negative and insignificant effect on the profitability indicating that a decrease in the emoluments of director tends to increase the bank's profit. This agreed with the finding of Hristos, Janto and Saeed (2007).

The Staff Strength (control variable) has a negative and significant effect on the profit which suggests that a percentage increase in the staff strength will translate to approximately 14.92 decrease in the profit of the bank and vice versa. Nevertheless, the effect is significant at 0.05 level of significance (p-value= 0.042) which suggest that profit level of Development banks in Nigeria depends on the number of employees. Aligning with the significant position of staff strength are

Inua and Ozeigbe (2018) and Asika, Chitom and Chelichi (2017). This finding is not supported by Chukwu, Ugo and Osisioma (2019) and Edom, Inah and Adanma (2015) who have indicated that there is no significant effect of Staff Strength on the profitability.

The regression model for equation (2) could therefore be represented as follows;

$Profit_{it}$=-83.41068 +12.48394SW_{it} +6.401754STD_{it} -4.707921EB_{it}-1.089313DE_{it}-14.92061SS+e_{it}

Concise inference based on the findings of this study is that there is statistical significant effect of human resource accounting on the profitability of development banks in Nigeria. Thus, the null hypothesis that there is no statistical significant effect of human resource accounting on the profitability of development banks in Nigeria is hereby rejected.

5.0 Conclusion and Recommendations

The study was carried out to assess the effect of human resource accounting on the profitability of development banks in Nigeria. An overall test was conducted to observe the relationship among the explanatory variables (Salaries and Wages, Staff Training and Development, Employees Benefits and Directors Emoluments) and the predictor (Profitability). Based on correlation analysis and the result thereto, only Directors Emolument has significant relationship with the profitability of the sampled banks, while Salaries and Wages, Staff Training and Development and Employees Benefits have insignificant relationships.

The regression result shows that human resource accounting has an overall significant effect on the profitability of development banks in Nigeria even when control variable was introduced. This result was supported by various empirical findings. However, when control variable was not considered, salaries and wages, and employees benefits exerts negative effect on profitability of the development banks, while staff training and development, and directors emolument indicates positive effect. These results are only statistically significant for staff training and development, and directors' emolument. When staff strength as control variable was introduced, salaries and wages, staff training and development present positive and statistical insignificant effect while employees' benefits, directors' emoluments and staff strength depict negative and statistical insignificant effect with profitability except staff strength.

The study therefore concluded that, although human resource accounting investigated in this study have potentials to inform improvement in the profitability of development banks in Nigeria, controlling role of staff strength could impound setback. The study therefore recommended as follows;

- The staff salaries and wages of development banks should be enhanced with a view of preventing labour flight. This will lead to more profits in the long run.

- Ensure that relevant staff training and re-training packages are designed for the employees for better performance which is capable of increasing profit performance of the banks.
- Priority should be accorded to the employees' benefits as this will attract better workforce to the bank.
- The bank should sustain payment of good packages to the directors as this will mitigate agency conflict.
- In this era where improved technologies are deployed to work, building more staff strength could be dropped for productive artificial intelligence since recruitment of more staff possesses antithetic effect on the joint effort of human resource accountingon profit of development banks in Nigeria.

It is pertinent to state that this study was constrained by a few factors. Firstly, the study was limited to 8-year period because it focused on IFRS reporting period. Also, all the development banks did not have readily available data for all the period under review. Thus, repeat of this study is advanced at a future date, while need to consider listed Micro Finance Banks (MFBs) in Nigeria requires empirical attention.

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POLITICAL CONNECTION AND FIRM PERFORMANCE: EVIDENCE FROM NIGERIA

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Abstract
The scanty literature in Nigeria and inconclusive debate on the influence of political connection on firms' performance motivated this study. The objective of the study were to examine the influence of politically connected concentration (PCC), politically connected insiders (PCI), board of directors' connectedness (BDC), connected director's ownership (CDO), block shareholders connectedness (BSC) on firms' performance of listed firms in Nigeria. Ex-post-facto and quantitative research design was adopted for the study. Purposive sampling techniques was used to select 17listed firms in Nigeria (excluding financial services, oil & gas and conglomerate companies). Five years (2015-2019) panel data from annual reports and accounts of the selected 17 firms was analysed using OLS regression (which includes: descriptive statistics, correlation, Collinearity and Durbin-Watson Statistics). Political connection was measured using number of directors and block shareholders that are politically connected, and percentage of shares held by politically connected directors and block shareholders; while firm performance was measured using earnings per share. Using 5% level of significant, we found that politically connected insiders (PCI), and connected directors ownership (CDO) positively and significantly affect firms' performance while politically connected concentration (PCC), board of directors' connectedness (BDC), block shareholders connectedness (BSC) does not significantly influence firm performance of Nigerian listed firms. We recommend that firms should promotes connected directors ownership and increase the number of connected directors to a considerable level as major determinant of improve performance.
Keywords: Political connection, firm performance, connected director's ownership, block shareholder's connectedness, and earnings per share

1.1 **Introduction**

Management of corporate entities all over the global market try to acquire political relationship with politicians and while others join politics in other to derive the benefits of business political environment that reduced stress in accessing fund/finance, wining government contract, receiving bailout at the time of financial distress, pandemic, tax benefits, subsidies and favourable legislation and political environment (Najaf 2020). There has been mix result on the influence of political connectedness on the performance of business entities. Some argued that political connection maybe costly or adverse to the business firm in the long run as it may negatively affects business performance due to inefficient management. This can be evidence by the conclusion of Do, Lee, and Nguyen (2013) that politically connected firms are more likely to fail than non-connected firms. Furthermore, Najaf (2020) stated that politically connection has significant association with poor corporate governance mechanism and therefore more risky for investment decision. Nurul, Nor, Fazrul and Zuraidah (2020), stated that some country (China) are moving towards mandatory disclosure of political connection disclosure of listed entity's' directors. They pointed out that firm's political connectedness is only useful when the marginal revenue of being connected outweigh the marginal cost of such connection. Therefore firms should consider the cost benefits of being connected politically.

From the measurement and definition of politically connection of prior studies, political connectedness characteristics can manifest in any of following thus: campaign contribution during election; formal politician; Police and military officers; top civil servant or government official; holding political post or appointment, friendship with politicians, class mate of politician, formal Member of Parliament, and blood relationship with politician. To widen the scope of political connection, we include traditional ruler holding the title of His Royal Highness (HRH) in the form of "IGWE, EZE, OBA, EMIRE, etc" as they has strong political influence in Nigeria. Therefore a firm is said to be politically connected if any of its board of director (and top management) and block shareholders belong to any of the above mention political connection characteristics.

Do, Lee, and Nguyen (2013) argued that significant influence of political connection on firms is more prevalence in developing and corrupt nations which can be evidence from the result of prior studies. Nigeria being in the categories of country that is politically influence (developing and corrupt nation) as pointed out by Osazuwa, Che-Ahmad, and Che-Adam (2016) have not received significant amount of empirical research on the correlation between political connectedness and firm's performance.

1.2 Statement of the Problems

The study of political connections has been greeted with different measurement and definition based on the researcher's scope of the study (Do, Lee, & Nguyen 2013). Therefore scope of the study of political connectedness of firms is too wide that little amount of research cannot fill the gap in the literature. Although many studies has been carried out on the connection between firms financial performance and political connection, however the studies has used different approach to measure political connectedness of business entity. Again the result of the prior studies from both developed and developing nations were face with controversy on the direction of the association between political connection and firm performance. There are three main results found by prior studies as exposited in our empirical literature analyses in appendix, thus: significant positive association (52%); significant negative correlation (36%); and insignificant connection (12%) between connectedness of firms and firm's performance. Therefore there is need to contribute to the argument on the direction of influence of political connectedness of a firm on the financial performance, although the positive effect is on the lead.

Contrary to the result of the leading arguments (positive significant effect) and the results of Do, Lee and Nguyen (2013) (on developing and corrupt nation), the only two Nigerian studies [Osazuwa, Che-Ahmad, & Che-Adam 2016 (significant negative effect); and Osamwonyi & Tafamel 2013 (Insignificant effect)] found inconsistent and conflicting results. Therefore there is need for further studies in order to clarify the inconsistent and conflicting results. Furthermore the only two Nigerian studies used one year financial data (pooled study) and dummy variables of 0 and 1 for measurement of political connection which is considered to be non-parametric and too robust, therefore may affect the reliability of their results. This study therefore improves the data measurement by using five years financial data (panel study) and actual data rather than 0 and 1. We also introduce more relevant political connection variables in our study.

1.3 Objectives of the Study

The specific objectives of the study are to determine:

I. The effect of politically connected concentration on firm's performance
II. The association between politically connected insiders and firm's performance
III. Whether board of directors' connectedness affects firm's performance
IV. The effect of connected director's ownership on firm's performance
V. The influence of block shareholders connectedness on firm's performance

1.4 Research Hypotheses

For the purpose of this study, the following research hypotheses were formulated:

I. Politically connected concentration have no significant effect on firm's performance;
II. There is no significant association between politically connected insiders and firm's performance;
III. Board of directors' connectedness does not significantly affects firm's performance;
IV. Connected director's ownership does not have significant effect on firm's performance;
V. Block shareholders connectedness does not significantly influence firm's performance.

1.5 Scope of the Study

This study covers political connection and financial performance of 17listed politically connected firms in Nigeria for five years (2015-2019) period because of data availability. The political connection covered in the study includes directors and block shareholders current or formal involvement in politics, military or police officer, top government official, and Kinship. Other type of political connections like classmate, blood relationship, political contributions and friendship with politician were excluded in the study as such information are not disclosed by firms in the annual reports as such difficult to generate reliable data in Nigeria.

2.0 Review of Related Literature

2.1 Conceptual Framework

Political connection studies are gaining recognitions in developing and emerging nation, notable example is China and South East Asia. Institutional breakdown and problems such as economic transition, privatisation and corruption has being driving factors for political connection studies in developing nations. Political connection research has been measured in different ways depending on the data availability and motivating factors. The types of political connection measurement can be grouped into three according to Yeh (2013): financial contribution connection (in the form of bribe and campaign contributions) relational connection (in the form of political office holder, blood relation, friendship classmate etc) and information connection (in the form of lobbying, comment and petition to influence policy decision). The most researched political connection activities is the relational connection while information connection is the least research political connection activities in the literature due to is non-data availability. Now let's look at the way prior studies has measured political connections.

2.1.1 Politically connected concentration

Adhikari, Derashid, and Zhang (2006) measured political connection as a director or block shareholders that has informal connection/relationship with politicians in power through personal association. Similarly, Adhikari, Derashid, and Zhang (2006) Chaney, Faccio, and Parsley (2011) pointed out that political connectedness is when a firms concentrated shareholder (10%) or director, is a minister, parliament member, or head of state or significantly related to a party or influential politician between 1997 to 2001. They measured political connected concentration as percentage of share held by politically connected shareholders that are more than 5% of Total share issued

2.1.2 Politically connected insiders

Boubakri, Cosset, and Saffar (2012) stated that a firm is considered to be connected in politics if a member of its directors or management board was or is politician (top appointed political office, a parliament member or minister). They measure political insiders as number of directors and senior management that are politically connected.

2.1.3 Board of directors' connectedness

Political connection according to Faccio, Masulis and McConnell (2006) exist if at least a top officer or a block-shareholder is or was a minister, head of state, or national parliament or significantly related to top government official during or after 1997. Hassan, Hassan, Mohamad, and Min, (2012) defined political connection as a firm that is closely associated with the deputy prime minister or prime minister. Faccio et al. (2006), and Hassan et al. (2012) measured boards' political connectedness as the ratio of number of connected directors to the total number of directors in the board.

2.1.4 Connected director's ownership

Sun, Xu, and Zhou (2011) a firm is politically connected if Shanghai government is a shareholder or a director, or has municipal government political career experience. Wu, Wu, Zhou, and Wu (2012) measured political connection as CEO that was or is serving in the top government position or military. Sun et al. (2011) and Wu et al. (2012) measured politically connection using connected directors' ownership as the percentage of share held by politically connected directors to the total number of share issued.

2.1.5 Block shareholders connectedness

According to Yeh (2013) a firm is considered to be connected if:

(a) It is financed or managed by a political party; b) the political party in (a) above is the firm's block-shareholder; (c) a director of the firm has a public support of political party or candidate of a political party or participate (by himself or in person or represented by its employee) in presidential campaign, or is been published by a major newspaper as a supporter or a member of a political party; (d) block-shareholder, or director, or top officer was or is parliament member, politician, minister, or top government officials. Yeh (2013) measured political connection using the connectedness among block shareholders of a firm by taking ratio of number of block shareholders that are politically connected to the total number of block shareholders as a measure of block shareholders connectedness

2.1.6 Performance

Performance is the extent to which financial goals of an entity is being achieved and therefore it is the process of measuring the output of an entity's operations and policies in quantitative terms in order to determines an entity's overall financial health (Boubakri, et al., 2012). There are two main classification of performance measurement (financial and non-financial performance measurement). For the purpose of this study, let us take a look at different ways adopted by researchers to measure financial performance in a political connections related studies. Faccio (2010), Wijantini (2018), and Do, Lee, and Nguyen (2012) used ROE and ROA to measure firm's performance. Bandeira-de-Mello, Marcon, Goldszmidt and Zambaldi (2012), Liu & Luo (2016), Zhong (2016) adopted Tobin's Q as firm financial performance measure. EPS was used to measure performance in the studies of Qin (2013), Zhang, Lv and Guo (2017) while net profit margin was used by Choi (2014) to measure performance of political politically connected firms. This study used EPS to measure performance as the study adapted the model of Zhang, Lv and Guo (2017).

2.2 Empirical Studies

Chan, Dang, and Yan (2019) used 7052 annual report of 1271non-financial Chinese firms for the period 1996-2007 to study the interaction between market capitalization, price index, investment, capital stock, cash, debt, net sales, leverage and political connection. The results of comparative design, Wald test, Sargan test, and serial correlation shows that politically-connected firms does not experience financing constraints whereas firms without connection are significant constraints. Similarly, Wijantini (2018) study ROA level, size, leverage, political connection, and indirect cost financial distress of 29 Jakarta Stock Exchange firms from 2008-2013 using comparative and co-relational design, regression analyses, t-test and Mann-Whitney and found that political connection has significant negative association with indirect cost of financial distress.

Liu and Luo (2016) used A-share listed 109 firms in China from 1994 to 2010 to investigate the relationship between Tobin's Q, debt, cash, age, size, returns, industry, age, and investment of politically connected firms. The result of comparative design, t-test and Wilcoxon tests indicates that politically connected firms investments are less efficient, and negatively affect subsequent firm performance. Politically connected firms are more likely to over invest than non-politically connected firms. Detthamrong, and Chancharat (2015) found similar result by investigating political connection, board size, board independence, firm's age& size and ROA using 102 listed

Thailand firms for the period 2006-2014. Specifically, the result of fixed-effects panel regression analysis revealed that political connection affects firm's performance negatively.

Do, Lee, and Nguyen (2012) analysed political connection of 263 firms of US publicly listed firms from 1999-2010 by investigating the interaction between market cap, common equity, market to book ratio, capital expenditure, age, leverage, Tobin Q, payout, tangibility, ROA, R&D, Cash of political connected firms using regression discontinuity design and network of university classroom. The result of their study provide evidence that political connection increases firm value; Political connected firms are valuable than non-connected firm in country with a higher level of corruption, regulation, and in smaller firms; politically connections have positive significant effect on investment, operating performance, cash holding, and long-term stock performance.

Liu, Wang, and Zhang (2013) examine the effect of Merger and acquisition of political connection firms, on firm's size, leverage, cash-flow, market to book, ROA, growth, outside directors, age, manager holdings of Companies listed on the Chinese equity market for the period 1998 – 2010 using comparative design, Logistic regression and OLS regression. They found that there is a positive association between political connection and M&A. political connection has significant positive effect on M&A performance, political connected firms with SOE's has significant negative effect on M&A performance, while politically connected firms without SOE's has positive significant effect on performance M&A firms.

Qin (2013) used 131 Chinese manufacturing firms from 1998-2007 to examine the interaction between Performance, state capital, subsidies &mark-up, political connection, industry, province, and ownership. The result of panel data and logistic regression, and t-test confirm that connected firms received more subsidies, state capital and product mark-up. However, the study found no significant effect of political connection on firm performance.

Bandeira-de-Mello, Marcon, Goldszmidt and Zambaldi (2012) examine the association between operation profit, ROE, Tobin's Q, political connection, and total assets of 175Brazian listed firms with 693 year observation using multilevel models estimation , and found that campaign contribution has significant positive contribution on ROE and Tobin's Q, but does not significantly affect operational profit. Political connection lead to reduction of transaction costs

Zhang, Lv and Guo (2017) analysed 499 Chinese listed manufacturing firms financial data for the period 2008 to 2013 to determine the influence of number of political connected directors and political connected directors ratio on ROE and EPS. The result of OLS multiple regression analyses indicates that number of political connection and ratio of politically connected directors has significant positive effect on the performance indicators (ROE & EPS)Chinese firms.

Zhong (2016) study China's A-share listed firms for the period 2007-2011 to determine the relationship between operating cashflow, return on total assets, political connection, leverage, book to market, Tobin's Q. The panel data, multiple regression analysis and descriptive statistics results provide that director's political connection degree has no significant effect on the performance of firm after merger and acquisition. Significant positive association was found between political connection and the performance of M&A in private sector.

Ding (2014)investigate effective spread, quoted spread, market spread, price impact, non-tradable ratio, size, institutional ownership, insider trading and leverage of political connection firms using 2532 Chinese firms from A-share market for the period 2003-2012. The Unbalanced panel data and pooled OLS regressions results shows that politically connection significantly affects liquidity, quoted depths, trading activity, positively, however negative association with price impact. Political network affects liquidity for both state-owned and privately controlled firms. SOEs controlled at the centre exhibit higher liquidity than firms that are controlled locally. Political intervention in the form of direct government control negatively affects the positive impact of political connections on liquidity.

Amore (2012)analysed 1964 Danish municipalities (Denmark) firms from 2001-2007 in order to determine the association between ratio of operating income to book value, log of assets, log of sales, log of employees of connected firm, and non-connected firm. The result of Selection models of difference-in-differences and matching, and discontinuity provides that connection between firms and local politicians significantly impact performance positively; Politically blood related firms experience boost and improved revenue notably in service sector.

In Nigeria, Osazuwa, Che-Ahmad, and Che-Adam (2016) investigates 116 Nigerian listed firms for the year 2013 in order to establish the connection among ROE, political connection, board gender, CEO incentive, board size, firm size, and foreign presence. The result of cross sectional data, OLS regression analysis, and robust corrected standard error regression indicates that political connection negatively affects firm performance while board gender positively affects performance; however other variables have insignificant effect on performance. Similarly, Osamwonyi and Tafamel (2013) used 2009 annual reports of 30 listed firms in Nigeria to examine the influence of political connection, board composition, and board size, on performance (EPS). The results of quantitative design, correlation and regression analyses provide evidence that political connection, board size, and board composition has insignificant influence on firm EPS performance measurement.

2.3 Summary of Empirical Literature/Gap to Fill

Many studies has been carried out on the connection between firms financial performance and political connection, however the studies has used different approach to measure political connectedness of business entity. Again the result of the prior studies from both developed and developing nations were face with controversy on the direction of the association between political connection and firm performance. There are three main results found by prior studies as exposited in our empirical literature analyses in appendix, thus: significant positive association (52%); significant negative correlation (36%); and insignificant connection (12%) between connectedness of firms and firm's performance. Therefore there is need to contribute to the argument on the direction of influence of political connectedness of a firm on the financial performance, although the positive effect is on the lead. Contrary to the result of the leading arguments (positive significant effect) and the results of Do, Lee and Nguyen (2013) (on developing and corrupt nation), the only two Nigerian studies [Osazuwa, Che-Ahmad, & Che-Adam 2016 (significant negative effect); and Osamwonyi and Tafamel 2013 (Insignificant effect)] found inconsistent and conflicting results. Therefore there is need for further studies in order to clarify the inconsistent and conflicting results.

3.0 Methodology

3.1 Research Design

This study adopted ex-post-facto design as the nature of the study required post period or prior period data (past annual reports and accounts). We used 85 balanced panel data (17 firms for 5years). Secondary data collected from the reports and accounts of selected firms are the major sources of data used for the study. Annual reports and accounts of selected 17 non-financial connected listed firms for the year, 2012-2016. Internet downloads from various selected firms website and personal visit to Nigerian Stock Exchange (NSE), Onitsha are the method of data collection adopted for the study. The main source of data collection used for the analyses and testing of hypotheses is the secondary sources collected from the annual reports and accounts of the sampled firms for the period 2015 to 2019. We also search for the profiles of the firm's directors, senior management and block shareholders on the website to determine those that are politically connected but not disclosed on their annual reports.

3.2 Population and Determination of Sample Size

The population of this study is the 115 non-financial listed firms in the Nigerian stock Exchange (NSE) at the end of the 2019 financial year (31st December, 2019). However for the purpose of comparability, the accessible population of this study is 97 listed non-financial services firms (excluding oil and gas, and conglomerate firms) Because of the nature of the study and data availability, purposive sampling technique was used for the study as the study need comprehensive annual reports and accounts that disclosed directors and block shareholders profile on political connection.

For the purpose of determination of sample size, out of the 115 listed firms, we excludes firms listed as Oil & Gas (12), and Conglomerates (6) companies, which gives us 97 firms left for the study. We now ascertain companies that are listed in the Nigerian stock exchange on or before 1st January 2015 and that has its detailed (directors and Block shareholders profile) annual reports available for the period of five (5) (2015 to 2019) of the study. Out of the 97 listed firms 14 firm were listed after 2015 while we cannot get complete annual reports of 42 firms that contain the data for determination of firm's political connection. This left us with only 41firms. Out of the 41firms, we could not find any significant political link with 24 firms. We therefore have only 17firms that are politically connected.

Therefore the sample size is 17 politically connected firms listed in the Nigerian Stock Market.

3.3 Method of Data Analyses

OLS regression technique was adopted for the research. We tested for Multicollinearity, auto correlation, normality and several other assumption of OLS model. We transformed our data to reduce the regression noise with the aid of SPSS Auto data transformation for modelling in order to conform to assumption of data standardization form of regression analyses.

3.4 Model Specification and Justification

We adapted model of Zhang, Lv and Guo (2017) by introducing political connected director's concentration, political connected insiders, Block shareholders connectedness and political connected ownership.

The OLS model is specified thus:

EPS = f(PCC, PCI, BDC, CDO, and BSC) ………………………………………… I

The equation of the model is therefore:

$EPSit = \beta_0 + \beta_1 PCC_{it} + \beta_2 PCI_{it} + \beta_3 BDC_{it} + \beta_4 PCO_{it} + \beta_5 BSC_{it} + \mu$ …………… II

Where:

EPS_{it} mean earnings per share for the firm i for the year t. measured as profit after tax divided by total number of shares.

PCC_{it} means political connected concentration for the firm i for the year t. measured as percentage of share held by politically connected shareholders that are more than 5% of Total share issued (Adhikari, et al., 2006, and Chaney, et al. 2011).

PCI_{it} means political connected insiders for the firm i for the year t. measured as number of directors and senior management that are politically connected (Boubakri, et al., 2012).

BDC_{it} means board of director's connectedness for the firm i for the year t measured as ratio of number of connected directors to the total number of directors in the board (Faccio et al. 2006, and Hassan et al. 2012).

CDO_{it} means connected directors' ownership for the firm i for the year t measured as percentage of share held by politically connected directors to the total number of share issued Sun et al. 2011, and Wu et al. 2012)

BSC_{it} means block shareholders connectedness for the firm i for the year t. measured as the ratio of number of block shareholders that are politically connected to the total number of block shareholders (Yeh 2013)

β_0 is the intercept or the constant of the model

β_1, β2, β3, β4 and β5 are the coefficient of the model

μ is the stochastic disturbance or the error term

For the purpose of this study, "Political Connection or Connectedness of a firm" means having a director or block shareholder that have significant link with political party, a formal or current top government official (Police, military, civil servant and or head of MDA's) or a top traditional ruler (like Igwe (Obi of Onitsha), Oba, Emir, etc.)

4.0 Presentation and Analyses of Data

4.1 Data Presentation

The data generated for the study were computed and analysed, the descriptive statistics are presented in the table below for easy understanding.

Table 1 Descriptive Statistics

	Mean	Std. Deviation	N
EPS	157.2941	265.49241	17
PCC	.5389	.34536	17
PCI	2.8706	1.92216	17
BDC	.2735	.12335	17
CDO	.1647	.25118	17
BSC	.5531	.33380	17

Source: researcher's computation 2021

Table 1 shows the descriptive statistics that shows the nature of the data used. The descriptive statistics includes the mean, and standard deviation of all the variables including (both dependent, and independent variables).

Table 2 Correlation Matrix

		EPS	PCC	PCI	BDC	CDO	BSC
EPS	**R**	1.000					
	sig.	-					
PCC	**R**	.247	1.000				
	Sig.	.169	-				
PCI	**R**	.895	.070	1.000			
	Sig.	.000	.394	-			
BDC	**R**	.517	-.244	.787	1.000		
	Sig.	.017	.173	.000	-		
CDO	**R**	.957	.303	.819	.453	1.000	
	Sig.	.000	.119	.000	.034	-	
BSC	**R**	.267	.951	.136	-.145	.283	1.000
	Sig.	.150	.000	.302	.290	.136	-

Source: Researcher's computation 2021

The correlation matrix presented in table 2 shows the relationship between the independent variables (PCC, PCI, BDC, CDO, and BSC), and the dependent variables (EPS). From the table, we can see that only PCI, CDO and BDC has significant positive relationship with EPS while other variables have insignificant positive relationship with EPS. We can also conclude that there is no significant multi correlations among the independent variables of the study.

4.2 Testing of Hypotheses

The result of the data analyses are exposited in the table 3 below:

Table 3 Regression Results Summary

Dependent variable: Earnings per Share
Method: Ordinary Least Square.
Period of study: 2015-2019
Included Observations: 17

Variable	B	SE	t-statistic	P. value	Collinearity Statistics		Decision Based on H_0 (5%Sig)
					Tolerance	VIF	
Constant	-35.086	52.979	-.662	.521			
PCC	-139.529	158.132	-.882	.396	.069	14.458	Accept
PCI	79.390	23.209	3.421	.006	.104	9.648	Reject
BDC	-491.913	237.897	-2.068	.063	.240	4.175	Accept
CDO	633.979	129.382	4.900	.000	.195	5.120	Reject
BSC	1226.166	154.737	.815	.432	.077	12.933	Accept

R: .984; R-Square: .968; Adjusted R-squared: .953; F-statistic: (5, 11) 66.139, Prob(F-statistic): .000; Durbin-Watson Stat: 1.801

Source: Researcher's computation 2021

Table 3 above shows summary of the regression result of our OLS analyses. Based on the results of the regression model as exposited in table 4.4 above, the following decision were made on the acceptance or otherwise of the formulated hypotheses using 5% level of significant as our cut-off point (95% confidence):

$H_0$1: Politically connected concentration (PCC) have no significant effect on firm's performance;
$H_0$2: There is significant association between politically connected insiders (PCI) and firm's performance;
$H_0$3: Board of directors' connectedness (BDC) does not significantly affects firm's performance at 5% significant level (although it is significant at 10%);
$H_0$4: Connected director's ownership (CDO) have significant effect on firm's performance;
$H_0$5: Block shareholders connectedness (BSC) does not significantly influence firm's performance.

4.3 Discussions of Results

The results of the regression model exposited in table 3 provides evidence for the rejection of two hypotheses and acceptance of three hypotheses. The results shows that there is significant evidence for the rejection of hypothesis 2 &4 at 5% significance level, while no significance evidence was found to reject hypotheses 1, 3, & 5 at 5% level of significance.

The result of hypothesis one shows that political connected concentration (measured as the ratio of block share held by political connected shareholders to the total block share held) does not significantly influence firm performance (measured as earnings per share) at 5% significant level (with P-value of 0.396). This our result is consistent and in line with results of Zhong (2016), Neselevska (2013), Wenfeng, Chongfeng and Xiaowei (2008), and Osamwonyi andTafamel

(2013) that political connected concentration/ownership does not significantly affects firms performance.

Hypothesis two result shows that political connected insiders (measured as number of directors and senior management that are politically connected) has significant positive influence on firm's performance (measured as EPS) at 1% significant level (0.006) and 1% change in the number of political insiders increased firm's performance (EPS) by 79.39 Kobo. The result of hypothesis two confirm the findings of Adhikari, Derashid, and Zhang (2006), Boubakri, Cosset, and Saffar (2012), Do, Lee, and Nguyen (2013), Goldma, Rocholl & So (2009), Houston, Jiang, Lin, & Ma (2014) and Kim, & Zhang (2016) that number of political connectedness of firms affects firm's financial performance. These results are inconsistent with results of the studies that found significant negative effect or insignificant effect of political connection on firms performance as exposited in our empirical analyses.

Result of hypothesis three shows that board of directors' connectedness (measured as the ratio of connected directors to the total number of directors) does not significantly affect firm's performance (measured as EPS) at 5%significance level (with P-value of 0.063). Although the result is significant at 10%significant level (i.e. board of directors connectedness of a firm has significant negative influence on firm performance), however, we accepted the null hypothesis 3, because we allowed only 5% margin of error (5 level of significance) for this study. This our result is consistent and in line with the observation of Neselevska (2013), Osamwonyi and Tafamel (2013), Wenfeng, Chongfeng and Xiaowei (2008), and Zhong (2016), that found insignificant association between board of directors connectedness of a firm and firm value/performance; and the results Boubakri, Cosset and Saffar (2008), and Faccio (2010), that found weak negative association between boards' connectedness and performance of firms. However this result is inconsistent with the results of Amore (2012), Chan, Dang and Yan (2019), Do, Lee and Nguyen (2012), Wijantini (2018), and Zhang, Lv and Guo (2017) that found significant positive effect of board of directors political connection and firms' financial performance.

Hypothesis four results shows that connected directors ownership (measured as the ratio of directors shareholding to the total number of shares issued) positively and significantly affects firm's performance (measured as EPS) at 1% significant level (0.000). The result shows that 1% change in connected directors' shareholding contributes 633.98 Kobo to firm performance (EPS). This our result is consistent with the studies of Adhikari, Derashid and Zhang (2006), Amore (2012), Chan, Dang and Yan (2019), Do, Lee and Nguyen (2012), Houston, Jiang, Lin and Ma (2014), Wijantini (2018), and Zhang, Lv and Guo (2017) that found significant positive influence of connected directors ownership and firm financial performance. However, this result is inconsistent with the finding of Boubakri, Cosset and Saffar (2008), Detthamrong and Chancharat (2015), Domadenik, Prašnikar and Svejnar (2014), Liu and Luo (2016), Menozzi, Urtiaga and Vannoni (2010), and Osazuwa, Che-Ahmad and Che-Adam (2016) that political connection significantly and negatively affects firms' performance; and the studies of

Neselevska (2013), Osamwonyi and Tafamel (2013), Wenfeng, Chongfeng and Xiaowei (2008), and Zhong (2016) that found insignificant influence of political connection on firm performance.

From the result of hypothesis five, we found that block shareholders connectedness (measured as the ratio of number of connected block shareholders to the total number of block shareholders) does not significantly affects firms' performance (measured as EPS). Similar to hypothesis one, this finding is consistent with the results of Neselevska (2013), Osamwonyi and Tafamel (2013), Wenfeng, Chongfeng and Xiaowei (2008), and Zhong (2016) that found insignificant association between firm performance and politically connected block shareholders ratio.

In summary, the joint results of our model (using the F-ratio) shows that all independent variables (PCC, PCI, BDC, CDO, and BSC) jointly influence performance (EPS) positively at 1% significant level (F-ratio Prob. of 0.000). The result of the R-square (R-square Adjusted) of .968 (.953) shows that the variables in the model explain 96.8% (95.3% after adjusted for other factors) changes or variation in the dependent variables (EPS). The Durbin-Watson Statistics of 1.801 and Collinearity Statistics shows that there no significant presences of auto-correlation (zero auto-correlation) and there is no multi-collinearity among the variable of the study respectively.

5.0 Conclusion and Recommendations

5.1 Conclusion

Based on the results of our analyses, we concludes that political connected insiders and connected directors ownership significantly affects firms' performance positively, while board of directors connectedness of a firm has a weak negative effect on firms' performance. However, politically connected concentration and block shareholders connectedness does not affect firms' performance. The higher the number of political insiders of a firm, the higher the earnings per share of the firm. Also the higher the percentage of share held by politically connected directors the higher the earnings per share of the firm. The higher the ratio of connected board members to the total number of the board, the lower the earnings per share of the firm (although not significant at 5%, but significant at 10% level). Both number of connected block shareholders and number of block share held (percentage of share held by block shareholders) does not affects earnings per share of the Nigerian listed non-financial firms.

We also concludes that political block shareholding/concentration ownership related variables does not affects firms' earnings per share as a measure of financial performance, while directors political related variables affects firms performance measured as earnings per share.

5.2 Recommendation

From the results of our study, we made the following recommendation:

1. Politically connected concentration should be ignored while making decision on performance (EPS) related issues in Nigerian listed non-financial service, and non-oil and gas firms in Nigeria.

2. Firms seeking to improve their performance should try and increase its political insiders to a considerable level as this will improve their performance (EPS).
3. Firm should monitor board of director's connectedness (ratio of connected directors to the total number of board for the year) as the weak negative effect found is capable of reducing their performance, if not properly managed.
4. Firms should encourage their connected directors, to hold some amount of share of the firm so as to improve the firms performance (EPS)
5. Block shareholders connectedness should not be considered in any performance (EPS) related issues in the Nigerian listed firm (oil and gas, and financial services not covered in this study) as it does not influence EPS (firm performance).
6. Jointly we recommends that firms should try to be connected politically as there are many political favour and benefits that connected firms enjoy in Nigeria political environment. This is because, in our model, all political connected variables jointly affects firm performance.

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APPENDIX I

WEBOMETRIC ANALYSES OF EMPIRICAL LITERATURE

S/n	Author/date	Topic	Country & sample	Variables (models)	Design/method of data analyses	Finding/ contribution	Direction	Gap to fill
1	Adhikari, Derashid, & Zhang (2006)	Public policy, political connections, and effective tax rates	Listed Malaysian firms for the period of 10years	Public policy, political connection, effective tax rate, relationship based & market based connection	Logistic regression, Ex-post facto design	Political connection has significant negative effect tax rates. Political connection a determinant of effective tax rate in relationship-based than market based economies.	+VE	To determine the relevant variables
2	Faccio, &Masulis (2006)	Political Connections and Corporate Bailouts	450 firms from 35 countries from 1997-2002	Financial assistance, bail-out, financial performance, economic financial distress, political connection	Panel and pooled data estimation, OLS regression.	Politically connected firms received more bailed out than non-connected firms. A bailed-out firm that is politically connected shows significantly worse financial performance than non-connected counterparts. Connected companies confront economic distress are more likely to receive financial assistance than non connected distress firms.	+VE & -VE	To determine the relevant variables
3	Fan, Wong, & Zhang (2007)	Politically connected CEOs, corporate governance, and Post-IPO performance	790 newly partially privatized firms in China	Political connected CEO, firm performance, IPO earning growth, sales growth, return on sales, stock returns	Qualitative study, correlation, panel data regression	Negative effect of political connected CEO on firms performance, post-IPO stock returns, post-IPO earnings growth, sales growth, and returns on sales	-VE	To determine the relevant variables

		of China's newly partially privatized firms						
4	Boubakri, Cosset, &Saffar (2008)	Political connections of newly privatized firms	245 privatized firms from 27 developing and 14 developed nations from 1980-2000	Accounting performance, foreign ownership, government residual ownership, leverage, regulated sector, major cities, political connection	Comparative design, t-test, Sign Rank test	Politically-connected firms are highly presence in major cities & regulated sectors, and are highly leveraged. Political connections is positively associated to government residual ownership, and negatively associated to foreign ownership. Accounting performance of politically connected firms are significantly lower than non-connected counterparts firms.	-VE	To determine the relevant variables
5	Wenfeng, Chongfeng& Xiaowei (2008)	Political connection and market valuation	1046 China Individual-controlled Listed Firms	Local government connection, central government connection, market value, political connection, short-term loan	Longitudinal study, Sign rank test	Local government connected firm's market values are significantly higher than central government connected firms. Local government connection has significant positive effect on market value and access to short-term loan. There no association between Political connection and firms value.	+VE & Insig	To determine the relevant variables

6	Goldma, Rocholl& So (2009)	Do politically connected boards affect firm value?	S&P 500 listed US firms	Political connection, firms value, stock return, Republican Party and the Democratic Party	Comparative study, sign rank test	Nomination of politically connected board member significantly increase stock returns. Firms connected to wining party increase market values while firms connected to losing part decreased values	+VE	To determine the relevant variables
7	Menozzi, Urtiaga&Vannoni (2010)	Board Composition, Political Connections and Performance in State-Owned Enterprises	1630 directors of 114 Italian local public utilities for the period 1994-2004	Board size &composition, employment decision, total capital, number of politician on the board, ROE, ROI, firm size	GMM-sys estimators, co-relational design, OLS-regression	Political connectedness of directors significantly influence employment positively , and negatively influence firm performance	-VE	To determine the relevant variables
8	Faccio (2010)	Differences between Politically Connected and Non-connected Firms: A Cross-Country Analysis	firms in 47 countries	Leverage, market share, Accounting performance (ROA, ROE), corruption level, economic development,	Cross sectional and comparative design, ANOVA, Sign rank test	Political connection has a significant positive effect on leverage and market share, but negatively affects accounting performance. Corruption and economic development are determinant of the effect of political connection on firms performance.	+VE & -VE	To determine the relevant variables
9	Dang, Tian, Li, Abrar (2012)	The diversification effects of a firm's political connection	Listed private firms on Shanghai and Shenzhen Stock Exchange in	Diversification strategy, corporate performance, internationalization strategy, short-term accounting	regression model and correlation	Politically connected firms are more likely to implement diversification strategy and internationalization. Political connection is positively related to short-term	+VE & -VE	To determine the relevant variables

		and its performance implications: Evidence from China	China from 2002-2005.	performance, market values.		accounting performance, negatively associated to long-term accounting performance and market value of a firm.		
10	Do, Lee, & Nguyen (2012)	Political connections and firm value: evidence from the regression discontinuity design of close gubernatorial elections	263 firms of US publicly listed firms from 1999-2010	Market cap, common equity, mkt to book ratio, capital expenditure, age, leverage, Tobin Q, payout, tangibility, ROA, R&D, Cash	regression discontinuity design and network of university classroom	Political connection increases firm value Political connected firms are valuable than non-connected firm in country with a higher level of corruption, regulation, and in smaller firms. Politically connections have positive significant effect on investment, operating performance, cash holding, and long-term stock performance.	+VE	To determine the relevant variables
11	Bandeira-de-Mello, Marcon, Goldszmidt &Zambaldi (2012)	Firm performance effects of nurturing political connections through campaign contributions	175Brazian listed firms with 693 year observation	Operation profit, ROE, Tobin's Q, political connection, and total assets	multilevel models estimation	Campaign contribution has significant positive contribution on ROE and Tobin's Q, but does not significantly affect operational profit. Connection lead to reduction of transaction costs	+VE & -VE	To determine the relevant variables
12	Amore (2012)	Political power and blood-related firm performance	1964 Danish municipalities (Denmark) firms from 2001-2007	Ratio of operating income to book value, log of assets, log of sales, log of employees,	Selection models of difference-in-differences and matching, discontinuity	Connection between firms and local politicians significantly impact performance positively. Politically blood related firms	+VE	To determine the relevant variables

				connected firm, non-connected firm		experience boost and improved revenue notably in service sector.		
13	Boubakri, Cosset, &Saffar (2012)	The impact of political connections on firms' operating performance and financing decisions	234 firms from 12 developed and 11 developing countries for the period 1989-2003	Performance, debt ratio, access to credit, leverage, political connection, political ties	a long-term event study, ANOVA, descriptive statistics and correlation	Political connection and level of political ties have significant positive affects performances, indebtedness, access to credit and leverage	+VE	To determine the relevant variables
14	Liu, Wang, & Zhang (2013)	Corporate ownership, political connections and M&A: empirical evidence from China	Companies listed on the Chinese equity market for the period 1998 - 2010	Merger& acquisition, political connection, size, leverage, cashflow, market to book, ROA, growth, outside directors, age, manager holdings	Comparative design, Logistic regression) and OLS regression	There is positive association between political connection and M&A. political connection has significant positive effect on M&A performance, political connected firms with SOE's has significant negative effect on M&A performance, while politically connected firms without SOE's has positive significant effect on performance M&A firms	+VE & -VE	To determine the relevant variables
15	Qin (2013)	Political Connection, Government Patronage and Firm Performance	131 Chinese Manufacturing Firms from 1998-2007	Performance, state capital, subsidies &mark-up, political connection, industry, province, and ownership	Panel data and logistic regression, t-test	Connected firms received more subsidies, state capital and product mark-up. However there is no significant effect of political connection on firm performance.	+VE & -VE	To determine the relevant variables

16	Saeed (2013)	Do Political Connections Matter? Empirical Evidence from Listed Firms in Pakistan	380 Non-financial listed Pakistani firms from 2002–2010	Investment, employee productivity, political connection, leverage, size, cash flow, and growth opportunity	Causal comparative design, t-test, panel and cross-sectional data	Political connection significantly determines total and long-term leverage of a firm. Connected firms with large size increase business growth and borrowing capabilities of a firm. Political connection has negative impact of firm's performance and short-term leverage. Political connection leads to investment inefficiency, and excessive employment (low employee productivity).	+VE -VE	To determine the relevant variables
17	Neselevska (2013)	Do political connections influence corporate governance quality in developing economies?	190 Ukrainian firms for the year 2007, 2008, and 2011	Corporate governance quality, industry type, market capitalization, control owner, biggest stake ownership, state ownership, foreign ownership, political connection, political connected ownership	Descriptive statistics, pairwise correlation, t-test, ANOVA and OLS regression.	Political connection has no significant influence on corporate governance quality. Foreign, ownership concentration, and State ownership significantly influence corporate governance quality.	Insig.	To determine the relevant variables
18	Do, Lee, & Nguyen (2013)	Political connections and firm value	176 listed U.S firms for the period 1999 to 2010	Social network connection, elected governors connection, Regulation, corruption political connection, firm value	Regression discontinuity design	Social network based and elected governor's connections affect firm's value positively. The value of politically connected firm in a regulated and corrupt setting is significantly higher than connected firms in non-regulated and incorrupt	+VE	To determine the relevant variables

						setting. Size and external financial need of a firm are determinant of the value of connected firms. There is positive relationship between firm's connection, and investment, operating performance, cash holding and long-term stock performance.		
19	Osamwonyi &Tafamel (2013)	Firm performance and board political connection: evidence from Nigeria	2009 annual reports of 30 listed firms in Nigeria	Political connection, board composition, board size, performance (EPS)	Quantitative design, correlation and regression analyses	Political connection, board size, and board composition has insignificant influence on firm EPS performance measurement.	Insign	To determine the relevant variables.
20	Houston, Jiang, Lin, & Ma (2014)	Political connections and the cost of bank loans	500listed U.S firms for the period 2003–2008	Political connection, bank loan cost, borrowing channels, bank channels, credit worthiness, capital expenditure, liquidity	Descriptive statistics and correlation analyses, hand collected data set	Politically connected board has a negative association with cost of bank loan. Political connection has improves credit worthiness through borrower's channels when compared with bank channels. Political connection is associated with US firm value, reduced monitoring cost and credit risk	+VE	To determine the relevant variables
21	Ding (2014)	Political Connections and Stock Liquidity: Political	2532 Chinese firms from A-share market for the period 2003-2012	Effective spread, quoted spread, market spread, price impact, non-tradable ratio, size, institutional	Unbalanced panel data and pooled OLS regressions	Politically connected firms significantly affects liquidity, quoted depths, trading activity, positively, however negative association with	+VE -VE & Insig.	To determine the relevant variables

		Network, Hierarchy and Intervention		ownership, insider trading, leverage, political connection		price impact. Political network affects liquidity for both state-owned and privately controlled firms. SOEs controlled at the centre exhibit higher liquidity than firms that are controlled locally. Political intervention in the form of direct government control negatively affects the positive impact of political connections on liquidity		
22	Choi (2014)	The Value of Political Connections	Top 30 Large Business Groups from Korean Chaebols	Political connection, marital relation, blood relative, friendship, book to market, directorship, ownership, firm size, leverage, cumulative abnormal return	Pooled ordinary least squares (OLS), bootstrapped skewness-adjusted t-statistics	Firm association to family-controlled business groups determines the value of political connection. Substantial increase in the price of politically connected Chaebol than its counterparts. Marital networks and powerful politician's connectedness of a firm are most valuable.	+VE	To determine the relevant variables
23	Domadenik, Prašnikar&Svejnar (2014)	Legal corruption, politically connected corporate governance and firm performance	Annual report of Slovenian joint stock listed firms with 100 and above employees for the period 2000-2010	share of politically connected members, share of politically connected women, value added, number of supervisors, insider ownership, dispersed ownership, foreign ownership, state	GMM system estimation method, and OLS regression	Political connected firm in a corrupt environment experience significant negative performance. Share of politically connected board members has significant negative effect on productivity.	-VE	To determine the relevant variables

				ownership, block ownership, performance				
24	Detthamrong, &Chanchara t (2015)	Political connection and firm performance of Thai-listed companies	102 listed Thailand firms for the period 2006-2014	Political connection, board size, board independence, firm's age& size and ROA	fixed-effects panel regression analysis	Political connection affects performance negatively	-VE	To determine the relevant variables
25	Liu & Luo (2016).	Political Motivation, Over-investment and Firm Performance	A-share listed 109 firms in China from 1994 to 2010.	Tobin's Q, debt, cash, age, size, returns, industry, year, and investment	Comparative design, t-test and Wilcoxon tests	Politically connected firms investments are less efficient, and negatively affect subsequent firm performance. Politically connected firms are more likely to over invest than non-politically connected firms.	-VE	To determine the relevant variables
26	Osazuwa, Che-Ahmad, & Che-Adam (2016)	Financial performance of Nigerian quoted companies: the influence of political connection and Governance	116 Nigerian listed firms for the year 2013	ROE, political connection, board gender, board, CEO incentive, board size, firm size, foreign presence	Cross sectional data, OLS regression analysis, &robust corrected standard error Regression	Political connection negatively affects firm performance while board gender positively affects performance, however other variables have insignificant effect on performance.	-VE	To determine the relevant variables
27	Zhong (2016)	Empirical analysis in the political connection and the performance	China's A-share listed firms for the period 2007-2011	Operating cashflow, return on total assets, political connection, leverage, book to market, Tobin's Q	Panel data, multiple regression analysis, descriptive statistics	Director's political connection degree has no significant effect on the performance of firm after merger and acquisition. Significant positive	Insig. +VE	To determine the relevant variables

		of merger and acquisition				association was found between political connection and the performance of M&A in private sector		
28	Kim, & Zhang (2016)	Corporate political connections and tax aggressiveness	Listed US firms	connected directors, campaign contributions, lobbying, tax aggressiveness	Hand collected data set, fixed effect model, logistic regression	connected directors, campaign contributions and lobbying significantly affects tax aggressiveness	+VE	To determine the relevant variables
29	Zhang, Lv& Guo (2017)	Political connections of independent directors and firm performance: evidence of Chinese listed manufacturing companies	499 Chinese listed manufacturing firms for the period 2008 to 2013	Number of political connected directors, political connected directors ratio, ROE, EPS,	OLS multiple regression analyses	Number of political connection and ratio of politically connected directors has significant positive effect on the performance indicators (ROE & EPS)	+VE	To determine the relevant variables
30	Wijantini (2018)	A test of the relationship between political connection and indirect costs of financial distress in Indonesia	29 Jakarta Stock Exchange from 2008-2013	ROA level, size, leverage, political connection, and indirect cost financial distress	Comparative and co-relational design, regression analyses, t-test and Mann-Whitney	Political connection has significant negative association with indirect cost of financial distress	+VE	To determine the relevant variables

31	Chan, Dang, & Yan (2019)	Financial liberalization, financing constraints and political connections: evidence from Chinese firms	7052 annual report of 1271non financial Chinese firms for the period 1996-2007	Market capitalization, price index, investment, capital stock, cash, debt, net sales, leverage political connection	Comparative design, Wald test, Sargan test, serial correlation	Politically-connected firms does not experience financing constraints whereas firms without connection are significant constraints	+VE	To determine the relevant variables
32	Nurul, Nor, Fazrul, &Zuraidah, (2020).	Political connection and firm's performance among Malaysian firms	13 out of 156 Malaysian Public Listed firms for the period 2012-2017	Board's political connection, board independence, Tobin Q, ROA, ROE,	Descriptive statistics and regression analyses	Political connection and board independence significantly and positively affects ROE and EOA while there is negative effect of political connection of Tobin Q.	+Ve	To determine the relevant variables.
33	Najaf, (2020).	How does political connection impact the firm performance	36 political connection studies	Political connection, capital structure, liquidity and performance	Literature analyses	Politically connected firms are more likely to raise capital at a least possible cost and non-connected firms. Political connection improves firm performance	+Ve	To determine the relevant variables.
34	Daeheon, Chune, Soon-Ihl, & Jason, (2020).	The role of political collusion in corporate performance in the Korean market	54 Korean Listed companies covering 15th to the 19th Korean governments (1998 to 2018)	ROE, ROA, political connection, firm size, Korean governments, R&D cost, leverage, free cash flow, sales and management cost	Descriptive statistics, correlation matrix, Multiple regression, and fixed effect regression	Political connection improve return on assets of firms by 10%	+ve	To determine the relevant variables.

DETERMINANTS OF DEBT CONCENTRATION AT STATE GOVERNMENT LEVEL

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Abstract

The concentration between local and foreign debt issued by governments is a scantly unexplored area of government debt studies. The scanty literature in Nigeria and inconclusive debate on the determinant of debt concentration motivated this study. The objective of the study was to examine the influence of legal expenditure constrain (LEC), tax expenditure limitation (TEL), Fiscal health (FHT), and Fragmentation consideration (FGC) on debt concentration (DC) of state government in Nigeria. Ex-post-facto and quantitative research design were adopted for the study. Quota sampling technique was used to select 18 states in Nigeria (3 for each Geo-political zones). Five years (2012-2016) balance panel data from various sources were analysed using Factor Score regression. DC was measured using the ratio of foreign debt to the total number of debt of a state. We found that LEC and FHT of a state have a significant positive effect on debt concentration of state government in Nigeria; TEL negatively and significantly affects debt concentration of state government in Nigeria; while fragmentation consideration does not significantly influence debt concentration in Nigeria. We recommend that States should put a policy measure that reduce its legal borrowing limits so as to achieve its budget expenditure objectives; should improve its tax expenditure ratios by putting in place a good internal revenue generation policies. Improve the fiscal health of its citizens through various social security programs.

Keywords: Legal expenditure constrain, tax expenditure limitation, Fiscal health, Fragmentation consideration, and debt concentration

1.0 Introduction

The volume and magnitude of state government debt have been on increase notwithstanding the Paris-Club refund and debt forgiveness received during the time of president Obasanjo. The composition of state government debt is mainly foreign and local debt. The local debt which includes the recent bailout received by states from the federal government. However, there is no uniformity on the composition of this foreign and local debt among Nigerian state governments [Ibrahim & Rajah (nd)]. They pointed out that local debt is easy to borrow with the high-interest rate while foreign debt borrowing process is complicated with many conditionality and consequences on the borrowing states, although with a lower interest rate. Imimole, Imoughele and Okhuese (2014) question the fate of state that has high foreign debt concentration (states that its debt stock is dominated in foreign currency) at the time of foreign currency crises like the one Nigeria is currently facing. Imoughele and Okhuese (2016) reported that only 6 states in Nigeria can pay personnel cost (Salaries and Wages) without borrowing. The high stock of foreign debt by state government contributed significantly to the financial crises rocking almost all the states in Nigeria as a result of the debt servicing that was not hedged or protected against the effect of foreign currency transaction.

There are many factors constraining the level of debt a state government can issues. Prior literature argued that many factors constrain the level of debt a government can issue, but for our purpose, we limited the factors constraining the level of debt a government can issue to factors that are specific to state government. This factors can be group into budget Expenditure, legal expenditure, internal revenue generation, fiscal Health, and fragmentation constraints. In this study, we present a framework of factors constraining the distribution of foreign and local debt among states in Nigeria. We place emphases on the foreign debt concentration of state government level in Nigeria which has not received adequate attention in the literature. We concentrate on the debt that is issued at the state government level. The study contributes to the understanding of current debt management and fiscal federalism literature. The volume of total debt stock at state governments is an invaluable measure of fiscal health and hasreceived serious media attention in the wake of recent economic recession in Nigeria and states being unable to meet their financial obligation (Uguru 2017).

1.2Statement of the Problems

The study of the determinant of government debt has been greeted with many factors/determinants and measurement based on the researcher's scope of the study, therefore making the scope of the study of the determinant of government debt and borrowing very wild that significant amount of researches are needed to cover-up the gaps in the literature(Uguru, 2017). Many studies have been carried out on the determinant of government debt in developed and developing nations like Nigeria (Manoel, 2013). However, only a few studies have been carried out on the determinant of debt concentration (Goban & Matosec, 2016). These studies, however, were carried out in a developed nation and use general government data (aggregate of federal, state and local/district government data). The only study that uses state government and local government data is the study of Hendrick Benedict and Lal (2014), Ellis and Schansberg (1999), Clingermayer (2018), and Robert and Dwight (2014) which combine state government and local/district government data together. This combination or aggregation of the two data may lead to a conflicting and robust result which may lead to type one or type two error. To narrow-down the study of Ellis and Schansberg (1999), Clingermayer (2018), and Robert and Dwight (2014) this study used only state government data which has not been used by prior studies with the best of our knowledge.

Furthermore, the studies that have been carried out on the determinant of government/public debt found mixed and conflicting results. For instance, Oates (2015), Morris and Robert (2018), and Dollery and Worthington (2016) found that Fiscal health and legal factors are the main determinants of government debt while other factors in their study do not influence the direction of government debt positively or negatively. However, Hedrick and Benedict (2014), and Bahl and Duncombe (2013) found that fragmentation and demographic factors are the main determinant of government borrowing. Surprisingly Temple (2017) found that only government budget expenditure limits are the only determinant of government debt. These determinants of government debt found by these scholars leave us with the unknown fate on the factors determining the magnitude and volume of government/public debt. Therefore the answer to the question of what are the main determinants of government/public debt/borrowing concentration is still inconclusive in the literature. This study, therefore, seeks to contribute to the answer of the above question by studying determinant of debt concentration at state government level for the period 2012-2016 using 18 States (3states from each geo-political zone) of Nigeria.

1.3 Research Hypotheses

For the purpose of this study, we put forward the following research hypotheses:

I. There is no significant effect of legal expenditure constraint on debt concentration of States government in Nigeria

II. Tax expenditure limitation does not significantly influence the debt concentration of States government in Nigeria

III. Fiscal health does not significantly affect the debt concentration of States government in Nigeria

IV. Fragmentation consideration has no significant influence on debt concentration of States government in Nigeria

1.4 Scope of the Study

This study covers state government debt concentration and its determinants in Nigeria. The Study used 18 state government (three states from each geopolitical zone in Nigeria for the period 2012-2016. The scope of this study includes: legal expenditure constrain, Tax expenditure limitation, fiscal health, and fragmentation consideration; and foreign debt concentration. Areas like local debt concentration; political, demographic, and non-financial related factors are not covered in this study as this factors may be difficult to measure quantitatively and as such reliable data may be difficult to generate.

2.0: Review of Related Literature

2.1 Conceptual Framework

The concentration between local and foreign debt issued by governments isa scantly unexplored area of government debt studies. The total volume of foreign and local debt of government have been on increase for the last 10 years (Uguru 2017). There have been two major areas of debt concentration studies in the literature; thus foreign debt concentration and local debt concentration. While this study concentrates more on foreign debt concentration, reference was made on local debt concentration where appropriate.

This section identifies the factors in the literature that determines the concentration of state government debt. This factors in the literature can be grouped into four: Legal constraints, budget (tax expenditure limitation) constraints, fiscal health, and fragmentation consideration (fiscal illusion Hypotheses).

2.1.1 Legal expenditure constraints

Historically the limits imposed on state general obligation debt have taken the form of constitutional prohibitions, voter referendum, and legislative oversight (Euisoon & Hadi, 2013). The formal constraints on debt that states may utilize are based in state law. Trautman (1995) measured legal constraints using index proxy of 0 and 1 for management and executive control influence on state government debt. The National Association of State Treasurers (2001) measured legal constraints using a combination of constitutional and statutory limitations on general obligation debt. Umbrella policies of the state government which restrict the use of both general obligation and nonguaranteed debt were used by Hackbart and Ramsey(2004) to measure legal constraints of state government debt. Dollery and Worthington (2016)used rating score that considers government legal borrowing limitations to measure legal constraint. We adopted Dollery and Worthington (2016) methodology in this study since it may be difficult to generate reliable data in Nigeria while using other methodology.

2.1.2 Tax expenditure limitation/constraint

Another factor affecting debt concentration in the literature is the tax expenditure limits. Clingermayer (2018) study measured tax expenditure constraints as the revenue generation power of the state (i.e. the total revenue generated by the government for the period). Fisher and Wassmer (2014), the used government budgeted expenditure as a measure of expenditure constraint. While Poterba and Reuben (1999) adopted the ratio of taxes to budgeted expenditure to measure expenditure constraints that affect state government debt. In this study, we adoptedthe ratio of state IGR to state budgeted expenditure to measure state government expenditure constraint.

2.1.3 Fiscal health

Three measures commonly are used to capture the fiscal health of a state: income per capita, state GDP per capita and the unemployment rate. Personal income per capita is used by scholars to measure the amount of debt a government can afford to borrow. Bahl and Duncombe (2013), Clingermayer(2018) and Ellis and Schansberg (1999) used personal income per capita in their models to predict the effect of fiscal health on the debt level of government. Fisher and Wassmer (2014) include unemployment rates and real gross state product per capita as a measure of state government fiscal health and its effect on state debt level. Tosun(2003) used only unemployment rates to measure the fiscal health of government in determining the influence of government fiscal health on debt borrowing power of the state.

2.1.4 Fragmentation consideration

Fragmentation literature is rooted in the Tiebout (1956) hypothesis in which a fragmented metropolis allows citizens to pick communities based on the package of goods and services that align with their preferences. With increased fragmentation, the fiscal illusion effects should be more pronounced as debt is spread across more issuing jurisdictions that have overlapping boundaries. Fisher and Wassmer (2014) measured fragmentation consideration using a number of local government, while Tiebout (1956) hypothesis measure fragmentation using the volume of debt issued by the state government on behalf of local government. Tosun (2003) study used the number of debt issued by the state government through the local/district government.

2.1.5 Debt concentration

Fisher and Wassmer (2014) measure debt concentration using the ratio of foreign debt to total debt. Dollery and Worthington (2016) measured debt level of the government using the ratio of local debt to total debt, while Hackbart, and Ramsey(2004) study used ratio of foreign debt to local government debt. The study of Tosun (2003) measures debt concentration using the ratio of local/district government to state government debt stock.

Webometric Analyses of Empirical Literature

S/N	Author/Date	Country & Sample/Period Covered	Variables	Design/Method of Data Analyses	Finding/ Contribution
1	Uguru, (2017)	Nigeria 1986 – 2013	Capital expenditure, recurrent expenditure and public debt	Time series data, OLS regression	Positive effect of recurrent expenditure on economic growth, while capital expenditure negatively influence public debt in Nigeria.
2	Ilhèm & Majdi (2017)	12 Europeans for the period 2002 - 2015	Non-performing loan ratio, export to GDP, import to GDP, inflation, military expenditure, GDP growth, liquid reserve and national debt	Panel data standard error correction Model and FGLS regression	Non-performing loan, imports and military expenditure positively impact the magnitude of national debt, while GDP growth and liquid reserves of banks negatively influence national debt. While export was found not to affect national debt significantly.
3	Uguru, (2016)	Nigeria (1981 – 2012)	Recurrent expenditure, capital expenditure and public debt	Time series regression model	Recurrent expenditure positively affects public debt, while capital expenditure does not affects public debt
4	Ilhèm, & Majdi, (2016)	12 Europeans (2000 – 2014)	Non-performing loan, export, imports, inflation, military expenditure, GDP, bank liquid reserves to assets ratio and public debt	Panel data & corrected standard errors model.	Non-performing loan, military expenditure, and imports significantly affects public debts positively while GDP, bank liquid reserve to assets ratio have significant negative influence on public debt. However no significant association was found between inflation and public debt.
5	Imoughele & Okhuese (2016)	Nigeria, 1988 – 2012	GDP, external and local debt, Exchange rate, openness of the Economy, budget deficit, FDI, terms of trade, and external debt to GDP	Time series data, Johansen cointegration, *Augmented Dickey-Fuller, and OLS regression test.*	GDP, debt servicing and interest rate significant affects countries debt burden while other variables are not significant determinant of Nigerian debt to GDP
6	Goban & Matosec (2016)	EU countries for the 2007, 2009, and 2014	Budget balance to GDP, GDP growth rate, controlling for (GDP per capita, Government Expenditure, Investment to GDP, Inflation rate), interest rate on bonds, net export, and public debt	Unbalance panel data, pool and fixed effect regression model, and Hausman test	Balance panel data and GDP growth rate significantly affects government debt

			to GDP		
7	António. & Jorge (2015)	2000Q2-2014Q4, financial variable of Portugal	Budget balance, potential output, government bonds, export, current and capital account, sovereign yield, and Non-resident debt	Time series data OLS regression	Fiscal positions and cross boarder factors positively affects non-resident debt
8	Rehmat, Akhtar &Shazia (2015)	Pakistan, 1976 – 2010	Fiscal deficit, trade openness exchange rate, terms of trade, foreign aid and external debt.	Time series data, Johansen cointegration, *Augmented Dickey-Fuller, and OLS regression test.*	Fiscal deficit, trade Openness and exchange rate significantly influence external debt while terms of trade, and foreign aid does not significantly determine the magnitude of external debt in Nigeria.
9	Edlira &Arjeta (2015)	Albania 2001 -2016 (2016 is forecasted Data as issued by the ministry of finance.	Public debt stock, debt per capita, GDP per capita, debt to GDP, debt to annual revenue, budget deficit, public debt growth rate, GDP growth, Unemployment and FDI	Descriptive and percentage analyses, time series data	Demographic, political and economic factors/variables are the main determinant of public debts
10	Imimole, Imoughele, &Okhuese, (2014)	Nigeria (1986 – 2010)	Terms of trade, openness of economy, budget deficit, GDP, FDI, Exchange rate and Ratio of external debt to GDP	Time series data, Error Correction Mechanism (ECM) and the Johansen Cointegration Test	Ratio of debt services to export positively influence Nigerian external debt to GDP ratio, while GDP negatively influence external debt to GDP of Nigeria. However other variables were found to be statistically insignificant in influencing external debt to GDP ratio.
11	Mihaiu, (2014)	27 Europeans Union (2008 – 2012)	Investment, unemployment, GDP	Panel data Pearson correlation	Only government investment has significant negate association with public debt while other variables does not significantly affects public debt.
12	Balaguer-Coll, Prior, &Tortosa-Ausina, (2013)	Spanish local governments for the year 2008	Capital expenditure, net savings, budget surplus/deficit, own fiscal capacity, expenditure commitment, level of tourism, level of economic activity, population density, colure of governing party, foral regions, decentralization and public debt	Pooled data, regression quantiles	Capital expenditure, budget deficit/surplus positively influence public debt across all quantiles while net saving, negatively influence public debt across all quantiles. However other variables have varying degree of influence on public debts across different quantiles depending on the level of debt. They concludes that policy measure for the local

					government should not be homogeneous because of different effect of the factors on the level of debt
13	Manoel, (2013)	9 South American countries (1970 – 2007)	Trade openness GDP growth, liquid liability to GDP, inflation rate, urban population, executive constrain, share of government to GDP, population, income inequality index. and public debt	Panel data, pooled OLS, fixed instrumental variable and SYS-GMM estimation	GDP growth negatively influence public debt while other variables in the study does not significantly affect external debt of South American government.
14	Euisoon, &Hadi, (2013)	82 advanced and developing countries (1970 – 2010)	Government hidden debt, gross deficit, primary money and government known debt, contract reliability, transparency, borrowing cost	Panel data cross sectional regression	Transparency and contract reliability negatively influence the volume of hidden debt while known debt and borrowing cost positively influence hidden debt of a country.
15	Jurgita &Ausrine (2013)	3 Baltic States data for the period 1996 – 2011	GDP, export, unemployment, Budget deficit, and public debt.	Panel data and individual State time series data, regression and correlation	There is positive association between export, GDP and public debt, while there is a negative significant association between public debt and budget deficit. While unemployment does not significantly influence public debt.
16	Pirtea Nicolescu, &Mota, (2013)	Romania, 2000 – 2011	Fiscal deficit, interest rate, real GDP growth, exchange rate, financial crisis and debt to GDP.	Time series data, OLS regression	Financial crisis, interest rate on bonds positively affects debt to GDP, while other variables of the study does not affects debt to GDP.
17	Mota, Fernades, &Nicolescu, (2012)	27 Europe Counties for the period 2000 – 2011	GDP contraction, weak fundamentals, fiscal policies, interest rate on bonds, current account to GDP and debt to GDP ratio.	Panel data regression,	Current account to GDP negatively influence debt to GDP; while GDP contraction positively influence Debt to GDP. However no significant association was found between fiscal policies fundamentals, & interest rate on bonds and debt to GDP.
18	Okafor, &Eiya (2011)	Nigeria (1999 – 2008)	Inflation rate, population growth, tax revenue growth total government expenditure, public debt growth	Time series data OLS regression	Population, tax revenue, govt. expenditure has significant positive association with public debt while inflation has insignificant negative association with public debt

19	Kalimeris, (2011)	Greece, 1998 – 2009	Government Deficit, intra EU Trade balance, long term interest rate; and national debt	Time series data, Granger causality & VAR test	Government Deficit, intra EU Trade balance, long term interest rate affects national debt
20	Abdul (2006)	Pakistan, 1991 – 2002	Total government expenditure, non-interest expenditure, average interest rate, Budget deficit, domestic price level and public debt	Time series data, OLS regression,	Government expenditure, budget deficit, and interest rate on domestic debt significantly affects domestic debt while domestic price level negatively affect domestic debt.
21	Ibrahim, & Rajah, (ND)	Nigeria (1970 – 2013)	External debt, Oil price, exchange rate, domestic saving, govt. fiscal deficit, GDP, debt services export ratio	Autoregressive Distributed Lag and time series data	Oil price, GDP and debt services/export ratio negatively affect the size of external debt while exchange rate and fiscal deficit positively influence external debt volume in Nigeria.

2.3 Summary of Empirical /Gap in Literature

Many studies have been carried out on public/government debt and its determinants, however different studies identify different factors that influence public debts. Again the result of the prior studies from both developed and developing nations faced with controversy on the specific factors and the direction of the factors in influencing government debts. Also, there has been a measurement controversy on the widely studied variables of determinants of debt (legal constraint, expenditure constraint, fiscal health, fragmentation consideration) this leads to different results and conclusions,

Prior studies on determinant of public/government debt are very voluminous, notwithstanding the voluminous as it is, very few studies have been carried out at state/local/district government level, and the few studies carried out and state government level were carried out in a developed nation with (with the U.S holding the majority of the studies at state government level). Notwithstanding that Nigeria has the same structure of government (federal, state, local/district government), with the best of our knowledge, no publicly available study has been carried out in Nigeria on determinants of government debt.

With the best of our knowledge, only three studies are publicly available studies on determinants of debt concentration at state/district government level both in developed. Therefore there is need to contribute to the argument initiated from developed nations on the factors affecting state/district government debt concentration and provide literature relevant for developing nation on the determinants of debt concentration at state government level. This study also fills the gap in the literature by using Nigerian state government relevant variables and data measurements.

3.0 Methodology

3.1 Research Design

This study adopted ex-post-facto design as the nature of the study required post period or prior period data (past statistical data and financial information of state governments in Nigeria). We also used 90 balanced panel data (18 States for 5years).

Secondary data collected from the statistical bulletin, annual abstract of statistics, Nigerian Debt Management official website, and State Government (database of selected State) are the major sources of data used for the study. Internet downloads from various website and data request from data management firms are the method of data collection adopted for the study. The main source of data collection used for the analyses and testing of hypotheses is the secondary sources collected for the selected States for the period 2012-2016.

3.2 Population and Determination of Sample Size.

The population of this study is the 36 States of the Federal Republic of Nigeria. Because of the nature of the study and data availability, Quota sampling technique was used for the study as the study need comprehensive (balanced panel data) data for all the variables of the study and to provide equal representation of the Geopolitical Zones of the Federation. The study should have been a census (the study of the entire population), however because of the availability of data for some States, we adopted the Quota sampling in order to have a good representation of each cluster in the population.

From the data available for the study, we are only guaranteed (sure) of 3 States for each of the geopolitical zones, hence three states were selected from each of the geopolitical zones. For zone that has more than 3 States available data, we select the 3States with the highest population so as to have a good representation of the population.

Therefore the sample size of the study is 18 States in Nigeria.

3.3 Method of Data Analyses

Factor-Score regression technique was adopted for the research. We tested for Multicollinearity, autocorrelation, normality and several other assumptions of regression model.

3.4 Model Specification and Justification

We adapted the model of Fisher and Wassmer (2014) by introducing Legal constrain and modifying the measurement of Tax expenditure limitation in line with Poterba and Reuben (1999) measurement, that is more comprehensive and Nigeria state government situation relevant.

The OLS model is specified thus:

$DC = f(LEC, TEL, FHT, \text{and } FGC)$ ………………………………………… I

The equation of the model is, therefore:

$DC_{it} = \beta_0 + \beta_1 LEC_{it} + \beta_2 TEL_{it} + \beta_3 FHT_{it} + \beta_4 FGC_{it} + \mu$ ……………………. II

Where:

DC_{it}mean Debt Concentration for the State i for the year t, measured as the ratio of foreign debt to total debt of a State (Fisher &Wassmer 2014)

LEC_{it} means Legal Expenditure constrain for the State i for the year t, measured using Global credit rating index, which measures the legal/legislation factors that limit state government power of borrowing. The rating score is 0-10 with 0 as no restriction and 10 as cannot borrow (Dollery and Worthington, 2016)

TEL_{it} means Tax Expenditure Limitation for the State i for the year t, measured as the ratio of internally generated revenue (IGR) to total expenditure Budget (Poterba & Reuben 1999)

FHT_{it}means Fiscal Health for the State i for the year t. measured as natural Logarithm of State GDP per Capita (Fisher &Wassmer 2014)

FGC_{it}means Fragmentation Consideration for the State i for the year t measured as the square root of the number of local government. (Fisher &Wassmer 2014)

β_0 is the intercept or the constant of the model
β_1,β_2,β_3, β_4,and β_5 are the coefficient of the model
μ is the stochastic disturbance or the error term

4.0 Presentation and Analyses of Data

4.1 Data analysis

Table 1 Descriptive Statistics

Variables	Mean	Std. Deviation	N
DC	.38642	.142660	18
LEC	.35899	.096082	18
TEL	.18970	.067834	18
FHT	3.92167	.269159	18
FGC	4.48333	.610014	18

Source: researcher's computation 2021

Table 1 shows the descriptive statistics that show the nature of the data used. The descriptive statistics include the mean, and standard deviation of all the variables including (both dependent, and independent variables). The Mean shows the average data of the variables used, the Std. Deviation show the extent of disparity among the data used and N is the number of rows of the data used for the analyses.

Table 2 Original Correlation Matrix

		DC	**LEC**	**TEL**	**FHT**	**FGC**
DC	**R**	1.000				
	sig.	-				
LEC	**R**	-.940	1.000			
	Sig.	.000	-			
TEL	**R**	.971	-.951	1.000		
	Sig.	.000	.000	-		
FHT	**R**	.940	-.863	.900	1.000	
	Sig.	.000	.000	.000	-	
FGC	**R**	-.354	.391	-.365	-.297	1.000
	Sig.	.075	.054	.068	.116	-

Source: Researcher's computation 2021

The correlation matrix presented in table 2 shows the relationship between the independent variables (LEC, TEL, FHT, and FGC), and the dependent variables (DC). From the table, we can see that only FGC has an insignificant relationship with DC, while LEC has a significant negative relationship with DC, and TEL and FHT have a significant positive relationship with DC. We can also conclude that there is a significant presence of multi-correlations among the independent variables of the study. We corrected the multicollinearity problem by using the Z-score values to run another regression which improves the Collinearity-diagnostic results, however, the Tolerance and VIF Collinearity Statistics does not improve (see Appendix II). We used Factor analyses score to run another regression (see Appendix II-Factor Analyses) which eliminate the multicollinearity problem of the data, hence the below correlation results (table 3) of the model.

Table 3 Factor Analyses Correlation Matrix

		DC	LEC	TEL	FHT	FGC
DC	**R**	1.000				
	sig.	-				
LEC (factor score)	**R**	.894	1.000			
	Sig.	.000	-			
TEL (factor score)	**R**	-.176	.000	1.000		
	Sig.	.242	.500	-		
FHT (factor score)	**R**	.364	.000	.000	1.000	
	Sig.	.069	.500	.500	-	
FGC (factor score)	**R**	.065	.000	.000	.000	1.000
	Sig.	.399	.500	.500	.500	-

Source: Researcher's computation 2021

Table 3 shows the correlation matrix of the factor score of our model. The correlation result of the factor score shows that there is no presence of multi-correlation among the independent variables. The result also shows that only LEC has a significant relationship with the dependent variable Dc at 5% level of significance, while FHT has a significant relationship with DC at 10% level of significance. The other two variables factor score (TEL and FGC) has an insignificant relationship with DC

4.2 Testing of Hypotheses

Table 4 Regression (Factor Analyses) Results Summary

Dependent variable: Debt Concentration (DC)
Method: Factor Score
Period of study: 2012-2016
Included Observations: 18

Variable	B	SE	Standardized Coefficients (Beta)	t-statistic	P. value	Collinearity Statistics: Tolerance	Collinearity Statistics: VIF	Decision Based on H_0 (5%Sig)
Constant	.386	.007		55.852	.000			
LEC	.128	.007	.894	17.920	.000	1.000	1.000	Reject
TEL	-	.007	-.176	-3.531	.004	1.000	1.000	Reject
FHT	.025	.007	.364	7.299	.000	1.000	1.000	Reject
FGC	.052	.007	.065	1.302	.215	1.000	1.000	Accept
	.009							

R: .984; R-Square: .968; Adjusted R-squared: .958; F-statistic: (4, 13) 97.141, Prob(F-statistic): .000; Durbin-Watson Stat: 2.330

Source: Researcher's computation 2021

Table for 4 shows the regression model results after the diagnostic and application (& correction of problems where necessary) of all the regression assumption for the data (normality, auto-correlation, multicollinearity, etc.). Based on the results of the regression model as exposited in table 4 above, the following decision was made on the acceptance or otherwise of the formulated hypotheses using 5% level of significance as our cut-off point (95% confidence):

$H_0$1: Legal expenditure constraints (LEC) has a significant effect on debt concentration of States government in Nigeria.

$H_0$2: Tax expenditure limitation (TEL) significantly influence the debt concentration of States government in Nigeria

$H_0$3: Fiscal health (FHT) significantly affects the debt concentration of States government in Nigeria

$H_0$4: Fragmentation consideration (FGC) has no significant influence on debt concentration of States government in Nigeria

4.3 Discussions of Results

The results of the regression model exposited in table 4.5 provide evidence for the rejection of three hypotheses and acceptance of one hypothesis. The results show that there is significant evidence for the rejection of hypotheses 1, 2 & 3 at 5% significance level, while no significant evidence was found to reject hypothesis at 5% or 10% level of significance.

The result of hypothesis one shows that legal expenditure constraints (measured using the Global credit rating index, which measures the legal/legislation factors that limit state government power of borrowing. The rating score is 0.00-1.00 with 0.00 as no restriction and 1.00 as cannot borrow) has significant positive effect on debt concentration (measured as the ratio of foreign debt to total number of debt of state government in Nigeria) at 1% significant level (with P-value of 0.000), and 1% change in the Legal expenditure limitation increased debt concentration by 12.8%. This our result is consistent and in line with results of Morris and Robert (2018), Trautman (1995), and Rehmat, Akhtar, and Shazia (2015) that legal expenditure constraints significantly affects debt concentration.

Hypothesis two result shows that tax expenditure limitation (measured as the ratio of internally generated revenue (IGR) to total expenditure Budget) significantly and negatively influence debt concentration of Nigerian States at 1% significant level (0.004) and 1% change in the tax expenditure limitation of state government decreased debt concentration by 2.5%. The result of hypothesis two confirm the findings of Poterba and Reuben (1999), Clingermayer (2018), and Fisher and Wassmer (2014) that tax expenditure limitation negatively affects debt concentration. This our result is inconsistent with the results of the studies that found a significant positive effect or insignificant effect of tax expenditure limitation on debt concentration as exposited in our empirical analyses (see Appendix III).

Result of hypothesis three shows that financial health (measured as natural Logarithm of State GDP per Capita) significantly and positively affect debt concentration at 1% significance level (with P-value of 0.000). 1% change in the financial health of state government increased debt concentration by 5.2%. This our result is consistent and in line with the observation of Bahl and Duncombe (2013), Clingermayer (2018), Ellis and Schansberg (1999), and Fisher and Wassmer (2014) that found a significant positive association between the financial health of a state and debt concentration. However, this result is inconsistent with the results of Tosun (2003), Mota, Fernades and Nicolescu (2012) that found the insignificant effect of financial health on debt concentration.

Hypothesis four results show that fragmentation consideration (measured as the square root of the number of the local government of a state) does not significantly affect debt concentration at 10% significant level (0.215). The result shows that a 1% change in fragmentation consideration contributes only 0.9% variation (which too small) in debt concentration. This our result is consistent with the studies of Fisher and Wassmer (2014), Edlira and Arjeta (2015), and Jurgita and Ausrine (2013) that found the insignificant influence of fragmentation consideration on debt concentration of governments. However, this result is inconsistent with the finding of Hendrick, Benedict, and Lal (2014), and Berry (2008) that found a significant effect of fragmentation consideration on debt concentration

In summary, the joint results of our model (using the F-ratio) shows that all independent variables (LEC, TEL, FHT, and FGC) jointly influence debt concentration positively at 1% significant level (F-ratio Prob. of 0.000). The result of the R-square (R-square Adjusted) of .968 (.958) shows that the variables in the model explain 96.8% (95.8% after adjusted for other factors) changes or variation in the dependent variables (DC). The Durbin-Watson Statistics of 2.330 (which is within the threshold rule of 1.5 – 2.5) shows that there is no significant presence of auto-correlation in our model. Collinearity Statistics (Tolerance and VIF) is 1 for all the independent variables showing that the result of each variable was not affected by other variables in the model, hence there is zero presence of constraints among the independent variables of the study.

5.0 Conclusion and Recommendations

5.1 Conclusion

Based on the results of our analyses, we conclude that the variables in our model are significant determinants of debt concentration of state governments in Nigeria. Specifically, legal expenditure constraints and fiscal health of state government affect state government debt concentration positively. Tax expenditure limitation of a state government negatively affects debt concentration of state government in Nigeria. Fragmentation consideration is not a determinant of state government debt concentration in Nigeria.

5.2 Recommendation

From the results of our study, we made the following recommendation:

7. State government should consider its legal expenditure constrain while making a decision on the type of debt to be issued (foreign or local debt) this is because LEC is a significant determinant of debt concentration. Therefore any state government that wants to reduce its foreign debt stock in order to reduce its foreign exchange risk should try as much as possible to reduce its legal expenditure limitations. It should be noted that legal expenditure limitations reduce state government power to borrow local fund, at a cost lower than international fund (Denison et *al*. 2009).
8. State government should try as much as possible to increase its tax expenditure ratio so as to reduce its foreign debt concentration as we found the negative influence of TEL on debt

concentration. Increasing tax to expenditure ratio does not only reduce foreign debt concentration but also reduces the total debt of a state government, hence the state should use tax/IGR to expenditure ratio as a tool for the management of debt. Therefore state government should step-up its effort for internal revenue generation.

9. To have access to international fund, the state should try as much as possible to increase its financial health as it is a significant determinant of state government foreign debt concentrations. State that has high fiscal health are more likely to have access to international finance, therefore the state should employ policy measure that will ensure steady growth of its fiscal health.

10. Fragmentation consideration should not be considered as a decision/determinant factor in any debt concentration related decision issues of state government in Nigerian as it does not influence the debt concentration of Nigerian state governments.

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COMPUTERIZED ACCOUNTING SYSTEM AND QUALITY OF CORPORATE REPORTS IN NIGERIA

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Abstract

The value attached to the accounting profession is to an extent based on the service rendered one of which is the production and vetting of corporate reports. Decisions taken are based on information contained in the financial report and as such, the quality of decisions is based on the quality of corporate reports. This study was aimed at empirically testing the notion that the use of computer generally improves the quality of results of tasks assigned to the computer system. Especially with the cost of investments earmarked to deploy the use of a computerized system thus the need for this study to justify these investment costs. This theory is built on porter's competitive positioning theory and systems theory. Hence, this study examined the impact of the use of accounting software on the quality of financial reports produced. Field survey method was used in getting primary data. The target population for this study are professional accountants. The level of feedback gotten shows that there was a low response from the respondents to the questionnaire which was administered online. The results of the analysis showed that the adjusted R^2 of -0.29 showed an inverse relationship between computerized accounting system and the relevance of corporate reports. The computed P-value is 0.956 which shows that there is no significant impact of the use of computerized system on the relevance of financial reports produced which is contrary to the apriori expectation. The study further revealed that there is no significant effect of computerized accounting system on the timeliness of the corporate reporting in Nigeria It is recommended from the study that in order to harness the benefit from the use of accounting software, staff expected to use the accounting software are to be properly trained as they have a significant role to play in the use of the accounting software.

Keywords: Accounting Software, Quality of financial report, Timeliness, Relevance, Faithful representation
JEL Classification Code: D23, D8

1.0 Introduction

Quality of financial report according to the international accounting standards board (IASB) comprises of reports that have the fundamental features of relevance and faithful representation. Quality of financial report is an important concept that was captured as one of the topics addressed by the IASB conceptual framework. Studies have also been dedicated to the concept of financial report quality (Jennings, 2003; Yetman & Yetman, 2004; Zeff, 2007; Chariri, 2009; Hashim, 2012; Tapang, Bessong & Effiong, 2012) to stress the importance of this concept.

These studies have examined the importance of quality financial reports and various attributes have been reviewed to seek a way to improve the quality of financial reports some of which are the application of quality standards (Cardona, Castro-Gonzalez & Rios-Figueroa, 2014), the computerization of accounting processes (Abdulle, Zainol & Ahmad, 2019), board composition and features (Rotich, 2017), legal framework (Jaggi & Low, 2000) etc.

In the light of these previous studies, this study is patterned to follow the stream of studies that seek to improve financial reporting quality by the use of accounting software. Although, there are existing studies in this regard, this study is a more up to date study as the use of accounting software now is more common than ever before (Abdulle, Zainol & Ahmad, 2019). Thus more objective responses are expected to be gotten from this study compared to previous studies were the views were gotten based on perception of the benefits of a computerized system.

The remaining parts of this study is broken into the statement of the research problem of this study, research objective, research question, literature review which consists of conceptual review, theoretical review and empirical review. Then the methodology of the study is explained, the analysis of data and the result of findings section is also shown and the conclusion and recommendation wraps up this study.

1.2 Statement of the problem

The quality of financial report is important as users of financial reports rely on it to make decisions and assess the performance of firms. As a result, low quality of financial reports which marks the absence of relevance, accuracy might hinder the performance of an organization (Gorla, Somers & Wong, 2010). Financial reports are also needed to get access to additional funds to meet funds requirement thus the importance of quality financial report is re-emphasized (Ochachosim, Onwuchekwa & Ifeanyi, 2012).It therefore means that optimum business performance might not be reached if quality financial reports are not produced. The danger of this is that it might cause the slow growth of businesses which might not be willing to employ more staff thus leading to high unemployment in the economy. It also means that businesses that want to seek additional funds for expansion might find it difficult to get as investors and creditors require quality financial reports on which to judge the performance of the business. Quality financial report is also important to assess the firm by management and realign it with the objectives of the firm by ensuring activities are guided towards the desired result.The issue of financial reporting quality is very critical with laws set in various countries to ensure a minimum quality in financial reports production. Also, accounting standards have been reviewed and many more developed to ensure that financial reports are relevant and faithfully represent economic activities of the firm. Scholarly studies have been carried out to examine also the impact of computerized accounting system on financial reports quality with varying reports obtained across different countries of the world. (Abdulle, Zainol & Ahmad, 2019; Akinyomi & Enahoro, 2013; Murungi & Kayigamba, 2015).Computerized accounting systems have been identified to have cost implication in implementing (Simkin, 1992 & Abu-Musa, 2005).Thus this study is designed to add to the existing body of literature on knowledge about the effect of accounting software on the quality of financial reports in Nigeria. This study is necessary as the use of accounting software has increased overtime (Abdulle, Zainol & Ahmad, 2019). Thus stakeholders have an experience of its use and functions unlike in the past where it was on perception. Thus the justification for this study.

1.3 Objective of the Study

This main objective of this study was to assess the effect of the useaccounting software on the quality of corporate reports in Nigeria. In order to achieve the main objective, the following specific objectives were achieved:

i. Examine the effect of accounting software use on the timeliness of corporate reports in Nigeria;
ii. Assess the effect of accounting software use on the relevance of corporate reports in Nigeria;
iii. Determine the effect of accounting software use on the faithful representation of corporate reports in Nigeria.

1.4 Research Question

The following research questions were answered in this study in order to achieve the specific objectives of this study. The research questions are:

i. To what extent does accounting software impact on the timeliness of corporate reports in Nigeria?
ii. How does accounting software impact on the relevance of corporate reports in Nigeria?
iii. To what extent does accounting software impact on the faithful representation of corporate reports in Nigeria?

1.5 Hypotheses

The following hypotheses, were empirically tested and analyzed:

i. H_0: There is no significant effect of accounting software use on the timeliness of corporate report in Nigeria;
ii. H_0: There is no significant effect of accounting software use on the relevance of corporate report in Nigeria; &
iii. H_0: There is no significant effect of accounting software use on the faithful representation of corporate report in Nigeria.

2 Literature Review

2.1 Conceptual Review

Accounting Software

This is a computer program which supports the automation of accounting tasks by collecting accounting data and processing them to become accounting information (Meigs & Mary, 2006; Wilson & Sangster, 2010). Accounting software have developed and can now send information via the internet (Marivic, 2009). This software can be custom made or commercially available which is more compatible as it is created for general business environment than the custom made which are more specifically designed to meet the particular needs of a business. These tools have made the preparation of financial reports easier (Kharuddin, Zariyawati & Annuar, 2010).

Quality of Corporate Report

According to the conceptual framework by the International Accounting Standard Board, there are certain features which a financial report must have to classify it as being of quality. These features are created into two broad features, which are grouped as the fundamental features and the enhancing features. The fundamental features are relevance and faithful representation. On the other hand, the enhancing features consist of timeliness, completeness, cost efficiency etc. High quality financial reports can aid companies to increase their size and performance (Urquia, Perez & Munoz, 2011).

2.2 Theoretical Review

Porter's competitive positioning theory

This theory was described by Michael Porter in 1980 and it states how companies should aim at competitive advantage across its chosen market scope. That means adopting either a lower cost strategy or differentiation strategy or focus strategy. It is worthy of note that the focus strategy has two variants namely cost focus or differentiation focus. Porter stressed the idea that firms should adopt one single strategy to achieve result and failure to do so will result in 'stuck in the middle scenario' He explained that practicing more than one strategy will lose the entire focus of the organization hence clear direction of the future trajectory will not be established. Scholars overtime have argued that a hybrid of strategies can be pursued by a firm and it will still succeed these studies (Anderson, 1997). After eleven years, Porter revised his stance and posited that in a turbulent business environment, it was necessary to survive with a blend of business strategies and not remain rigid with one.

System Theory

System theory was majorly developed in the sciences to explain the connection between various organisms that makes up a habitat (Bertalanffy, 2009). Gelinas, Sutton and Hunton (2009) posited that system theory could be used to explain interrelationships within and outside the entities and how they developed as a result of these interactions. In this regard, the accounting software is a representation of a system in line with the systems theory and it shows how various units and components of the business are connected in monetary terms.

2.2.1 Theoretical Framework

This study is hinged on porter's competitive theory and system theory and as such, the analysis and discussions went in line with the fundamentals of these theories.

2.3 Empirical Review

Abu-Musa (2005) pointed out a model to be used in identifying factors to be considered before choosing and investing in an accounting software. This was arrived at in the study which was carried out in Saudi Arabia. This study is in similar direction with this study and throws more light on the issue of accounting software. However, the finding of this study is subjective as it was not empirically arrived at and thus, the finding is biased towards the thought of the researcher.

In a similar study, Akinyomi and Enahoro (2013) carried out a study to examine the effect of information technology on corporate financial reporting in the Nigerian banking sector. They concluded that information technology improves the credibility of corporate financial reports in the banking sector. Based on their findings, management of banks should invest in technology. Although the gap in their study stem from the fact that they focused on staff of just a single bank without exploring the reactions employees of other banks.

Wang (2015) also conducted a study and discovered that accessibility and some contextual features have greatly improved with the use of the Extensible Business Reporting Language (XBRL) though accuracy had not really been impacted. This was discovered based on the intent of the study to explore how XBRL impacted on the quality financial reports.

Murungi and Kayigamba (2015) in the same vein carried out a study in Rwanda to examine how computerization of accounting has affected the production of financial reporting quality. It was revealed that the computerization of accounting improves the timeliness of financial reports. They recommended that staff should be trained and retrained in the use of computerized accounting system. The limitation on the generalization of this study is based on the fact that the study findings is based on the Rwandan environment and hence, there is a need to replicate this study to generalize the findings.
In a closely related study, it was revealed that technology positively affects the performance of the selected local government office in Tanzania (Anaeli, 2017). This satisfied the crust of this study which was to examine the effect of computerized accounting system on the performance of a selected local government in Tanzania. Although the outcome of this study, it finding is limited due to the fact that the study was limited on the Tanzanian environment thus, there is a need to replicate similar studies across various climes in order to validate the finding of this study.

Abdulle, Zaini and Ahmad (2019) also conducted research in similar direction by examining the impact of computerized accounting system on the performance of SMEs in Somalia. They discovered that there is a relationship between computerized accounting system and the performance of SMEs. Just like other studies, the finding is based on Somalian environment and there is a need to replicate this study to generalize the findings.

3 Methodology

The survey research design was used in this study.Primary data was used for this study. It was retrieved with the use of a questionnaire which was administered online on professional accountants in practice. The target population which equaled the sample is an accounting group is made up of 100 professional accountants who are all members of the Institute of Chartered Accountants of Nigeria.For the purpose of this study, the linear regression model was used in testing the effect of accounting software use on the quality of corporate financial report in Nigeria at 5% level of significance and ANOVA was used to test the hypotheses in this study. The models consist of the dependent variables (timeliness, relevance and faithful representation) and the independent variable (accounting software). This is represented as:

Y=f(X)
QCR = f (accounting software).
Mathematically, this can be written as shown below:
TIM = $\beta_0 + \beta_{AS+}$ e ……………………… eq. (i)
REL = $\beta_0 + \beta_{AS+}$ e ………………………eq. (ii)
FR = $\beta_0 + \beta_{AS+}$ e ………………………...eq. (iii)
Where
β_0 = Intercept where independent variable is zero
β_{AS}= Accounting Software (Independent Variable)
TIM= Profit After Tax plus Staff Cost (Dependent Variable)
REL= Relevance (Dependent Variable)
FR= Faithful representation (Dependent Variable)
e = error term

4 Data Presentation and Analysis

The following tables show the characteristics of respondents that participated in this survey. In all, thirty-six respondents who are all professional accountants and members of the Institute of Chartered Accountants of Nigeria partook of this study out of the initial members of which the survey link was shared with.

Table 1. Descriptive Statistics on Respondents

Bio Data	Variable	Frequency	Percentage
Gender	Male	32	88.9
	Female	4	11.1
	Total	36	100
Education	HND	8	22.2
	B.Sc.	11	30.6
	MBA/ M.Sc.	16	44.4
	PhD	1	2.8
	Total	36	100
Interaction with financial report	Preparer	30	83.3
	User	6	16.7
	Total	36	100
Interaction with computerized reporting system	User	34	94.4
	Non User	2	5.6

	Total		100
Industry	Financial	13	36.1
	Services	8	22.2
	Manufacturing	5	13.9
	FMCG	1	2.8
	Others	9	25
	Total	36	100
Management Level	Intermediary Level	8	22.2
	Top/ Senior Level	18	50
	Executive Level	10	27.8
	Total	36	100

Source: Field Survey, 2020

Table 1 reveals that most of the respondents that participated in this survey were males. This is represented by approximately 89% of the respondents. It further shows that the majority of the respondents are Master's degree holders which shows the high quality of respondents that participated in this survey. It also reveals that most of the respondents are involved in the preparation of financial reports thus it shows that they are experienced in financial reporting matters. Furthermore, it shows that most of the respondents are users of a computerized accounting system which shows that they are knowledgeable in the subject matter of this study. It alsoreveals that more of the respondents are in the financial industry. It also shows that the respondents are spread across the various industries thus showing the spread of accountants involved in this study

Lastly, it reveals that most of the respondents are in senior or executive cadre of management and thus very knowledgeable in the subject matter of this study.

Descriptive Statistics of Responses to the Research Questions

Table 2. Responses to research question one

Item	Response	Frequency	Percent
Accounting software is necessary for business operation	SA	31	86.1
	A	4	11.1
	U	1	2.8
	Total	36	100
Use of accounting software shortens the time in preparing reports	SA	30	83.3
	A	6	16.7
	Total	36	100
Use of accounting software does not affect the timing of preparing reports	SA	10	27.8
	A	3	8.3
	D	9	25
	SD	14	38.9
	Total	36	100

Source: Field Survey, 2020

Table 2 reveals that most of the respondents strongly agree that accounting software is necessary for business operation. This is represented by 86.1%. On the other hand, none of the respondents are opposed to the use of accounting software which signals the importance of an accounting software. It also shows that all the respondents concur with the statement that accounting software use shortens the time in preparing reports. Out of all that concur, 83% approximately strongly agree to this position. It further reveals that more of the respondents which accounts for 38.9% strongly disagree that accounting software does not affect the timing of the production of financial reports. However, 27% of the respondents strongly agreed showing a diversity in opinion. Lastly, it reveals that there is a relationship between the use of accounting software and the timing of result. It also shows that there is a weak inverse impact of the use of accounting software on the timing of the production of financial reports.

Table 3. Responses to research question two

Item	Response	Frequency	Percent
Use of accounting software improves the accuracy of reports	SA	26	72.2
	A	8	22.2
	D	2	5.6
	Total	36	100
Use of accounting software reduces the rate of error in preparing reports	SA	19	52.8
	A	14	38.9
	D	2	5.6
	SD	1	2.8
	Total	36	100

Source: Field Survey, 2020

Table 3. Reveals that most of the respondents strongly agree that the use of accounting software improves the accuracy of financial reports. This is represented by approximately 72% of the respondents.It also shows that most of the respondents concurring to the statement that accounting software use reduces the rate of error in preparing reports. This is represented by a cumulative figure of 92% approximately.

Table 4. Responses to research question two

Item	Response	Frequency	Percent
Use of accounting software improves the completeness of reports	SA	20	55.6
	A	14	38.9
	U	1	2.8
	D	1	2.8
	Total	36	100
Use of accounting software reduces the manipulation in the preparation of annual reports	SA	12	33.3

	A	12	33.3
	U	4	11.1
	D	6	16.7
	SD	2	5.6
	Total	36	100

Source: Field Survey, 2020

Table 4 shows that most of the respondents concur that accounting software use improves the level of completeness of financial reports. This is represented by approximately 94%. It also shows that most of the respondents concur that the use of accounting software reduces the manipulations in the preparation of annual reports. This is represented by approximately 67%.

4.2 Test of Hypotheses

Hypothesis One

H_0: There is no significant effect of accounting software use on the timeliness of corporate report in Nigeria.

Table 5. ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.579	1	.579	.193	.663[b]
	Residual	101.976	34	2.999		
	Total	102.556	35			

a. Dependent Variable: Use of accounting software does not affect the timing of preparing reports

b. Predictors: (Constant), Accounting software is necessary for business operation

Table 5. shows that the computed p-value of 0.663 is higher than the set p-value of 0.05 which therefore means we are to accept the null hypothesis which states that 'there is no significant effect of accounting software use on the timeliness of corporate report in Nigeria.'

Table 6. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.282	.377		8.710	.000
	Accounting software is necessary for business operation	.077	.174	.075	.439	.663

a. Dependent Variable: Use of accounting software does not affect the timing of preparing reports

Table 6 shows the integers that made up the regression equation used in testing the variables in hypothesis one. From the table, all the integers are positive in the regression model used.

Hypothesis Two

H_0: There is no significant effect of accounting software use on the relevance of corporate report in Nigeria.

Table 7. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.010[a]	.000	-.029	.77751

a. Predictors: (Constant), Accounting software is necessary for business operation

Table 7 reveals that there is a low relationship between the use of an accounting software and the level of error made in the production of financial reports. It however shows that there is a low inverse impact of accounting software use on the level of errors that might occur in the production of financial reports.

Table 8. ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.002	1	.002	.003	.954[b]
	Residual	20.554	34	.605		
	Total	20.556	35			

a. Dependent Variable: Use of accounting software improves the accuracy of reports
b. Predictors: (Constant), Accounting software is necessary for business operation

Table 8 shows that the computed p-value of 0.954 is higher than the set p-value of 0.05 for this study. Thus we are to retain the null hypothesis which states that ' there is no significant effect of accounting software use on the relevance of corporate report in Nigeria.'

Table 9. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.395	.169		8.246	.000
	Accounting software is necessary for business operation	-.005	.078	-.010	-.058	.954

a. Dependent Variable: Use of accounting software improves the accuracy of reports

Table 9 reveals the regression model used in testing hypothesis two. From the table, it reveals that the integer for accounting software use is negative while the intercept value is positive.

Hypothesis Three

H_0: There is no significant effect of accounting software use on the faithful representation of corporate report in Nigeria.

Table 10. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.083[a]	.007	-.022	.70410

a. Predictors: (Constant), Accounting software is necessary for business operation

Table 10 reveals that accounting software use has a low relationship with the level of completeness of financial reports. It also shows that accounting software use have a low inverse impact on the level of completeness of the financial report.

Table 11 ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.117	1	.117	.235	.631[b]
	Residual	16.856	34	.496		
	Total	16.972	35			

Dependent Variable: Use of accounting software improves the completeness of reports
Predictors: (Constant), Accounting software is necessary for business operation

Table 11 shows that the computed value of 0.631 is higher than the p-value of set for this study at 0.05 thus, we are to retain the null hypothesis which states that 'there is no significant effect of accounting software use on the faithful representation of corporate report in Nigeria'.

Table 12. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.576	.153		10.283	.000
	Accounting software is necessary for business operation	-.034	.071	-.083	-.485	.631

a. Dependent Variable: Use of accounting software improves the completeness of reports

Table 12 shows the regression model used in testing hypothesis three. It reveals a negative integer for the independent variable while the intersect is a positive integer.

4.3 Discussion of Findings

Research Question One: To what extent does accounting software impact on the timeliness of corporate reports in Nigeria?

The frequency result of the analysis of responses gotten from respondents as displayed on Table 2. shows that all the respondents concur to the position that accounting software use reduces the time spent in the production of financial reports. However, the result from the inferential analysis as shown on Table 6. reveals that accounting software use does not have a significant effect on the timeliness of the production of the financial reports. Although Table 5. shows that accounting software use have a little inverse effect on the timeliness of financial reports production. The findings from this study is not in tangent with the position of Murungi and Kayigamba (2015) who opined that computerization of accounting system has improved the timeliness of financial reporting in Nigeria. The variation in the result can be attributed to the difference in environment. In line with porter's competitive theory, firms in Nigeria are advised not to invest in the computerization of the accounting system but also in the manpower and other elements in the computerized accounting system.

Research Question Two: How does accounting software impact on the relevance of corporate reports in Nigeria?

The result from the response gotten from the respondents as contained on Table 3. shows that most of the respondents concur that accounting software improves the level of accuracy in the production of financial reports. However contrary to the opinion of the respondents, the inferential analysis result contained on Table 8. shows that the use of accounting software does not significantly impact on the level of relevance of financial reports. Although using accounting software has a low inverse impact on the relevance of financial reports as shown on Table 7. This is contrary to the findings of Akinyomi and Enahoro (2013) who posited that information technology improves the credibility of financial reports. The difference in the result is as result of the difference in the methodology used. While their study respondents focused on only staff of a bank, the respondents of this study included professional accountants across various firms in Nigeria. This finding is also consistent with the systems theory that explains that a system is functional between the interaction of various entities within the system. Hence, the reporting system is based on the interaction between the accounting software, the accountants and other entities within the system.

Research Question Three: To what extent does accounting software impact on the faithful representation of corporate reports in Nigeria?

Table 4. Shows that the respondents concur that use of accounting software reduces the level of manipulation in the production of financial reports. Contrary to the opinion of most respondents, the inferential statistics result as contained on Table 12. reveals that the use of accounting software have a non-significant impact on the faithful representation of financial reports. Although Table 11. reveals that accounting software use has a low inverse impact on the level of faithful representation of financial reports. The finding from this study is in tangent with the finding of Wang (2015) who opined that computerized accounting system does not impact on the accuracy of financial reports.

5 Conclusion and Recommendation

From this study, it has established that contrary to popular opinions on the benefits of the use of accounting software, the use of accounting software does not necessarily translate to the improvement in the quality of financial reports produced. Thus, the following recommendations are also made:

i. A proper analysis of the cost and benefit of an accounting software should be done before employing the use of any accounting software;

ii. Controls should be put in place to ensure that the desired result of investing in an accounting software is achieved; &

iii. Proper training of staff who are to use the accounting software is to be done in order to ensure that the maximum result is gotten from the use of the accounting software.

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AN ASSESSMENT OF VALUE ADDED TAX (VAT) COLLECTION EFFICIENCY IN NIGERIA

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Abstract

The purpose of this study is to assess the Value Added Tax (VAT) collection efficiency in Nigeria for the period from 2010 to 2018. The study adopts VAT efficiency ratio known as c-efficiency ratio to measure the VAT collection efficiency using secondary data sourced from Federal Inland Revenue Service and Central Bank of Nigeria. The study examined the VAT Collection efficiency using Gross Domestic Product (GDP) and VAT revenue over the stated period. The study therefore recommended that for Nigeria to achieve an increase in VAT efficiency, government should put in place new measures that will help in the collection and administration of VAT. This can be achieved by reducing VAT rates to specifically target the informal sector which is characterized by unreported or underreported earnings with its attendant loss of VAT revenue.

Keywords: Value added tax, collection efficiency, revenue collection.

1.1 Introduction

Value Added Tax (VAT) has been considered in many countries as a major revenue source most especially in less developed countries. Many countries introduce VAT for many reasons but the basic and major one is to generate revenue. Significant revenue can be raised from VAT because VAT revenue has a positive relationship with the economy, as the economy is growing, VAT revenue is also growing or increasing more or less at the same rate (Gendron & Bird 2020). The Nigerian economy is said to be growing and said to be the largest economy in Africa after rebasing of its GDP in 2013. Analyst believed that rebasing the GDP should be seen in the tax revenue accruing to the government, especially the ratio of tax to GDP (Oyedele, 2013). VAT is the easiest tax to collect and administer as well as directly related to consumption should therefore experience an increase in the collection.

However, Nigerians behaviour toward tax avoidance and tax evasion is a major concern as a lot tend if allowed not to pay tax which harms the revenue generation. On the other hand, the cost of collecting tax is very high which in the end means spending more to generate less. This is made worse by corrupt practices in the tax collection system making the collection and administration of Tax in Nigerian inefficient. There is also the lack of professional and qualified tax official with proper knowledge and training on the modern way of tax collection and administration as well as inadequate infrastructure in the system (John, 2013).

In an attempt to increase revenue generated from tax past administrations made attempts to increase Value Added Tax (VAT) rate but failed but the administration of President Muhammadu Buhari succeeded. Some of the major reasons behind a rise in the rate are to generate more fund to pay the new minimum wage (Eastaugh, 2019). According to Finance Minister, Zainab Ahmad, an increase in VAT rate was partly to raise fund for the new minimum wage and to meet up the capital expenditure requirement. She pointed out that Nigeria has a very poor VAT payment turn out, with VAT reported to account for about 1% contribution to GDP between 2010 and 2013. This declined to 0.8% between 2015 and 2018, which is far below the median of 5% of GDP in other comparative African Countries. She added that Nigeria has the lowest VAT rate of 5% in Africa and the low contribution/share to GDP was attributable to the low VAT rate. It is therefore expected that the marginal difference in the VAT rate increase will address and take care of the new minimum wage increase among others. The government, therefore, increased the VAT rate from 5% to 7.5% in January 2020 with its implementation commencing in February 2020.

Following this increment government believes that more tax revenue will accrue through VAT. However, this might not be the case as it may be possible that the same people who have been paying VAT will still be those who bear the increase. This is in line with the arguments of economists that high tax rates may not be a panacea to inefficiency in tax collection (Đurović-Todorović, Đorđević, & Ristić, 2019). Therefore, the anticipated VAT contribution to GDP might not be achieved. It has also been argued that the gains expected from VAT might not be achieved where there is a large informal sector as we have in Nigeria (Emran & Stiglitz, 2005).Owens (2011) also argued that increasing the VAT rate may be considered the simplest method to reduce deficits in budgets but can adversely affect VAT performance. Also, an increase in VAT rates in developed countries is implemented when the efficiency of collection approaches 100%. The research therefore is aimed at assessing the compliance/efficiency in VAT collection in Nigeria to justify or otherwise the rationale for the increase in the VAT rate.

2.1 Value Added Tax in Nigeria

VAT Decree 102 of 1993 became the legislation introducing VAT into the Nigerian tax system. The Decree became operational in 1994 effectively commencing the VAT regime. VAT in Nigeria commenced with a single general rate of 5% which was increased to 7.5% in January 2020. VAT is believed to contribute significantly to revenue generation as it is a consumption-based tax and cannot be easily avoided or evaded (Olatunji, 2013). The burden of VAT is expected to be on the final consumers, it is paid on goods and services at each stage of production or distribution chain.

2.2 VAT Efficiency

VAT Efficiency refers to the government's ability to collect VAT (Sokolovska & Dmytro 2015). It is the ratio of collections as a share of consumption to the statutory tax rate (IGI global). A system of VAT is said to be efficient where the total potential tax base is covered by a single rate and tax authorities can collect all tax due (Cucue, 2014). The higher the efficiency the less is the difference between what is expected as VAT and what is actually collected (Sokolovska & Dmytro Sokolovskyi, 2015)

2.3 VAT Efficiency Measurement

The two major and frequently used measurement of VAT efficiency in OECD countries are the VAT productivity ratio and VAT efficiency ratio also called the c-efficiency ratio (OECD, 2012). The productivity ratio is the analysis of the GDP, it describes what percentage of GDP is being collected by the standard VAT rate, the higher the percentage the higher the VAT collection efficiency is and verse versa. It is calculated using the following formula;

$$VATp = \frac{(VATr / GDP) \times 100}{SR}$$

Where

VATp – VAT productivity
VATr – VAT revenues
GDP – Gross Domestic Product
SR – Standard VAT rate

However, part of the disadvantage of using the productivity ratio is that the analysis of the product and errors in the measurement of GDP will affect the analysis.

The VAT efficiency ratio is on consumption rather than production and is therefore considered to be more accurate and reliable sincethe tax base is more of domestic consumption than domestic production. It can be calculated using the formula below;

$$CER = \frac{(VATr / NC) \times 100}{SR}$$

Where

CER – c-efficiency ratio (VAT efficiency),
VATr – VAT revenues
NC – national consumption
SR – standard VAT rate

C-efficiency ratio will be 100% when the VAT system charged a uniform rate on all consumption, a certain situation may render the percentage to be lower; issues like tax evasion, tax base reduction as a result of VAT rate reduction, tax exemptions, tax fraud, ineffective tax administration and zero-rating of some consumption items or higher than 100% by including investment in the tax base as a result of limitation for the input of tax deduction may render the percentage to be more than 100% (Hybka, 2009).

2.4 Empirical Review

Bogetic and Hassan (1993) in their study examines key determinants of VAT using statistics from 34 countries, these countries were drawn from those countries that apply single tax rate and those that apply multiple tax rate. The study analyzed the relationship between VAT performance and the VAT rate, tax base and determinant that represents the highest and lowest Vat rates. The result confirmed the impact of tax rate and tax base on the performance of VAT. It shows also that the expansion of the tax base increases the revenue from VAT and those countries that apply a single rate has the highest tax revenue than those that apply multiple rates.

The complex nature of the VAT regime as pointed out by Smith et al (2011) in Bijeljins (2019) is very difficult to administer in both developed and developing countries particularly developing countries like Bangladesh, it was suggested to improve VAT collection efficiency it must introduce a policy of reducing VAT rate among other things. It is therefore recommended to successfully charged VAT/tax there must be strong political commitment, a details tax implementation plan with political barriers and provide necessary resources needed for the implementation of the VAT plan.

The major problem with VAT collection in Nigeria as highlighted by Neiyebu (1996) in Mohammad (2013) was public resistance, small enterprise exemption, tax refund, accounting culture, administrative complexity, literacy level and inflation. Furthermore, the government inability to adequately and effectively retrieved proceed from companies and other agencies are other problem or issues with the collection of VAT in Nigeria and so also the lack of adequate and effective monitoring and administration of tax remittance by tax authorities.

The empirical study conducted by Mohanty (2018) on the efficiency of VAT in Sub-National Government in India where VAT and inter-linkages variables such as level of Urbanization, electric billing and collection efficiency, the ratio of bank credit, the ratio of the unregistered manufacturing sector to GDP among others were discussed. It was found that, higher average consumption ratio is achieved as a result of higher urbanization and therefore raises VAT efficiency reason being VAT is a consumption Tax.As a result of a high level of urbanization, consumption rates raises and VAT efficiency increases. In most developing countries companies in the manufacturing sector are mostly unregistered and do transact with other unregistered business and therefore their financial transaction may not be captured in the tax net and their output may not be declared, the higher the unregistered manufacturers' transactions/business the lower VAT collection efficiency will be (Mukerjee, 2015).

Muhammad (2013) concludes that tax in Nigeria was effective but not efficient, in a study thatexamined the effectiveness and efficiency of tax administration in Nigeria. The study covered the period from 1994 to 2004 before GDP was rebased, and effectiveness test was conducted using revenue-generating tools and an efficiency test was carried out using fiscal planning tools. VAT applied to the final domestic consumption, the inefficacy of it can be seen basically from two-part; the lack of ability for the collection of VAT, control and Management of the tax while the second one is some goods enjoined the benefit of reduced VAT rate of exempted from the VAT charges. Đurović-Todorović et al. (2019) argued that the existence of a negative strong relation between VAT efficiency and rate point to the fact that an increase or decrease in the rate may lead to a decrease in collection efficiency. They, therefore, concluded that tax policy can negatively affect the business environment, economic growth as well as development.

2.5 Theoretical Framework

Ibn Khaldun's Theory of Tax

Ibn Khaldun's Theory of tax advocates for a low tax rate to encourage more productivity which will in turn increase revenue from taxation. He argues that lower tax rates will at the beginning increase the number and sizes of enterprises which will, in turn, increase the tax base as well as tax revenue accruing to the government (Islahi, 2015). This theory explains two different effects on tax; the arithmetic effect and the economic effect of which the VAT rate has on revenue. In case of increase or decrease in the VAT rate, the two identified effect has the opposite direction on the revenue (Islahi, 2015).

The Arithmetic effect as the VAT rates decreased/reduced will reduce the VAT revenue by the amount of the reduced rate while for an increase in the VAT rate the reverse is the case. For the Economic effect, on the other hand, a lower VAT rate has a positive impact on work, output and employment and therefore the tax base provides more incentives to increase these activities and raise VAT revenue but increasing VAT rate demoralized and reduced participation in the tax activities and therefore reduced VAT revenue. At a very high VAT rate, negative economic effect dominates positive arithmetic effect and this reduced VAT revenue (Islahi, 2015).

Theory of Laffer curve

It was propounded by professor Athrun Laffer, the theory explains the relationship between government revenue derived from taxation and all possible taxation rates. It is represented by a curve, (the Laffer curve). It considers the tax revenue raised at the extreme of 0% and 100%. The theory concludes that 100% tax rates raise no revenue in the same way 0% tax rate raises no revenue. This is because, at a 100% rate, there is no longer incentive for a rational taxpayer to earn any income, thus, the revenue raised will be 100% of nothing. It follows that there must exist at least one rate in between where tax revenue would be a maximum. One potential result of this theory is that, increasing the tax rate beyond a certain point will become counterproductive for raising further tax revenue because of diminishing returns (Laffer 2004).

3.1 Research Design

The study covers the period 2010 to 2018, the period was selected to cover periods before the rebasing of Nigeria's GDP and the period after rebasing. Data were from secondary sources and were obtained from the Central Bank of Nigeria (CBN) and Federal Inland Revenue Services (FIRS). Data for Gross Domestic Products (GDP) were obtained from the CBN Statistical Database while data for VAT collections were obtained from the FIRS Tax Statistics.

The study adopts the VAT Efficiency Ratio also known as the C-Efficiency Ratio to measure VAT efficiency in Nigeria. This measure is selected because it has been adjudged as the most accurate and reliable since it is based on consumption rather than production. Also, considering the consumption nature of the Nigerian economy, using the productivity ratio will mean exempting imported products thatare significantly high.

The C-Efficiency Ratio is computed thus;

$$CER = \frac{(VATr / NC) \times 100}{SR}$$

Where
CER – C-Efficiency ratio (VAT Efficiency)
VATr – VAT revenues
NC – National consumption
SR – Standard VAT rate (i.e. 5%)

4.1 Data Analysis and Presentation

Table I: VAT Efficiency Ratio 2010 - 2018

YEAR	QUARTER	VAT	GDP	CER
2010	1	87,509,624,902.44	12,583,478,330,000.00	13.91
	2	91,320,092,618.28	12,934,530,670,000.00	14.12
	3	84,950,971,834.03	14,304,438,440,000.00	11.88
	4	81,328,357,278.33	14,789,816,740,000.00	11.00
2011	1	92,322,234,605.82	13,450,716,680,000.00	13.73
	2	89,035,273,965.53	13,757,732,020,000.00	12.94
	3	103,038,517,218.34	14,819,619,260,000.00	13.91
	4	93,556,448,889.26	15,482,973,810,000.00	12.09
2012	1	95,025,309,056.99	13,915,506,030,000.00	13.66
	2	67,958,109,680.01	14,323,047,770,000.00	9.49
	3	104,822,151,552.81	15,645,434,730,000.00	13.40
	4	105,051,136,005.98	16,045,904,510,000.00	13.09
2013	1	192,196,400,000.00	14,535,420,950,000.00	26.45
	2	180,614,400,000.00	15,096,763,550,000.00	23.93
	3	207,070,070,000.00	16,454,372,460,000.00	25.17
	4	222,080,200,000.00	17,132,164,770,000.00	25.93
2014	1	212,385,300,000.00	15,438,679,500,000.00	27.51
	2	197,255,100,000.00	16,084,622,310,000.00	24.53
	3	192,082,500,000.00	17,479,127,580,000.00	21.98
	4	201,241,170,000.00	18,150,356,450,000.00	22.17
2015	1	103,389,300,000.00	16,050,601,380,000.00	12.88
	2	64,992,200,000.00	16,463,341,910,000.00	7.90
	3	56,399,000,000.00	17,976,234,590,000.00	6.27

	4	183,449,900,000.00	18,533,752,070,000.00	19.80
2016	1	198,734,300,000.00	15,943,714,540,000.00	24.93
	2	197,776,500,000.00	16,218,542,410,000.00	24.39
	3	207,214,000,000.00	17,555,441,690,000.00	23.61
	4	224,474,300,000.00	18,213,537,290,000.00	24.65
2017	1	221,380,500,000.00	15,797,965,830,000.00	28.03
	2	246,303,300,000.00	16,334,719,270,000.00	30.16
	3	256,560,700,000.00	17,760,228,170,000.00	28.89
	4	254,103,900,000.00	18,598,067,070,000.00	27.33
2018	1	269,793,800,000.00	16,096,654,190,000.00	33.52
	2	266,731,700,000.00	16,580,508,070,000.00	32.17
	3	273,504,500,000.00	18,081,342,100,000.00	30.25
	4	298,010,500,000.00	19,041,437,590,000.00	31.30

Source: Computations from Data obtained from FIRS and CBN

The C-Efficiency Ratio (CER) in the table above showed that collection efficiency over the years has not been stable. The fluctuations cannot be directly related to the change in GDP or Change in VAT revenue. Although the trend from 2010 showed that CER related positively with GDP as a drop or rise in GDP translates to a change in CER. For instance, in the second quarter of 2010, the GDP, as well as the VAT revenue, increased which led to an increase in CER above what was recorded in the first quarter of 2010.

However, in the third quarter of 2010 while GDP increase VAT revenues, on the other hand, decreased leading to a drop in CER from 14.12% to 11.88%. A similar trend was also seen in the fourth quarter of 2010. In the same vein, from the first quarter of 2011 to the fourth quarter of 2012, the CER fluctuates between 9.49% and 13.91%. This was due to variations in the GDP and VAT revenue during this period.

The first quarter of 2013 marked the beginning of sudden growth in VAT revenue even though GDP experienced a decline from that of the fourth quarter of 2012. The year 2013 showed a very good VAT performance with CER averaging at 25%. This was as a result of increased VAT collection which averaged at N200B per quarter. A similar trend was experienced in 2014 with CER averaging at 24% slightly below that of 2013 while VAT revenue remained at an average of N200B per quarter.

In 2015, VAT revenue experienced a dip from that of 2014, although GDP was comparably similar to that of 2014. However, CER was affected resulting in a decline in CER to as low as 6.27% and only peaked at 19.80% with an average of 11.7%. On the other hand, VAT revenue continued on a steady increase from the fourth quarter of 2015 to the fourth quarter of 2018. A similar trend was also experienced with GDP with a slight drop in the first quarter of 2017. During this period, the CER fluctuates between 19.80% and 33.52% with a trend not similar to that of either the VAT revenue or the GDP.

The fiscal year 2018 was found to be the most VAT efficient year with CER averaged at 31.81% and the lowest CER during the period was 30.25% which peaked at 33.52%. On the other hand, 2015 experienced the least VAT efficient year with an average CER at 11.71%, the year also recorded the lowest CER during the period of 6.27%.

Table 3: Summary Statistics

Variables	Obs	Mean	Median	Minimum	Maximum	Std. Dev.
GDP	36	16046.41	16067.61	12583.48	19041.44	1683.786
VAT	36	167.3239	192.14	56.399	298.011	73.2683
CER	36	20.47	22.89	6.27	33.52	7.881

From table 2 above, comparing the CER per quarter to the median CER for the period showed that only during the year 2018 did the CER exceeded the median CER. Also, comparing CER per quarter to the mean CER for the period, it is observed that CER in 2013, 2014, 2016, 2017 and 2018 exceeded the mean CER during the period. This indicates that only 2013, 2014, 2016, 2017 and 2018 performances were above average VATefficiency while the remaining years could be said to have performed below average.

In summary, from the above table and analysis, the more the efficiency ratio increases the higher revenue generated/collected from VAT and the lower efficiency collection ratio the low VAT revenue generated. It was observed that the least VAT revenue was recorded in the 2015 first quarter where the efficiency collection was minimum while the maximum VAT revenue recorded in the 1st quarter of 2018 at the time when the efficiency collection ratio was at a maximum of 33.52.

5.1 Conclusion and Recommendations

VAT efficiency as measured by the C-Efficiency ratio has been used to assess the VAT collection efficiency of countries around the globe. While individual countries CER may be influenced by different factors it is believed that a country with a very high CER is performing well in VAT collection. Owens (2011) has argued that an increased VAT collection can only be achieved where fiscal, economic and structural policies are in sync. Therefore, for Nigeria to achieve an increase in VAT efficiency government should put in place new measures that will help in the collection and administration of VAT. This can be achieved by reducing VAT rates so that specifically to target the informal sector which is characterized by unreported or underreported earnings with its attendant loss of VAT revenue. This is in line with the argument of Charlet and Owens (2010). It has also been argued that a country without a domestic manufacturing base or has no sufficient potential to grow domestic manufacturing VAT might not be the best option to increase revenue from taxation. Instead, sales tax and excise duties might be more efficiently collected than VAT(Keen, 2005).

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FINANCIAL TECHNOLOGY-BASED SERVICES AND CUSTOMER SATISFACTION IN NIGERIAN LISTED DEPOSIT MONEY BANKS

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Abstract
Customers' expectation of the Nigerian banking sector is very high. Most Nigerian banks have fallen short of this expectation through challenges ranging from delay transaction notification and failed promises among others which has reduced customer satisfaction. The study examined the impact of financial technology-based services on customer satisfaction of listed deposit money banks in Nigeria.The study employed the survey research design. The population consisted of the total number of customers of five deposit money banks in Sagamu, Ogun state made up of 131,850 customers as at 31st December, 2020. The sample size consisted of 399 customers in five listed deposit money banks in Sagamu, Ogun state, Nigeria. Data were analyzed through Descriptive and Inferential statistics. The findings revealed that financial technology-based services have a significant impact on customer satisfaction of listed deposit money banks in Nigeria (Adj.R^2= 0.113, $F_{(3,75)}$= 13.716, $p<0.05$).The study concluded that financial technology-based services had a significant impact on customer satisfaction of listed deposit money banks in Nigeria. The study recommended that management of deposit money banks should improve and increase financial technology-based services to ensure quality services are provided in order to retain customer loyalty, reduce customer complaints and ensure positive attitudes from customer towards the bank.
Keywords: Customer attitude, Customer loyalty, Internet banking, Mobile Banking, Financial technology-based services and Customer satisfaction.

1.1 Background to the Study

As a fundamental precondition of the banking industry's growth, customer satisfaction has the ability to build up a customer base of an enterprise, increase customer mix and improve the group's credibility (Alabar & Agema, 2014). With the latest restructuring phase in the Nigerian banking industry, consumers have had a large variety of goods and services that cannot be taken for granted leading to customer loyalty. The level of customer service, which often ensures that the customer is happy, has become an important factor in firm's performance and development (Djajanto, Nimran, & Kumadji, 2014).Financial services historically have been provided by brick and morter networks that has a physical banking presence for transactions including cash and deposits, transfers of funds and all other modes of transaction (Lawrence, Ehimare & Okoh, 2018). Customer relationship management has been a major challenge because problems encountered between workers and consumers are inevitable and the nature of these partnerships played a key role in these institutions' efficiency. Banks devote many resourcesto recruitment and training of customer service personnel to be of great benefit both to the banks and to consumers. In response to changes in consumer expectations and preferences, however, banks have continually changed their way of operation and service for their customers as technological development is progressed. Technology has played a crucial role in planning, integrating and managing the company management systems of many businesses (Eleje, Okoh & Okoye, 2018).

The manner in which users of financial services communicate with service providers has also been affected by technical advances, partially due to the rapid rate of penetration of emerging technology and adoption. The Nigerian bank consolidation program created fewer banks largely guided by financial technology-based services, which increased access to financial resources because more of the society's formerly excluded members are able to access structured financial services irrespective of their location. Thus, through financial inclusion, financial technology-based services adoption facilitated the process of economic growth and development. Banks that resulted from the restructuring exercise had a strong capital base to boost financial technology operations(Okoye, Adetiloye, Erin & Evbuomwan, 2016).The rapid transition in technology, savvy consumers and the need for high quality services have affected the current banking focus between counter banking and branchless banking. Banks are reorganizing the financial services market with new market technological models (Iriobe & Akinyede, 2017). In order to provide financial services to the unbanked community, the idea of Financial Technology (FTS) has been developed. Mobile money decreases the reliance on cash by making digital transfers while offering a forum for consumers to gain access to a much wider variety of financial services (Castri, 2013). Service distribution is increasingly predominantly technologically oriented in the banking sector and in the financial services industry in general. The Internet is basically the forum for delivering financial services.

The Internet is a worldwide data network infrastructure that provides a range of facilities for information and communication. These networks are interconnected by communication protocols, which allow data to be transmitted over multiple media. This is a banking service delivery system called electronic banking (Jan & Abdullah, 2014). The internet provides a forum for the distribution of financial services by banks. Jahan, Ali and Asheq (220) describe electronic banking, which includes telephone, mobile telephone and digital television, as providing of information and services to clients via electronically wired or wireless television channels by banks. Akhar, Peyman, Abbasi and Seyed (2015) clarified that electronic banking comprises of systems that provide financial institutions, individuals and enterprises with access to accounts, operate transactions and obtain financial and services information, including the internet, through private or public networks including cash withdrawal, money transfer, bill paying, balance of account investigation, monitoring transfers, demands for accounts statement, etc.

In order to pack the service supply and eliminate hurdles to conventional branch or brick and mortar banks, the electronic banking network has combined speed and coverage. A bank will now work across different jurisdictions without a physical footprint on the internet. Agboola (2011) held that electronic banking blurred the boundaries between financial institutions, allowed new products to be introduced and existing customers to repackage. The marketing opportunities on the internet are enormous. Items can be ordered and paid for online, and provide flexibility and customer loyalty in real time. Bank customer now have the opportunity not to be physically present at the bank to transfer funds from one account to another and for inter-bank transfers, time lost on check clearing has been saved when funds enter third party accounts after an electronic fund transfer is made.

Olotewo (2013) shared the opinion that Nigeria has strengthened the payment system by implementing the multiple electronic payment intervention. The technical breakthrough has lowered cash processing costs significantly and reduced the risk of transferring cash. Although the world banking climate has changed significantly on the Internet, there are clear obstacles, many discrepancies across borders based on factors such as technology, operational efficiency, human resource growth, etc. In the implementation and deployment of financial technology for its activities, the Nigerian banking industry is lagging behind its peers in Europe, Asia and America (Omodele & Charles, 2019). It is worth noting however that financial technology is the main tool which helps a bank to deliver a more professional product and to keep pace with an innovative position on the market.

In recent times, most Nigerian banks have fallen short of the expectation from customers in many regards. Customers have experienced challenges ranging from delay transaction notification, stock out, non-availability of staff at service points, unprofessional conduct or rude behaviors by the staff of the banks, poor standard of records or improper information, failed promises among others which has increased customer complaints (Eleje, Okoh& Okoye, 2018). Oluwagbemi, Abah and Achimugu (2011)opined that customer service in Nigerian banking industry can be mistaken to mean customer delay and frustration. Almost every Nigerian bank encounter similar problem in meeting customers’ expectation of services and customer satisfaction. The goalof providing services that would achieve customer satisfaction is to improve organizational performance which many banks have failed to achieve thus causing some cognitive dissonances among some loyal customers (Lawrence, Ehimare & Okoh, 2018).Customer's report that mobile and internet banking have crashed, Automatic Teller Machines, network disruptions, online theft and fraud, financial services breakdown, payment of secret electronic bank costs such as Short Message Services (SMS), warning distribution and obligatory ATM card acquisition and inappropriate Nigerian cards for foreign transaction are also received. In the end, customers' grievances are being met with banks. This study therefore examines the impact of financial technology-based services on customer satisfaction of listed deposit money banks in Nigeria.

2.1 Review of Literature

2.1.1. Customer satisfaction

Customer satisfaction is a term frequently used in marketing. It is a measure of how products and services supplied by a company meet or surpass customer expectation (Ozuru, Choba, & Igwe, 2016). Timothy (2012) defined satisfaction of customers as the number and percentages of the number of customers or the total number of customers with a reporting experience exceeding the particular satisfaction objectives set. Customer reviews can have a powerful influence within organizations. They stress the value of pleasing customers. It is therefore essential for the companies to manage customer satisfaction effectively. To do this, banks need accurate and representative customer satisfaction steps. In all areas of production, the value of customers satisfaction has increased.

Customer satisfaction is likely to increase the client base of an enterprise, increase the use of more unpredictable customer mix and improve the prestige of the business (Alabar, 2012). As such, the achievement of a competitive advantage is ensured better and earlier than rivals by intelligent recognition and customer satisfaction by enhancing products / services. A crucial factor to evaluate the success and growth of companies is customer service quality, which often means ensuring customer satisfaction (Agboola, 2011). Suleimon and Warda (2017) defined quality of service as the assessment of electronic systems, such as Internet, telephone lines or automated services. Consumer satisfaction in a business environment can be characterized as a method of offering and delivering services and goods to fulfill customer expectations by the industry. Ozili (2018) stated that customer satisfaction, may also be known as the feeling and evaluation of customer quality service, and the fact is that customer satisfaction is important to the success of a company is widely acknowledged. If a corporate deal is executed, this guarantees the company's market success in the near future.

Customer loyalty is a measure of a customer’s likeliness to do repeat business with a company or brand. It is the result of customer satisfaction, positive customer experiences, and the overall value of the goods or services a customer receives from a business(Suriya, Mahalakshmi & Karthik, 2012). Marketing scholars have rendered numerous ideas of consumer loyalty (Suriya, Mahalakshmi & Karthik, 2012). Marketing analysts have adapted different concepts of consumer satisfaction on the basis of the research priorities and contexts. For example, Alsajja and Dennis (2010) have conceptualized consumer loyalty rather than repetitive commercial purchases, as a feeling of commitment to the source of loyalty. A customer complaint represents a consumer's disappointment with the responsible party (Al-Hawari & Toaher, 2012). In a positive way, it can also be viewed as a customer survey with documentation on a product or service issue (Arner, Barberis& Buckley, 2015). Any new experts actually advise corporations to accept complaints from consumers as a gift (Arner, Barberis & Buckley, 2015). Consumer complaints are often informal complaints that are submitted directly to a corporation or a public sector provider and most customers address issues with goods and services. An instrumental complaint is a complaint against an individual or entity that may act and remedy (Al-Hawari &Toaher, 2012).

Attitude is a complex concept, which relates to individual behaviors. It may be defined by four components (Chishti &Barberis, 2016): It is an inferred proxy that construct after analysis of opinions and behaviors. Since it is a more or less durable tendency, attitude relates to an individual or a group, and not simply their behaviors. Attitudes are generally polarized, affection loaded over a given study, because of their beliefs and value relationship. There is with or an against attitude. Finally, they are purchased and undergo external impact. Jessie (2019) stated that an attitude raises the behavior probability that follows a predictable path. Mohammad, (2012) defines attitude towards a brand as the degree of satisfaction of consumer this product may provide.

2.1.3 Financial technology-based services

Technology services are technical services designed to support companies' and clients use technology to offer customized solutions that are technology-oriented, by integrating software, hardware, networks, telecommunications and electronics processes and functions. Technology has been rapidly improved, and it is an important ICT development tool because of its ability to remotely and rural Africa's infrastructural barriers. Financial technology, also known as Fin Tech, is the use new technology and innovation with other available businesses in order to compete in the marketplace of traditional financial institutions and intermediaries in the delivery of financial services (Chishti &Barberis, 2016).

Financial technology firms consist of entrants as well as existing financial and technology firms looking to substitute or expand the use of incumbent companies' financial services. Financial services include the financial industry's economic services, including a wide variety of companies that move, invest, handle and spend money as an exchange medium. Although there is no agreement on FinTech 's best meaning and that it is premature to define a fast-developing area, the different trials to decide it will give a good impression on this contemporary term. IOSCO (2017) discusses a number of creative business strategies, as well as new innovations that have the ability to change the financial services industry. The word 'Fintech' refers to financial technology. Financial Stability Board described FinTech as a technology-enabled innovation of financial services that could lead to the provision of financial services in new business models, applications, processes or products with a material impact(Financial Stability Board, 2017).

Financial technology refers to financial technologies that are technology-enabled. The term FinTech does not refer solely to particular markets (e.g., financing) or business structures (e.g., P2P) but also encompasses the whole spectrum of services and goods that the financial services industry offers historically (Arner, Barberis& Buckley, 2015). The process of development and subsequent popularization of new financial technology and of new financial technologies, institutions and markets can be described as financial innovation. It encompasses creativity in organizations, goods and procedures. Fintech is a service sector leveraging mobile IT technologies to increase the performance of the financial system. Fintech is a financial technology portmanteau which describes a financial services field in the 21st century which is evolving. FinTech describes a firm that looks at technologies and new technologies to supply financial services (Ernst & Young, 2016).

Mobile usually means "absolutely accessible, real-time access to the data, resources and software, accessible only from the desktop until recently" (Adewoye, 2013). Cell phones are an appropriate and adaptable platform for solving the digital divide by increasingly evolving technology and ease of use along with the declining costs of equipment. These expectations of consistency have not yet been reached, but they deliver comfort "anywhere," a revolutionary breakthrough. The wireless industry is now one of the world's most diverse and developing markets. The rapid technological development in electronics, especially in the last few years, has also shifted the world's means of production(Mohammad, 2012). This is apparent in the banking industry as the way and the way in which market knowledge is conveyed has changed with the advent and growth of mobile telephones to make customers' service more efficient in the banking sector. Mobility services, though, are generally distinguished as push or pull. Pull is where a customer asks from the bank directly for service or information. During drive, it happens whenever a bank gives a customer a warning when their balances are below the threshold. Pull facilities are also of higher safety. Researchers from every corner of the globe have successfully contributed to the existence and originality of mobile banking in varying degrees of customer service.

With technology, innovation and telecommunications increasingly and widely growing, a number and type of new delivery platforms for the financial sector are coming up rapidly, with internet banking being one of the newest in the chain of technological miracles. The Internet Banking industry was believed to signal a transition in banking delivery according to Leong and Anna (2018). Banks have invested heavily in Internet channel growth. Several scholars have explained Internet banking in various ways and so it has numerous meanings. Online banking provides many types of services, in part, from which bank customers can request information from their mobile devices and computers and can also carry out much of their banking transactions (Suriya, Mahalakshmi & Karthik, 2012). Online banking is one of the most important e-commerce areas. It has grown and evolved across numerous market aspects worldwide. It is important to study the concepts suggested by several scholars before moving further to determine the aspects of the Internet banking. Simply put, the mixture of finance and information technologies appears to be Internet banking. The Internet has become a relatively modern means of internet services transmission or dissemination. Banks will offer customer care and other essential services, such as deposits and transfers of money, across the internet rather than through physical investments in the bank (Fate & Nathan, 2019). Increased knowledge of internet technologies pushed customers to use fast and flexible banking solutions rather than conventional fixed services.

2.2 Theoretical Review

2.2.1 Disruptive Innovation Theory

This theory, which Christensen introduced in 1997, assumed that creativity is the best key to strategic advantages in a rapidly developing environment. Although innovation raises the rate of volatility and the competition pressure, making innovation more radical, the more challenging it is to enter a readily appropriate market. Disruptive innovation theory stimulates the company's success and sets a new industry pattern. Disruptive innovation is one of the most important hypotheses of innovation in the last decade. The simple ideas that accompanied it spread so quickly that, as long ago as 1998, one year after the idea was published, people used the phrase without referring to Harvard professor Clayton Christensen or his book The Problem of the Innovator (Harvard Business School Press). In the 1997, best-seller The Innovation 's Dilemma, the word disturbing innovation, as we know it today. Professor Clayton Christensen explored in the book Harvard Business School because certain radical developments improved the role of the new producer in a specific market, as opposed to the previous models (for example, the

Henderson-Clark model). In particular, he studied the disk drive industry thoroughly, since it was the most competitive, technologically discontinuous and complex industry in our industry. Week's criticisms identified several symptoms of problems within the research but stopped short of presenting root causes. Weeks (2015) criticisms diagnoses three root causes for the symptoms recognized by Week: a lack of an adequately constrained definition of the term disruptive innovation; a failure to identify and maintain a consistent unit of analysis in the research; and a failure to account adequately for managerial agency.

Disruptive theory is relevant in that it explains the type of technology banks adopt. The banking technology is disruptive because it does away with traditional banking. Banks can utilize technology to introduce and offer new products/services to customers. Some of these innovative solutions include mobile banking, electronic banking and mobile commerce. This would also serve as a way of attracting the unbanked populace to patronize the banking products/services. It would also attract the confident, busy and younger professional individuals that the banks need for their survival and growth. These new innovative banking products are far more convenient than the conventional face-to-face help provided by bank tellers, usually only after a long queue in the banking halls. To achieve productivity in the banking sector, banks need to constantly search for ways of reducing or lowering operational costs. This could be done by using such innovative technologies like ATM, internet banking, mobile banking as well as personal banking which have the ability to reduce operational cost over time and also increase service quality through process innovation. Such cost may, or may not, be passed on to customers in the form of lower prices.

2.3 Review of Related Literature

The dimensions of internet banking service quality and the effect on customer satisfaction were defined by Vetrivel, Rajini and Krishnamoorthy (2019). The study is based on a theoretical model consisting of five dimensions of efficiency and one exogenous variable of internet banking services. Data from 250 bank customers have been collected. There was a total of 250 Internet Bank clients involved and supplied data. In order to gather data from respondents, they used convenience questionnaire methods. The results of factor analysis showed five facets of the quality of internet bank services, namely reactivity, confidence, comfort, productivity and security. The consistency, morale and productivity of a website between internet bank services have a positive impact on customer loyalty.

Iriobe and Akinyede (2017) looked at the increase in customer loyalty in Nigeria's bank financial technologies. The analysis followed a descriptive and informal style of science. The sample population consisted of university students in Nigeria, 5 of whom were chosen at random. The key data have been gathered by conducting 250 standardized university questionnaires. Two hundred and forty-three (243) of the 250 questionnaires administered were filled in correctly and returned. For processing and displaying the data gathered, SPSS (Statistical Kit of Social Sciences) was used. The findings of the analysis showed that the bank's customer loyalty is essentially desirable and security and is subject to usability of financial technology resources, transaction costs, affordability of technology services, activities of technology services and the market consequences.

Fate and Nathan (2019) have calculated the degree of effect on customer loyalty, distribution speed, comfort, performance, reliability & safety. The Dynamic Equation Modeling-Partial Least Square (SEM-PLS) has formulated and evaluated five hypotheses. The customers of TBSSB in the Yola metropolis of Adamawa State collected a sample of 248 valid questionnaire instruments. In order to assess the durability and validity of the model, data collected from customers are analysed using the SEM-PLS. The results suggested that distribution speed and efficiency greatly affect, among other factors, customer loyalty. Pace of service, comfort and quality have no effect on customer satisfaction, while reliability has a medium impact on customer satisfaction and protection has a major impact on customer satisfaction.

Atina (2019) said that technical advancement is a significant success driver for businesses to improve product life, like financial business, in the maturity period. The need to provide goods and services that are included in financial services is very significant today, especially Islamic Financial Services. Specially for small and medium-sized enterprises (SME), Indonesia that has a unique topography that is made of several islands, the speed at which goods and services are distributed is important for the Indonesian economy. This paper used a system of consistency. The research findings highlighted the role model of digital finance in enhanced financial inclusion and the development of small and medium-sized enterprises in Indonesia.

Jessie (2019) explored the effect on economic development in Nigeria of financial developments. Electronic payment system data were used as variables for financial innovation from 2008 to 2017. The Generalised Methods of Moments (GMM) used for the study has shown the important positive impact on economic development in transactions using AMT and mobile banking, Online banking and point of sale terminals. Additional findings from the modified determination coefficient have shown that financial developments justify about 79% of the shifts in economic development. Therefore, the report concluded that financial innovation has a good predictive capacity in Nigeria's economic development and has a positive effect on the industrial growth of Nigeria. However, the risk associated with such developments should be recognized and removed before being promoted.

Sunday (2019) discussed the financial system practitioners' consequences for Financial Technology (FinTech). Any individual or company in the financial world that does not fit the changing technology in the financial sector has been discovered to be left behind. Therefore, practitioners are recommended to make concerted attempts at FinTech in terms of technology. Regulators will need to be technologically capable of curbing surpluses that could emerge from the development of FinTech, such as non-compliance with consumer information security, while businesses must routinely train its personnel and consciously develop dynamic ability to ensure that companies respond to FinTech 's dynamic existence in the financial system.

The effect of financial technology on operations (payments / collections) of small and medium-scale companies in Nigeria was investigated by David, Charles and Akinola (2018). A survey of

120 small-scale and medium-sized companies in the four (4) geopolitical areas defined by the state of Lagos was carried out. The four axes were so represented, with thirty (30) small- to medium-sized enterprises per axis. Inferential statistics were used to interpret the results. The study showed that Financial Technology (FinTech) has a significant economic effect and therefore positively contributes to national growth.

The impacts of electronic banking on financial inclusion in Nigeria have been studied, Emeka, Abba and Gideon (2019). As a proxy for electronic banking and the proportion of banked adult populations to the overall bankable adult population in Nigeria, the report used the total number of automated teller machines and points-of-Sale systems in Nigeria as a proxy for financial including. With the aid of computer-based multiple regression analysis, the report used correlation and formerly factual research. Automated teller machines have been found to have no substantial financial inclusion impacts though point of sale systems have a significant financial inclusion impact in Nigeria.

The extent of the effect of technology on customer loyalty in Nigerian banking has been described by Okoye, Ehimare, Okoh and Isibor (2018). Data research based in Ogun and Lagos States of Nigeria was carried out on the replies of 120 customers of three deposit money banks. In the report, the roles measured for bank facilities are the saving of time, comfort, reduction of crime, efficiency, reduction of risk and easy to use. The findings indicated major positive effects on customer loyalty of all the above services, suggesting that electronic banking in Nigeria has improved customer satisfaction.

The success of financial creativity in driving growth in Nigeria was checked by Okafor, Ezeaku and Anyalechi (2017). In order to approximate the system model, the Least Squares (Gauss-Newton/Marquardt steps) based on the Vector autoregressive (VAR) system was used while the Johansen co-integration test was used to test for a long-term relationship between the sequences. The findings showed that growth and finance creativity have a long-term relationship. The results suggest that, as the reactivity of growth to the individual channels of innovation varied, there is no joint positive influence on growth. Transactions through ATM, mobile and Internet have relatively good growth effects while those via POS channels have a negative impact on growth.

The effect of financial innovation on economic development in Nigeria was analyzed during 2012 to 2018 by Cynthia and Charles (2019). The information was obtained from the Nigerian Central Bank (CBN), the National Bureau of Statistics (NBS) and Nigeria Interbank Settlement System (NIBSS). During this analysis, the growth predictor (RGDP) was reversed by three proxies for funding creativity (Instant Payment NIBSS, ATM and Agent Banking) Regression analysis was conducted using the mathematical package E-views to decide whether the variables in the model are related to each other. A study has shown that the Nigerian Interbank Settlement System (NIBSS) and Agent Bank coefficient of regression of the volume of transactions is positively signed suggesting that they have a positive effect on financial development but are not important in the timeframe studied. Yet interestingly, the importance of ATM transactions has shown a strong and negative relation to economic development. The report concluded that financial creativity would fuel economic growth based on the results.

3.0 Methodology

The descriptive survey research design was adopted for this study. The design was adopted because it gives room for precise representation, low cost, greater statistical significance and objectivity of participant's response. The population for this study is the total number of customers of five deposit money banks namely First Bank, Keystone Bank, FCMB, Zenith bank and Guaranty Trust bank in Sagamu, Ogun state made up of 131,850 customers as at 31st December, 2020.The sample selected for this study are from customers of deposit money banks using the financial based technology for services offered. The sample size selected will be 399respondents who are eligible to respond to the questionnaire which are customers that make use of banks servicesfor different functions like internet and mobile banking and other financial services leading to their satisfaction in Nigeria from five deposit money banks using Taro Yamane estimation.

The source of data used in this research is from primary sources. This is because primary data is the only way in which data can be collected for the study. The primary source of data for this study involves the administration of well-constructed questionnaires by the researcher, which will be used to obtain the views and opinions of respondents.

3.2 Method of Data Analysis

Data analysis for this study was carried out using inferential analysis through the use of multiple regression analysis to test the effect of the independent variable on the dependent variable so as to produce more accurate and precise estimates.

3.3 Model Specification

$Y = f(X)$

Y = Dependent variable (Customer satisfaction) (CSA)

X = Independent variable (Financial technology-based service) (FTS)

x_1 = Mobile banking (MBA)

x_2 = Internet banking (IBA)

x_3 = Financial technology availability and access (FTA)

Regression Model

$CSA_i = \alpha_0 + \beta_1 MBA_i + \beta_2 IBA_i + \beta_3 FTA_i + \mu_i$

Where: α = the constant value of the equation, β = the coefficient of the independent variable, and μ = the error or stochastic term.

4.0 Findings and Conclusion

399 copies of the research questionnaire were distributed to the study sample size, while 300 copies were properly filled and returned, reflecting a 75% return rate.Using multiple regression

analysis, the research hypotheses earlier formulated will be tested and either accepted or rejected based on the findings of the results.The estimated model result is shown in the table below:

Table 4.3.2: Effect of Financial technology based-services on Customer satisfaction

Financial technology based-services and Customer satisfaction						
		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
2	(Constant)	11.912	2.309		5.158	.000
	MBA	.265	.116	.161	2.286	.023
	IBA	-.322	.104	-.218	-3.084	.002
	FTA	.292	.055	.291	5.312	.000

Model Summary

Model	R	R Square	Adjusted R Square	F	Sig.
2	.349a	.122	.113	13.716	.000b

Source: Author's computation of Field Survey Data (2021) using SPSS version 23

The estimated model in the table above is given as:

$$CCA = 11.912 + 0.265MBA_i - 0.322IBA_i + 0.292FTA_i + \mu_i$$
$$(2.286) \quad (-3.084) \quad (5.312)$$

The estimated model result above shows that Mobile banking provided by MBA has a positive significant effect on customer satisfaction as shown by the coefficient of CCA (0.265) and significant *p*-value of 0.023, which is less than 0.05. In addition, the estimated model result shows that Internet banking has a significant and negative effect on customer satisfaction, as shown by IBA coefficient (-0.322) and significant *p*-value of 0.002, which is less than 0.05. Furthermore, the size of the negative impact is -0.322, i.e., an increase of 1 per cent in internet banking would decrease customer satisfaction by -0.322. Finally, the calculated model result above indicates that Financial technology availability and access given by FTA has a positive significant impact on customer satisfaction as shown by FTA coefficient (0.292) and significant *p*-value of 0.000 which is less than 0.05. Also, the magnitude of the positive effect is 0.292, i.e., a 1% increase in Financial technology availability and access will increase customer satisfaction by approximately 0.292. Other than financial technology-based services, customer satisfaction are predicted by other factors, being associated with a correlation coefficient of 0.349. It also explains about 11% of shifts in customer complaints caused by financial technology-based services. The model is of a poor fit. From the results therefore, the null hypothesis is rejected and the conclusion is that financial technology-based services have a significant impact on customer satisfaction of listed deposit money banks in Nigeria.

The outcome of this study is in line with the work of Vetrivel, Rajini and Krishnamoorthy (2019). Similarly, the studies of Iriobe and Akinyede (2017) and Alabar and Agema (2014). The study of Adewoye (2013), Fate and Nathan (2019) and Atina (2019) also aligned with the study and stated that mobile banking increases the distribution of services to banks in the form of transaction ease, saved time, quick transaction alert and saved on customer-related service costs. The findings contradicted the findings by Mohammad (2012) and Jessie (2019). Conclusively, the result of the analysis carried out revealed that financial technology-based services have a significant impact on customer satisfaction of listed deposit money banks in Nigeria.

Based on the findings of this study, it is recommended that management of deposit money banks should improve and increase financial technology-based services to ensure quality services are provided in order to retain customer loyalty, reduce customer complaints and ensure positive attitudes from customer towards the bank.

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ROBOTIC INTERVENTION AND LABOUR COST OF LISTED MANUFACTURING COMPANIES IN NIGERIA

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Abstract
The documented recent surge in labour cost and the decline in labour productivity which are attributable to high cost of living of the workers in an environment with high cost of production, inadequate manpower and infrastructure, and a gross violation of labour laws by employers. Studies have asserted that robotic intervention (RI) is of great benefit in reducing labour cost and increasing labour productivity, however, dearth of literature exist on how RI reduces labour cost, Hence, this study examined the effect of RI on labour cost of listed manufacturing companies in Nigeria. This study employed ex-post facto research design. The study's population was 31 manufacturing companies in Nigeria listed on Nigeria Stock Exchange (NSE) as at January 18, 2021. Judgmental sampling technique was employed to select 21 manufacturing companies based on their use of sophisticated machines in the production process. Validated data were extracted from the published financial statement of the selected companies. Reliability was premised on the statutory audit of the financial statement. Data were analyzed using descriptive and inferential (multivariate regression) statistics. The result showed that RI measurements had a significant effect on labour cost (LC) (Adj.R^2 =0.0477, F(4, 11)) = 8.14, p <0.05). Finally, RI measurements combined with control variable of CS had significant effect on LC (Adj.R^2 = 0.616, F(5, 62) = 22.015, p <0.05). This study concluded that RI affect labour cost of listed manufacturing companies in Nigeria. The study recommended that the federal government should enact policies on the use of robots which is cheaper than human labour and Cobot (collaborative robots) which reduces robotic "cannibalism" of human jobs.

Keywords: Labour Cost, Labour Productivity, Robots, Robotic intervention, Robotic Cannibalism"

1. Introduction

The need to sustain or maximize profitability in competitive and uncertain business environment led the manufacturing companies to continuously seek for performant strategies in enhancing productivity and also reducing cost of production. This has led to the aggressive cost and pricing strategies to remain in business and to retain their competitive edge like relocating labour cost and production to a cost-effective jurisdiction, engaging in lobour exploitation (having business dealings with unethical suppliers, dishonest business practices of modern slavery) or developed countries, employing robotic workforce to reduce labour cost in which robots are getting cheaper than human workforce,in developed countries (Francesco, Ekkehard, & Enzo, 2018; Mazur 2019, Reynolds, 20177, Pauline & Eric, 2003).

Labour cost which is a measurement of performance is also the second major element of cost that represents the human behaviour or the performance of the human workforce, time and labour turnover (Aderemi & Ogwumike, 2017). Obikili (2018) noted that the manufacturing companies especially in Nigeria are faced with higher labour cost and lower labour productivity. Siyanbola, Adeyeye, Olaopa, and Hassan (2016), stresses that that Nigerian manufacturing sector experienced a zig zag growth due to high cost of production especially higher labour cost and lower labour productivity. According to Nwokpoku, Monday, Nwoba, and Amaka, (2018), higher labour cost which continuously erode profitability of manufacturing companies in Nigeria is mostly caused by the cost of living of the workers in which the environment where transportation is on the high side due to illegal police tax markup, or where housing or accommodation is difficult or in an environment where imported foods are highly taxed will make wages of the workers to be high, while gross violation of labour laws by employers and inadequate manpower and also infrastructure, are the major cause of lower labour productivity. High cost of production and low labour productivity led to the constant business expenditure on research and development and the drastic shift from the traditional manufacturing processes to the use of more sophisticated machines which are cheaper to buy and maintain (Boston Consulting Group, 2015).

Matanda, Ndubisi and Jie (2019), submitted that robots are efficient in reducing the cost of labour and also making human workers more productive by performing boring and repetitive task. Robots performing repetitive task initially performed by human workforce, gives human workforce time to be creative. Robots are advanced machine that are materialized into full or semi-autonomous operations of intelligently observing multifaceted task and make appropriate decisions in the manufacturing, delivery of goods and services through the use of complex algorithm (Bryson, Diamonds & Grant 2017; Gogarty & Hagger, 2008; Guerreiro, Rebelo & Teles, 2017; Pagallo, 2018). Also, robotic intervention reduces cost of healthcare of human workforce by preventing human workers from been overworked or contacting or transmitting the deadly COVID-19 virus in workplaces. Scholars like Friday and Abdulkadir (2017) opined that even though robotic intervention is used in the manufacturing processes to reduce labour cost in Nigeria, thus contributing to the redundancy of human workforce in the country, however, newer jobs will be open for those who have trained themselves towards the task.Prior studies have submitted that robotic cannibalismof human jobs, suggesting the need for robot tax in emerging economies like Schlogl and Summer (2018), opined the need for robot tax in developing countries because robotization pushes human workforce from the industrial and agricultural sector to overconcentration in the service sector while Braun (2019) suggest robot tax to mitigate inequality in Nigeria. Hence, based on the argument of scholars and dearth of literature on robotic intervention and performance of manufacturing companies in emerging economies like Nigeria.

2. LITERATURE REVIEW

2.1. Conceptual Review

Labour Cost

Coselli, Nesta and Schiavo (2021) and Premalath (2021) refers to labour cost as human contribution to a specific task. It is the second major element of cost that represents the human behaviour or the performance of the human workforce, time and labour turnover. The management of labour cost is important for the company to reduce the cost involved in paying for the loss of working hours of the human workforce and monetary loss. Deutsch (2016) stated the component of labour cost which are gross wages or earnings, social contributions payable by the employer, and other cost which comprises taxes on labour, training costs, recruitment cost.

Robotic Intervention

Robotic intervention is defined as the process of equipping industrial machines with programming languages so that the industrial machines will have more capabilities of performing some specific tasks in the production line. Robots are physical machines alimented by energy, having the capacity to intelligently learn, render decisions, analyze the environment, make decisions to act in the human world (Nevejans, 2016). The term robot conceived in the movie of Czech were organic beings called wage slave employed to replace human in the task that is repetitive, difficult and dangerous to the human workforce but today robotsareadvanced machines replacing human workforce in the business and industrial processes (Lisa, 2007).

2.2. Theoretical Framework

Theory of employment is a classical theory which was proposed by Adam Smith in 1924 with the assumption of full employment of labour and other productive resources, secondly, the elasticity of wages and price that influences full employment. The theory believed that over employment or overproduction is impossible and that unemployment in any economy is assumed to be temporal or in the short run. Also, the theory believed that if there is any overproduction as a result of economic crisis leading to rising in unemployment, cutting down wages would cure unemployment, could also increase the demand for labour and stimulate economic activity, but was critiqued by Keynes which brought about the Keynesian classical theory of employment which was propounded by John Maynard Keynes in 1936 (Bofinger, 2020). The theory of employment is pertinent to this research study in the aspect of the employment of the human workforce. The classical theory of employment believes that wages should be reduced to provide for employment. Scholars have opined that the wages of skilled workers should be reduced to minimize the income disparity between the routine workers and non-routine workers as a form of robot tax instead of increasing the company's income tax (Acemoglu & Author,2017; Eden & Gaggi, 2018; Schwab, 2016).

2.3. Empirical Review

Ballestar, Diaz-Chao Sainz, and Torrent-Sellens (2021), titled "impact of robotics on manufacturing: a longitudinal machine learning perspective employed an innovative learning machine model over 4578 companies to discover that the degree of robotic intervention increases labour cost and profitability of both large companies and SMEs. Conversely, the study of Francesco, *et al*(2018), discovered that robotic intervention had a negative significant effect on employment in developed and developing countries however, the effect is small in developed countries than in emerging economies. Also, the study of Acemoglu, and Restrepo (2019) discovered that changes in the number of robots and their price (robots getting cheaper) strongly displaces human workforce and decline wages, conversely the price of robots and the perpetual growth in robot employment could have a positive impact on wages and employment of non-routine labourer because of the enhanced productivity effect. The study of Guerreiro *et al* (2019), opposed the study of Uwe (2018) by asserting that the drastic reduction in the price of robots will result in huge economic disparity even though routine workers may not lose their jobs, but there will be a drastic fall in the wages they collect to compete with a robot, so that the employee will see routine workers be cheaper than the cost of purchasing, installing or employing robots or robotic technologies in the manufacturing processes.

3. Methodology

This research studyemployed *ex-post facto* design. The population of this study was thirty-one (31) manufacturing companies listed on the Nigeria Stock exchange as of December 31, 2019. a non-probabilistic sampling technique of judgmental sampling technique was used to select 21 manufacturing companies based on the use of robotic technologies Secondary data was extracted from the financial statements of sampled units of manufacturing companies in Nigeria from 2008 to 2019. Reliability was premised on the statutory audit of the financial statements. Descriptive statistics and Inferential statistics were employed. Multiple regression analysis was adopted for this study.

4. Results and Analysis Of Results

Table 1 **Test of Hypotheses**

	MODEL 1				MODEL 2			
Variable	Coeff	Std. err	t-test	Prob	Coeff	Std. err	t-test	Prob
Constant	5138.767	1356.66	3.79	0.003	2016.133	2062.404	0.98	0.349
COS	.027	.016	1.65	0.127	.049	.017	2.86	0.015
MC	.006	.005	1.13	0.281	.0013	.006	0.21	0.836
CE	.011	.008	1.33	0.211	.0036	.0033	1.10	0.294
R&D	-.042	.023	-1.83	0.095	.0164	.0117	1.41	0.187
CS					.023	.0012	18.8	0.000
Adj R^2	0.0477				0.5100			
Chi(F-Stat	0.97				2066.55			
Probability	0.0026				0.0000			
Hausman	$chi^2_{(4)}$ = 12.48 (0.0141)				7.97(0.1577)			
Testparm	8.61(0.0000)							
Heterosked	6385.18(0.0000)				161.98(0.0000)			
Wooldridg	20.251(0.0002)				19.821(0.0002)			
Pesaran's	15.290, Pr = 0.0000				4.171, Pr = 0.0000			

Notes: Table 4.6 reports pooled OLS results of the effect of robotic intervention on ne labour cost (LC). The dependent variable is LC. The Independent variables are cost of sales (COS), maintenance cost (MC), cost of equipment (CE), and research and development (R&D). The control variable is company size

Source: Author's Work (2021).

$y_{4it} = \beta_0 + \beta_1 x_{1it} + \beta_1 x_{2it} + \beta_1 x_{3it} + \beta_1 x_{4it} + \mu_{it}$

$LC_{it} = \beta_0 + \beta_1 COS_{it,} + \beta_2 MC_{it}, + \beta_3 CE_{it} + \beta_4 R\&D_{it}, + \mu_{it}$ ------------- (1)

$LC_{it} = 5138.767 + 0.027 COS_{it,} + 0.006 MC_{it}, + 0.011 CE_{it} - 0.042 R\&D_{it}, + \mu_{it}$ ------------- (1)

Interpretation

Model 1depicts the outcome of the coefficient of the constant or intercept has a positive value of 5138.767 and also with a positive value of T-.test of 3.79. This indicates that should the independent variables (cost of sales (C) OS), maintenance cost (MC), cost of equipment (CE), and research and development, (R&D)) be held constant, for instance in a year, the dependent variable which is labour cost (LC) would increase by 5138.767. The positive sign of the coefficient of the intercept or constant shows that there are other variables that positively affect the dependent variable DPS other than the independent variables in the model. The probability of the individual T-test depicts that the coefficient of constant has a significant effect on LC (p-value = 0.003)

The result from Table 1 for model 2 evidenced that individually the coefficients of the independent variables which are COS, MC, CE and R&D. COS has a positive coefficient value of 0.027, The probability of the individual T-test depicts that COS has a positive insignificant effect on LC at 0.05 adopted level of insignificance given the p-value of 0.127 as indicated (p = 0.127 >0.05). MC has a positive coefficient value of 0.006. The probability of the individual T-test depicts that MC has a positive insignificant effect on LC at 0.05 adopted level of significance given the p-value of 0.281 as indicated (p = 0.281>0.05). CE has a positive coefficient value of 0.011 which means that a unit increase in CE would lead to 0.011 increase in LC. The probability of the individual T-test depicts that CE has a positive insignificant effect on LC at 0.05 adopted level of insignificance given the p-value of 0.211 as indicated (p = 0.211>0.05). R&D has a negative coefficient value of 0.042 which implies that an increase in R&D would lead to a unit increase of 0.042 in LC. The probability of the individual T-test depicts that R&D has a positive insignificant effect on LC at 0.05 adopted level of significance given the p-value of 0.095 as indicated (p = 0.095>0.05).

Decision

At a level of significance 0.05, the degree of freedom or the coefficient of multiple determination is 4.7% which implies that only 4.7% variations in Labour cost (LC), is traceable or influenced by the independent variables. This shows that the model has a fairly poor fit. The probability of F-test is 0.0026 which is lesser than 0.05 adopted level of significance. Thus, the null hypothesis was rejected which means that robotic intervention has significant impact on LC without the control variable of company size.

$y_{4it} = \beta_0 + \beta_1 x_{1it} + \beta_2 x_{2it} + \beta_3 x_{3it} + \beta_4 x_{4it} + \beta_5 x_{5it} + \mu_{it}$

$LC_{it} = \beta_0 + \beta_1 COS_{it,} + \beta_2 MC_{it}, + \beta_3 CE_{it} + \beta_4 R\&D_{it}, + \beta_5 CS_{it} + \mu_{it}$ ------------- (8)

$LC_{it} = 2016.133 + 0.049 COS_{it,} + 0.0013 MC_{it}, + 0.0036 CE_{it} + 0.0164 R\&D_{it}, + 0.023 CS_{it} + \mu_{it}$ -- (8)

Model 2 depicts the outcome of the coefficient of the constant or intercept has a positive value of 2016.133 and also with a positive value of T-.test of 0.98. The result from Table 4.5 for model 3 evidenced that individually the coefficients of the independent variables which are COS, MC, CE and R&D. COS has a positive coefficient value of 0.049, this implies that a unit increase in COS would cause a unit increase of 0.049 in LC vice-versa. The probability of the individual T-test depicts that COS has a positive insignificant effect on LC at 0.05 adopted level of significance given the p-value of 0.015 as indicated ($p = 0.015<0.05$). MC has a positive coefficient value of 0.0013, which implies that a unit increase in MC would lead to a unit increase of 0.0013 in LC. The probability of the individual T-test depicts that MC has a positive insignificant effect on LC at 0.05 adopted level of significance given the p-value of 0.836 as indicated ($p = 0.8361>0.05$). CE has a positive coefficient value of 0.0036 which means that a unit increase in CE would lead to 0.0036 increase in LC. The probability of the individual T-test depicts that CE has a positive insignificant effect on LC at 0.05 adopted level of insignificance given the p-value of 0.294 as indicated ($p = 0.294>0.05$). R&D has a negative coefficient value of 0.0164 which implies that an increase in R&D would lead to a unit increase of 0.0164 in LC. The probability of the individual T-test depicts that R&D has a positive insignificant effect on LC at 0.05 adopted level of significance given the p-value of 0.000 as indicated ($p = 0.000<0.05$).

Decision

At a level of significance 0.05, the degree of freedom or the coefficient of multiple determination is 4.7% which implies that only 4.7% variations in Labour cost (LC), is traceable or influenced by the independent variables. This shows that the model has a fairly poor fit. The probability of F-test is 0.0026 which is lesser than 0.05 adopted level of significance. Thus, the null hypothesis was rejected which means that robotic intervention has significant impact on LC without the control variable of company size.

5. Discussion of Findings

The results of model 1 and model 2. The model 4 and model 8 tested the effect of robotic intervention that were expected to affect Labour Cost (LC). The regression results shows that the overall models are significant. The result from model 4A is fascinating because individually, COS, had an insignificant effect on LC, MC had an insignificant effect on LC, CE had an insignificant effect on LC and also R&D had an insignificant effect on LC while the model had an overall significant effect on LC. This means that the employment of robotic workforce reduces labour cost in manufacturing companies. This study is disagreeing with the report of Ballestar, *et al* (2021) who opined that the degree of robotic intervention increases labour cost and profitability of both large companies and SMEs. Also, the study of Calitz, *et al* (2017), is not in line with our findings. The scholars stated that the use of collaborative robots does not displaces workers or causes job insecurity. Cobot is expensive, while cost of labour is cheap in South Africa

The study of Acemoglu *et al* (2019) supports our findings by asserting that changes in the number of robots and their price (robots getting cheaper) strongly displaces human workforce and decline wages, conversely the price of robots and the perpetual growth in robot employment could have a positive impact on wages and employment of non-routine labourer because of the enhanced productivity effect. Uwe (2018) and discovered that the drastic reduction in the price of robots will result in huge economic disparity even though routine workers may not lose their jobs, but there will be a drastic fall in the wages they collect to compete with a robot, so that the employee will see routine workers be cheaper than the cost of purchasing, installing or employing robots or robotic technologies in the manufacturing processes, this study is in line with our findings.

6. Conclusion and Recommendation

The study concludes that robotic intervention has significant influence on labour cost and therefore recommends that robots should not be tax because it reduces the cost incurred on labour eroding manufacturing companies' profitability. This study serves as a database for future researches on labour cost or the effect of robotic intervention on labourers of manufacturing companies in emerging economies.

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COLLECTIVE INVESTMENT SCHEMES' RETURNS AND ONE YEAR COVID-19 EXPERIENCE: THE NIGERIA'S CASE

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Abstract
This study seeks to empirically examine the impact and nexus between coronavirus disease (COVID-19) and the returns of seven collective investment schemes in Nigeria (bond funds, equity-based funds, fixed income funds, ethical funds, money market funds, mixed funds and real estate funds) within the first 52 weeks of the outbreak of the pandemic in Nigeria, 27th February 2020 to 26th February 2021. Results of analysis of the weekly time series using the Auto-regressive Distributed Lag (ARDL) and Pearson correlation techniques suggest that COVID-19 cases and returns of collective investment schemes in Nigeria are cointegrated while COVID-19 cases are negatively correlated with the returns from bonds funds, equity based funds and money market funds as against the positive correlation between COVID-19 cases and returns from ethical, fixed income and real estate funds. Furthermore, COVID-19 confirmed cases are negatively related with returns from mixed fund as against the fund's returns' positive correlation with COVID-19 fatal and discharged cases. Moreover, except for COVID-19 discharged cases which has significant positive impact on fixed income funds' returns, none of the other indicators of COVID-19 exerts significant influence on the returns of each of the seven collective investment schemes in Nigeria. It can be concluded that COVID-19 cases do not have significant impact on collective investment schemes' returns in Nigeria despite the negative association established between them in this study. It is recommended that collective investment schemes in Nigeria should be accorded the popularization, incentives, boost, empowerment it deserves by the government and the organized private sector.
Key words: ARDL, COVID-19, Collective Investment Schemes, Returns.

1. Introduction

The synergy in a group operating together as a team in attaining the group goal is not only an axiom and a managerial principle but a key idea behind the innovation of collective investment scheme. Hence, in the scheme various people's resources are pooled together for the purpose of investing in a portfolio managed by a professional funds manager and the risk and returns therefrom are shared among the unitholders in proportion of their investment. Risk and returns considered to be the Siamese twins of investment decision (Babarinde, 2020a) are affected by several factors, such as firm specific features (like size, liquidity, product diversification), macroeconomic factors (like exchange rate, inflation, population growth, economic growth, interest rate). Like any form of investment decision, collective investment is information-driven. Therefore, the barrage of factors adduced to be of influence on the performance of the scheme reflect in the form of information endogenously and exogenously generated in the market and the economy-wide sources too. The efficient market hypothesis laid the foundation for the study of the influence of information on the performance of investment market but the theory could not

provide a comprehensive list of all conceivable information sets capable of influencing investment decision.
Investment world is full of risk, particularly the collective investment schemes have the potential of being affected by several risks. Pfeiferová and Kuchařová (2020) submit that the main risks associated with investments in collective investment funds include interest rate risk, currency risk, equity risk, credit risk, counterparty risk, liquidity risk, operational risk and political risk. Other types of risk include Market risk(economy-wide), investment risk (loss of principal), inflation risk, custodian risk (bankruptcy of custodian). In the mist of these web of risks surrounding collective risks, came the health pandemic which put the world at hold and the financial market in tension. On the 27th of February 2020, Nigeria detected her first case of the novel coronavirus disease 2019 (COVID-19) after its first discovery in December 2019 in China (Nigeria Centre for Disease Control[NCDC], 2021).COVID-19-induced pandemic has generated high level of fear and apprehension, with the associated huge losses, disruption of businesses and global economic loss has caused unprecedented global socio-economic loss (Stanley, Nkporbu& Stanley, 2020).

Despite the increase from the single index case of COVID-19 in Nigeria as at 27th February 2020, as 28th February 2021, the total cumulative confirmed cases became 133,742, while1,907 deaths reported with a case fatality rate (CFR) of 1.2% and the total recoveries stood at 133,742 cases. Despite the incidence of COVID-19 in Nigeria, there have increase in the performance of collective investment schemes in Nigeria in terms of numbers and net asset values. For instance, the total number of mutual funds in Nigeria as at the months ended 29th February 2020 and 28th February 2021 was 94 and 106 respectively (Securities and Exchange Commission [SEC], 2021) representing a 12.8% increase in the total number of mutual funds spread across seven different classes of funds, (equity-based, money market,bonds, fixed income,real estate, mixed, and ethical funds), within a one-year period. In the same vein, the net asset value (NAV) of the mutual funds within the same period also posted an increase of about 30% from ₦1,167,212,606,967.12on 29th February, 2020 to ₦1,517,189,145,722.44 as at 28th February 2021.

Regular hand washing, physical distancing, proper use of face masks and lockdown measures have been used to reduce the risk of spread of the virus. The lockdown and social distancing have disrupted business activities, employment and investment activities from which people derive their income. These possess a risk to the livelihood of people generally and in this pandemic-induced uncertainty, the financial market, particularly are perceived not to be left unaffected. The recent COVID-19 came with its aftermath not only medically but also financial market implications. For instance, the pandemic has brought panic selling syndrome among investors and desire for safe haven for their investment (Babarinde, Abdulamajeed &Ugwuanyi, 2020).

However, the extent to which information on cases of coronavirus disease affects the performance of collective investment is yet to be clarified empirically. Unlike most previous studies that mostly focused on COVID-19 and its relationship with capital market (Alfaro, Chari, Greenlan& Schott, 2020; Babarinde,2020b), banking sector (Babarinde, Abbulmajeed, Dibal & Ndaghu, 2020, Iwedi, Gbarabe and Uruah 2020), our study is unique in the sense that it focused on the effects of COVID-19 on the collective investment scheme, an area which remained relatively unexplored.

The thrust of this study is to examine the impact of COVID-19 on returns of collective investment schemes in Nigeria in the first 52 weeks of the outbreak of the pandemic in Nigeria (27th February 2020 to 26th February 2021 with a particular focus on the seven mutual funds in Nigeria (bond funds, equity-based funds, fixed income funds, ethical funds, money market funds, mixed funds and real estate funds).

The scope of this study is limited to only the seven classes of mutual funds of the collective investment scheme in Nigeria while others like special funds and exchange-traded funds are not covered. The seven types of mutual funds examined are relatively actively traded compared to the special funds and exchange-traded funds where there are less activities. The first 52 weeks of the outbreak of the pandemic in Nigeria, 27th February 2020 to 26th February 2021 was the period of study. These weeks are considered sufficient for data analysis and one year is also regarded as relatively adequate enough to determine the influence of event such as the COVID-19 on collective investment schemes' performance in Nigeria. The weekly time series was analyzed using the Auto-regressive Distributed Lag (ARDL) and Pearson correlation techniques.

The rest of this study is organized as follows: Section two reviews relevant literature on collective investment scheme and COVID-19 cases. Section 3 describes the methodology of the study while in section four, the results of data analysis are presented and discussed. Section 5 concludes the paper and provides some policy recommendations.

2. Literature Review

2.1. Conceptual Review

Collective investment schemes known as mutual funds, investment funds, unit trusts or funds, which according to Trinidad and Tobago Securities and Exchange Commission (TTSEC) (2020) refers to investment option where resources of different investors are pooled together to form more diversified portfolio. The Investments and Securities Act (2007) defines a collective investmentschemes as a scheme where members of the public invest money or other assets in a portfolio and the members hold a participatory interest in a portfolio via shares, units or any other forms and the risk and the benefit of investment are shared and born in proportion to their participatory interest in a portfolio of a scheme. From this statutory definition, it is clear that collective investment schemes could be open-ended, or otherwise, and contain different classes of assets such as money, shares, units, to form a portfolio. It is a large pool of participatory interests, and it also involves risk and returns sharing.In other words, a mutual fund is a professionally-managed form of collective investments that pools money from many investors and invests it in stocks, bonds, short-term money market instruments, and/or other securities to be managed by a team of investment professionals such as fund administrators and managers (Standard chartered, n.d.; Funds Manager Association of Nigeria, n.d.; Orok, Emori & Ikoh, 2019; Manoj &Avinash, 2020). Therefore, mutual funds are investment outlets of a pool of different investors who gather their resources together for investment in different classes of securities and investment such as stocks, shares, treasury bills, real estate, money market instrument, bonds, debentures, etc but such that the funds are managed by a professional and the risk and returns therefrom are shared among the investors according to their pecuniary holding in the funds.It is an investment vehicle that allows you to pool your money with that of other investors and have it managed by a team of investment professionals.

The collective investment scheme (CIS) in Nigeria may be grouped into exchange-traded funds, mutual funds and special funds. Other CIS to include unit trusts, venture capital funds, open-ended investment Companies, specialized funds.The mutual funds in Nigeria consist of basically seven classes, namely, equity based-funds, money market funds, bond funds, fixed income funds, mixed funds, real estate funds and ethical funds. Infrastructure fund is a typical example of special fund in Nigeria.Equity-based funds are that part of mutual funds that is devoted to investment in ordinary shares, stock and related securities. Bonds funds is a collective investment arrangement where unit holders engage in the investment of bonds like government bonds, corporate bonds or high yield bonds. In fixed income funds, bonds, certificates of deposit, treasuries, corporate bonds, government bond, corporate bond, municipal bond and convertible bond and other fixed income securities constitute the portfolio. Ethical Funds are funds whose investment is limited to certain kind of business due to ethical, moral, religious reasons, such as investing in companies do charge interest on lending, do not deal in tobacco, pork, etc. Mixed funds or hybrid funds or balanced based funds are funds that engage in investment in varieties of securities which could be fixed income or equities bonds and money market securities or others with bring income, gains, capital appreciation, risk hedging features. money market funds are funds whose portfolio consist of mainly money market instruments such as treasury bills, certificates of deposit and commercial paper etc. Exchange-traded funds are mutual fund securities that are traded on a recognized stock exchange and track a market index.

CIS is important in an economy for several reasons. For instance, CISacts as a source retirement income, ensures ownership of diversified portfolio by small investors, risk reduction (Isiaka & Okoh, 2019; Igbinosa, 2020). Similarly, they are very cost efficient and very easy to invest in (Manoj &Avinash, 2020). Other benefits of CIS are access to professional investment management, low diversification cost, convenience and flexibility, personal service, liquidity, transparency (Funds Manager Association of Nigeria, n.d.).

Coronavirus has been described as zoonotic disease, believed to be caused by a new strain of coronavirus (SARS-CoV-2) that has not been previously identified in humans and the symptoms of the disease include: cough, fever, shivering, body pains, headache, sore throat, recent loss of taste or smell, difficulty in breathing/shortness of breath, loss of speech or mobility or confusion, diarrhea/abnormal pain, running nose/catarrh, tiredness, aches and pains, red or irritated eyes, a rash on the skin or discolouration of fingers or toes (Nigeria Centre for Disease Control [NCDC],2020; World Health Organisation[WHO], 2020). Coronavirus disease 2019 (COVID-19) is a respiratory virus that spreads via droplets of the coughs, sneezes, saliva or discharge from the nose of an infected person and measures applied to curb the virus(Babarinde (2020b).

According to NCDC (2021), 27th February 2021 marked one year since Nigeria's first COVID-19 case was confirmed but as at the week, 22nd – 28th February 2021, the number of new confirmed cases and discharged cases were 3,583 and 5,123 respectively. Furthermore, the number of reported new deaths from COVID-19 complications reported in the week was 68. Further details show that cumulatively, since the outbreak began in Week 9, 2020 there have been 1,907 deaths reported with a case fatality rate (CFR) of 1.2% while the total recoveries as at 28th February 2021 stood at 133,742 cases while total cumulative confirmed cases are 133,742. However, globally, the count for confirmed COVID-19 cases is 113,467,303 with 2,520,550 deaths resulting in a case fatality rate of 2.2% in the entire globe (NCDC, 2021).

2.1.2 Overview of Performance of Collective Investment Schemes in Nigeria

One of the most popular indicators of performance of CIS is the net asset value, which simply refers to the quotient of total market value of the fund to the number of units outstanding in the fund. It is mutual fund's assets - mutual fund's liabilities ÷ number of outstanding units or shares of the mutual fund.

As presented in Table 1, the comparative analysis of Net Assets value of CIS as at the end of January, February and March 2020, indicate that between January and February 2020, most of the mutual funds in Nigeria reflect negative changes in their NAV. Specifically, except money market funds, bonds funds and fixed income funds, all other funds (equity based, real estate, mixed and ethical funds) posted a negative changes in their NAV, even the overall change still remains positive (3.8%) in terms of NAV changes. Further inference from February-March 2020 changes in NAV of the mutual funds shows that more negative returns are still recorded in the one month period, such that equity based funds (-14.7%), money market funds (-2.8%), mixed funds (-5.5%), and ethical funds (-8.9%) experienced loss in their NAVs. These statistical results may suggest the panic created in the collective investment market occasioned by some factors prominent among which is the COVID-19 cases.

Table 1: Comparative Analysis of Net Assets Values of Mutual Funds in Nigeria as at the end of January, February and March 2020

Mutual funds	NAV AS AT JAN 2020	Change	NAV AS AT FEB 2021	Change	NAV AT MARCH 2021
Equity-based funds	11,615,654,357.70	-7.5%	15,348,246,303.57	-14.7%	9,166,535,371.00
Money market funds	817,119,892,938.50	1.1%	710,318,076,174.84	-2.8%	803,145,214,101.87
Bonds funds	67,948,867,508.78	32.3%	237,069,979,411.10	13.0%	101,588,798,778.66
Fixed income funds	153,134,063,886.53	16.0%	460,684,990,150.40	9.4%	194,433,168,048.15
Real Estate funds	44,107,820,436.35	-21.5%	49,758,621,807.64	23.2%	42,677,962,725.63
Mixed funds	25,380,590,075.53	-8.2%	29,571,514,039.66	-5.5%	22,000,984,052.72
Ethical funds	4,710,314,130.59	-3.2%	14,437,717,835.23	-8.9%	4,150,647,886.54
TOTAL	1,124,017,203,333.98	3.8%	1,517,189,145,722.44	0.9%	1,177,163,310,964.57

Source: Securities and Exchange Commission Database, 2021 and Authors' computation,2021.

Furthermore, presented in Table 2 is the monthly Net Assets values of the seven classes of mutual funds in Nigeria as at the 29th February, 2020 and 28th February,2021 as well their percentage changes- the changes in the NAV in the two comparable months (February 2020) when COVID-19 touched the soil of Nigeria and a year after of its outbreak in the country, February, 2021. Generally, almost all the seven classes of CIS (mutual funds) (except money market funds which a negative change), have a positive change in their respective NAV. There was a general average of 30% increase in NAV in the total NAV with ethical funds having the lead in terms of positive returns and followed by bonds funds and fixed income funds in that order as second and third best performing mutual funds respectively.

Table 2: Net Assets Values of Mutual Funds in Nigeria as at Feb 2020 and Feb. 2021

Mutual funds	NAV AT Feb 2020	NAV AT Feb 2021	change(%)	Rank
Equity-based funds	10,750,493,146.90	15,348,246,303.57	42.8%	5th
Money market funds	826,385,708,401.32	710,318,076,174.84	-14.0%	7th
Bonds funds	89,888,080,578.04	237,069,979,411.10	163.7%	2nd
Fixed income funds	177,705,586,665.39	460,684,990,150.40	159.2%	3rd
Real Estate funds	34,635,598,423.13	49,758,621,807.64	43.7%	4th
Mixed funds	23,288,820,132.57	29,571,514,039.66	27.0%	6th
Ethical funds	4,558,319,619.77	14,437,717,835.23	216.7%	1st
TOTAL	1,167,212,606,967.12	1,517,189,145,722.44	30.0%	

Source: Securities and Exchange Commission Database,2021 and Authors' computation,2021.

2.2 Theoretical Review

The two theories reviewed in this study are the Efficient Market Hypothesis and Rational Theory of Mutual Funds' Attention Allocation. The Efficient Market Hypothesis focuses on information as a determinant of stock prices such that the efficiency of the market is gauged by how fast and effect information available are impounded/reflected in the security prices. To what extent do information of cases of COVID-19 is reflected in the performance of CIS become relevant consideration here in this study.

On the other hands, Kacperczyk, Nieuwerburgh and Veldkamp (2014)'s Rational Theory of Mutual Funds' Attention Allocation emphasizes the role of business cycle in predicting information choices, which in turn 'predict observable pattern of portfolio investment returns'. Therefore, the prevalent economic condition is the attention allocation factor of consideration in the choice of mutual funds investment techniques which ultimately impact the funds/portfolio returns. The theory views some investment manager as having skills and expertise and thus attention allocation is done on rational basis while factoring the economic-wide factors and thus in deploying their skillfulness, fund manager's rational consideration is key, especially in allocating attention.

Although, basically COVID-19 is a medical issue in the economy but its aftermath has economic implications. Babarinde, Abdulmajeed, Dibal and Ndaghu (2020) aptly posit that COVID-19 is not only medically contagious but economically and financially contagious in effect and aftermath. There is therefore the need for consideration of COVID-19 as factor in mutual funds investment strategy and a relatively potential predictor of returns of mutual funds and other performance indicator of the funds. By these arguments, this study is therefore, underpinned the Rational Theory of Mutual Funds' Attention Allocation.

2.3 Empirical Review

Most studies focused on performance analysis of collective investment schemes and in Nigeria, Isiaka and Okoh (2019)'s study indicated that the weekly performance was not significantly difference among the six types of funds examined. Oduwole (2015) indicates that mutual funds in Nigeria were on average not able to predict stock prices well enough to outperform a buy-the-market and-hold policy.Orok, Emori and Ikoh (2019) confirm a positive connection between growth of collective investment funds and the development of the capital market in Nigeria. Ilo et al (2018) showed that the market generated negative risk premium and the mutual fund portfolios similarly generated negative mean excess return, failing to compensate investors for investing in risky assets.

In a surveyed on COVID-19 impact on investment and financial decisions of individuals in small towns in developing nations such as India, Gurbaxani, and Gupte (2021) found a drop in SIP investments during the COVID-19 pandemic. Manoj and Avinash (2020) show that the outbreak of Covid-19 pandemic, has impacted negatively on NAV's of mutual funds in India. In another study, Pastor and Vorsatz (2020) present a comprehensive analysis of the performance and flows of U.S. actively-managed equity mutual funds during the COVID-19 crisis of 2020. The authors found that most active funds underperform passive benchmarks during the crisis. Bellucci, Borisov, Gucciardi and Zazzaro (2020) examine possible reallocation effects on venture capital (VC) investment due to the spread of COVID-19 around the globe. The authors confirm a shift of venture capital towards deals in pandemic-related categories.

Attempts have been by previous studies to clarify the nexus between COVID-19 and the financial market. For instance, in Nigeria, studies like Iwedi, Gbarabe and Uruah (2020) COVID-19 nexus with banking firms and found that negative non-significant relationship between the two unlike Babarinde, Abdulmajeed, Dibal and Ndaghu (2020) who show a negative and weak correlation between coronavirus and banking sector's stock returns in Nigeria. Likewise, in a related study, Babarinde, Abdulmajeed and Ugwuanyi (2020) show that the cumulative confirmed and fatal cases of coronavirus have significant negative impact on stock market capitalization in Nigeria. Moreover,Alade, Adeusi and Alade(2020) show thatconfirmed cases of COVID-19 not to significant impactthe Nigerian stock market capitalization.However, Ikwuagwu, Efanga and Ihemeje (2020) found that the pandemic interacts positively with stock returns of the health sector in Nigeria. Takyiand Bentum-Ennin (2020) also concluded that the pandemic has restrictive effects on stock market performance in African economies. Findings from Hassan and Gavilanes (2021)'s model of the dynamic impact of the COVID 19 pandemic on the first affected countries' stock market indices and the global commodity markets, reveal the negative short-termed impact of the virus spread rate on the returns of the stock market indices. Other studies have confirmed a COVID-19 negative relationship with stock market returns in selected 64 countries (Ashraf (2020), China, France, Germany and Spain(Alber (2020), Malaysian stock market (Lee, Jais and Chan(2020), Saudi stock market(Chaouachi & Chaouachi(2020), USA and Europe stock markets (Ngwakwe (2020)), China (Sansa (2020)). Conversely, a positive relationship was established between COVID-19 and Karachi stock exchange (Waheed,Sarwar, Sarwar, &Khan. 2020), and Chinese stock market (Ngwakwe 2020)

In summary, this review has shown that previous studies in Nigeria still have a relatively growing empirical literature on COVID-19 financial market nexus with differing results though but the relationship between collective scheme particularly mutual funds and the cases of the virus disease has not been empirically determined to the best of our knowledge. Hence, one of the motivation for this current study.

3. Methodology

In this study a disaggregated approach was employed in analyzing the relationship as well as the impact of confirmed, discharged and fatal cases of coronavirus disease (COVID-19), on each of the seven components of mutual funds in Nigeria. The ex-post facto design allows the researcher to obtain secondary data in the analysis. The frequency of the data is weekly and therefore the week-long period holding returns from the collective investment scheme is computed thus:

$$CIS_R = \frac{[NAV_t - NAV_{t-1}]}{NAV_{t-1}} (1)$$

Where CIS_R is the collective investment scheme returns, on disaggregated basis for each of equity-based funds, money market funds, bond funds, mixed funds, ethical funds, fixed income funds and real estate funds.

NAV_t represents net asset value of each fund in the current period (week)

NAV_{t-1} denotes net asset value of each fund in the previous period (week)

The weekly data on the confirmed, discharged and fatal cases of COVID-19 was obtained from the Nigeria Centre for Disease Control's websites while data on net asset value of each fund in the collective investment scheme in Nigeria was obtained from the website of the Nigerian Securities and Exchange Commission (SEC). The study period was 52 weeks of the outbreak of the pandemic in Nigeria. Although COVID-19 was first confirmed on December 2020 in the country of origin, Wuhan city, China; the birthday of the virus in Nigeria was 27 th February 2020.

The population of study comprises of all mutual funds, exchange traded funds and special funds in Nigeria. The mutual funds

On weekly basis, as the end of the week ended 6th March 2020, there was a total of 92 mutual funds in Nigeria as against the 106 mutual funds as the week ended 26th February 2021.

$$EQTBF_t = \Psi_0 + \Psi_1 CVDNCC_t + \Psi_2 CVDNDC_t + \Psi_3 CVDNFC_t + u_{t1} \langle 2 \rangle$$

$$MMKTF_t = \Psi_0 + \Psi_1 CVDNCC_t + \Psi_2 CVDNDC_t + \Psi_3 CVDNFC_t + u_{t2} \langle 3 \rangle$$

$$BNDF_t = \Psi_0 + \Psi_1 CVDNCC_t + \Psi_2 CVDNDC_t + \Psi_3 CVDNFC_t + u_3 \langle 4 \rangle$$

$$FXINF_t = \Psi_0 + \Psi_1 CVDNCC_t + \Psi_2 CVDNDC_t + \Psi_3 CVDNFC_t + u_6 \langle 5 \rangle$$

$$RLESTF_t = \Psi_0 + \Psi_1 CVDNCC_t + \Psi_2 CVDNDC_t + \Psi_3 CVDNFC_t + u_5 \langle 6 \rangle$$

$$MXDF_t = \Psi_0 + \Psi_1 CVDNCC_t + \Psi_2 CVDNDC_t + \Psi_3 CVDNFC_t + u_4 \langle 7 \rangle$$

$$ETHCF_t = \Psi_0 + \Psi_1 CVDNCC_t + \Psi_2 CVDNDC_t + \Psi_3 CVDNFC_t + u_7 \langle 8 \rangle$$

Where EQTBF represents equity based-funds; MMKTF denotes money market funds; BONDF signifies bonds funds; FXINCFR is fixed income fund’s returns; MIXDFR represents mixed fund’s returns; REALSTFR equals real estate fund’s returns; ETHICFR means Ethical fund’s returns; CVDNCC denotes COVID-19 new confirmed cases; CVDNDC represents COVID-19 new discharged cases; and CVDNFC signifies COVID-19 new fatal cases

4. Results and Discussion
4.1 Descriptive Statistics

Presented in table 3 is the result of the descriptive statistics of the variables of study.

Table 3: Descriptive Statistics

	Mean	Minimum	Maximum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera*
EQTBFR	0.0066	-0.1216	0.1753	0.0369	1.0943	12.0571	188.1157
MMKTFR	-0.0042	-0.1495	0.1446	0.0309	0.1625	20.3950	20.3950
BONDFR	0.0204	-0.3639	0.2817	0.0772	-2.1195	16.5494	436.7062
FIXINCFR	0.0291	-0.4963	1.0521	0.1702	3.9097	28.3042	1519.804
REALSTFR	0.0025	-0.0582	0.1042	0.0195	2.7901	18.5207	589.4096
MIXDFR	0.0052	-0.1788	0.2219	0.0449	0.8594	16.8550	422.3216
ETHICFR	0.0490	-0.6543	1.9878	0.2931	5.4536	38.9125	3052.138
CVDNCC	2037.500	0.0000	11179.00	3121.129	1.7301	4.6715	31.9975
CVDNDC	1735.385	0.0000	9287.000	2660.830	1.6761	4.4057	28.6298
CVDNFC	17.4423	0.0000	86.0000	25.1157	1.7677	4.7143	33.4507

Source: Authors’ computation,2021.**Note:** * p-value less than 0.01.

As reported in Table 3, the average returns from bond funds (BONDFR) over the 52 weeks of study, stands at 2.04 per cent. Aside money market fund with the negative returns (-0.42%) all other mutual funds return positive performance in the 52 weeks of the outbreak of COVID-19 pandemic in Nigeria. Among the seven collective investment schemes (mutual funds) examined, fixed income funds (return=4.90%) has the highest mean returns and followed by bond fund (2.04%). The fund with the least positive average return among the seven funds is real estate fund (with return of 0.25%). Indicators from the minimum values of the funds, shows that all the funds have at least a negative returns in a particular within the 52 weeks of study. Ethical fund still has the highest maximum return (1.9878) and followed by fixed income fund (1.0521). However, with a maximum value of (0.1042), real estate fund could be regarded as the fund with the least maximum returns. Except bond fund which is negatively skewed (-2.1195), all other funds have their returns positively skewed. The kurtosis of all the funds exceeding the standard 3, reveals the leptokurtic distribution of the seven series. Relative to the standard deviation, the returns of each fund exhibits wide dispersion from their mean values and none of the funds' returns is normally distributed.

The descriptive statistic of the average cases of confirmed, discharged and fatal cases of COVID-19 are 2038, 1736 and 17 cases per week over the first 52 weeks of the pandemic in Nigeria. Just like the fund returns, all the three indicators of COVID-19 under study are relatively volatile (widely dispersed from their mean value and in addition to exhibiting non-normality. Unlike the minimum value of zero common to all the three indicators of COVID-19, a comparison of the mean indices for the disease shows that the average number of confirmed cases still exceeds the other two (discharged and fatal cases). The least average indicator is however, the fatalities.

4.2 Unit Root Test

Table 4 reports the results of the Phillips-Perron (PP) test of unit root.

Table 4: Unit Root Test

	EQTBFR	**MMKTFR**	**BONDFR**	**FIXINCFR**	**REALSTFR**
PP t-Stat	-6.9704	-11.1049	-8.4829	-11.2531	-5.1521
Prob	0.0000	0.0000	0.0000	0.0000	0.0001
I(d)	I(0)	I(0)	I(0)	I(0)	I(0)
PP t-Stat	**MIXDFR**	**ETHICFR**	**CVDNCC**	**CVDNDC**	**CVDNFC**
Prob	-12.3945	-10.1780	-4.4770	-9.2220	-8.1851
I(d)	0.0000	0.0000	0.0007	0.0000	0.0000

Source: Authors' computation,2021.

Note: * reject null hypothesis of unit root (non-stationarity) of the variable at 1% since p-value is less than 1% level of significance.

The PP test reveals that all the returns from the seven funds are stationary in level unlike the three indicators of COVID-19 (CVBNCC, CVDNRC and CVDNFC) are contains unit root in level forms. However, when differenced for first time, the three indicators of COVID-19 became stationary. It can be inferred that the series of study are a combination of I(1) and I(0) series, which suggests that they are integrated of order one and zero.

4.3 Correlation Analysis

In determine the nature of relationship of between COVID-19 and collective investment scheme in Nigeria, this study conducts correlation test and the results presented in form of correlation matrix are presented in Table 5.

Table 5: Correlation Matrix

	EQTBFR	MMKTFR	BONDFR	FIXINCFR	REALSTFR	MIXDFR	ETHICFR
EQTBFR	1.0000						
MMKTFR		1.0000					
BONDSR			1.0000				
FIXINCFR				1.0000			
REALSTFR					1.0000		
MIXDFR						1.0000	
ETHICFR							1.0000
CVDNCC	-0.0145	-0.0690	-0.0772	0.1003	0.4087	-0.0059	0.2004
CVDNDC	-0.0284	-0.1257	-0.0140	0.1706	0.4492	0.0510	0.2624
CVDNFC	-0.0591	-0.1006	-0.0368	0.1378	0.4638	0.0138	0.2255

Source: Authors' computation,2021.

According to the correlation coefficients presented in Table 5, COVID-19 fatal cases (CVDNFC), confirmed cases (CVDNCC) and discharged cases (CVDNDC) are negatively related to bonds fund's returns over the study period. This same negative correlation is found between each of the cases of COVID-19 and returns from equity based funds. In the same vein, there is a negative relationship between each of CVDNFC, CVDNCC, and CVDNDC, and money market fund's returns. These negative correlations suggest that a higher number of cases of COVID-19 is associated with a lower level of returns from the collective investment scheme.

Conversely, the study indicates the existence of a positive correlation between COVID-19 (CVDNFC, CVDNCC and CVDNDC) and returns from ethical funds, fixed income funds and real estate funds. Thus implies that even at the increase in the cases of COVID-19, the higher performance of the three funds, in terms of returns, could not be deterred. This raises an important research question for future study as why this occurrence? Is it due to chance and the sectors/schemes are immune against the vagaries of COVID-19? Further findings from mixed funds correlation with COVID-19 reveal CVDNCC to be negatively related with the returns from mixed fund as against the positive correlations of CVDNFC and CVDNDC with the fund returns.

4.4 ARDL Model Estimation

This study evaluates the impact of COVID-19 on the performance of collective investment schemes in Nigeria in the first 52 weeks of the outbreak of the pandemic in the country using the auto-regressive distributed lag (ARDL) technique. Before the model estimation, the F-bounds test of cointegration to determine if there is long-run relationship between the variables of study. The results of the ARDL bounds (as embedded in Panel B of Table 6) shows the existence of cointegraitng relationship between COVID-19 and collective investment scheme in Nigeria. This is because the null hypothesis of no levels relationship between the variables are rejected since the F-statistics exceed all the three critical values at the upper bounds of the F-Bounds test of cointegration.

Consequently, the ARDL long-run estimates of the seven models in this study are summarized in Table 6 (Panel A).

Table 6: ARDL Long-Run Estimates

Variable	EQTBFR	MMKTFR	BONDFR	FIXINCFR	REALSTFR	MXDFR	ETHICFR
EQTBFR(-1)	-0.0065						
	[0.9651]						
MMKTR(-1)		-0.4036					
		[0.0046]					
BONDFR(-1)			-0.2060				
			[0.1613]				
FXFR(-1)				-0.4138			
				[0.0036]			
REALSFR(-1)					0.0837		
					[0.5766]		
MXDFR(-1)						-0.4483	
						[0.0012]	
ETHICFR(-1)							-0.4253
							[0.0029]
CVDNCC	1.17E-06	3.11E-06	-1.06E-05	-2.50E- 05	-4.08E-06	2.29E-06	-3.28E-05
	[0.7824]	[0.3405]	[0.2279]	[0.1632]	[0.1891]	[0.7456]	[0.2757]
CVDNDC	8.18E-07	-3.79E-06	1.03E-05	3.45E-05	-1.12E-06	1.27E-05	5.58E-05
	[0.8928]	[0.4130]	[0.3998]	[0.1718]	[0.7185]	[0.0873]	[0.1887]
CVDNFC	-0.000303	-0.000152	4.45E-05	0.000781	-5.34E-05	0.000364	0.002107
	[0.5595]	[0.6984]	[0.9660]	[0.7137]	[0.8518]	[0.5802]	[0.5618]
R-squared	0.0095	0.1846	0.0654	0.2090	0.2774	0.250857	0.2403
F-statistic	0.1103	2.6038	0.8050	3.0385	3.4557	3.0137	3.6382
Prob(F-statistic)	0.9783	0.0479	0.5283	0.0264	0.0099	0.0197	0.0117

Durbin-Watson			1.8485	2.2367	2.0292	2.2314	2.0717	2.1170	2.281163
B). F-BOUNDS TEST									
Sign	I(0)	I(1)							
10%	2.37	3.2	F-stat:	F-stat:	F-stat:	F-stat:	F-stat:	F-stat:	F-stat:
5%	2.79	3.67	9.2648	21.8363	14.2719	22.3249	8.35382	25.3073	22.8510
1%	3.65	4.66							

Source: Authors' computation,2021. Note: Values in [ ] are probability values.

The coefficients of ARDL long-run show that except only COVID-19 discharged cases (CVDNDC) which is significant in its positive impact on fixed fund returns, none of the other indicators of COVID-19 significant in explaining changes in returns of the seven collective investment schemes (mutual funds) evaluated in this study. The positive significant impact of CVDNDC on mixed funds returns implies a unit increase in the number of people discharged as been COVID-19- free, the higher the level of returns obtained by unit holders of mixed funds in Nigeria in the study period. However, though positively signed, COVID-19 confirmed and fatal cases donot have significant impact on the returns of mixed funds in Nigeria. In summary, it can be asserted that COVID-19 cases do not have significant impact returns of bond funds, equity-based funds, ethical funds, money market funds and real estate funds.

Furthermore, to ascertain the speed of adjustment of the long-run model in case of shocks/disturbance to it, this study estimated the ARDL Error Correction Regression Model and the coefficients are presented in Table 7.

Table 7: ARDL Error Correction Regression Model

Variable	D(BONDFR)	D(EQTBFR)	D(ETHICFR)	D(FIXINCFR)	D(MMKTFR)	D(MXDFR)	D(REALSTF)
ECT	-0.2060	-1.0065	-1.4253	-1.4138	-1.4036	-1.4483	-0.9162
	[0.1613]	[0.0000]*	[0.0000]*	[0.0000]*	[0.0000]*	[0.0000] *	[0.0000] *
R^2	0.6079	0.5017	0.7159	0.7081	0.7035	0.7384	0.4823

Source: Author's computation facilitated by Eviews 10
Note: ECT denotes Error Correction Term

As shown in Table 6, the ECT for each model is negatively signed and except for the bond funds model which is not significant, all others ECT are attains significance at 1 per cent level. Hence, the correction rates for bonds funds, equity based funds, ethical funds, fixed income funds money market funds, mixed funds and reals estate funds.

5. Conclusion and Recommendations

In this study, seven classes mutual funds belonging the collective investment schemes in Nigeria (bond funds, equity-based funds, fixed income funds, ethical funds, money market funds, mixed funds and real estate funds) were examined on individual basis, in terms COVID-19 impact on the funds' returns in the first 52 weeks of the outbreak of the pandemic in the country using the auto-regressive distributed lag (ARDL) technique. Finding suggests that there is long-run relationship between COVID-19 and returns of the each of the seven mutual funds and COVID-19 cases are negatively correlated with the returns from bonds funds, equity based funds and money market funds as against the positive correlation found between COVID-19 cases and returns from ethical, fixed income and real estate funds. Furthermore, COVID-19 confirmed cases are negatively related with returns from mixed fund as against the fund's returns' positive correlation with COVID-19 fatal and discharged cases. Moreover, except for COVID-19 discharged cases which has significant positive impact on fixed income funds' returns, none of the other indicators of COVID-19 exerts significant influence on the returns of each of the seven collective investment schemes in Nigeria. In summary, it can be asserted that COVID-19 cases do not have significant impact on returns of bond funds, equity-based funds, fixed income funds, ethical funds, money market funds, mixed funds and real estate funds.

It can be concluded that COVID-19 cases do not have significant impact on collective investment schemes' returns in Nigeria despite the negative association established between them in this study.

It is therefore recommended that collective investment schemes in Nigeria should be accorded the popularization, incentives, boost, empowerment it deserves by the government and the organized private sector, as the schemes possess the perceived resilience in the face of the current health pandemic ravaging the world, and most especially the financial markets of the world. It is also suggested that future studies should carry out a comparative study of Nigeria with other African countries, developed and developing countries of the world. This current study adopts the disaggregated time series approach, other study could focus on the whole mutual funds, as well as use the panel data analysis methodology.

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MANAGERIAL CAPABILITY AND CORPORATE SOCIAL PERFORMANCE OF QUOTED FIRMS IN NIGERIA

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Abstract

Managerial capability (MGC) is germane to managerial choices as it influences the firm's corporate social performance (CSP). Empirical studies have shown that MGC and firm's CSP are difficult to measure due to their multidimensional nature. As such, research on the link between MGC and CSP has not been fully explored, especially, in the developing economies like Nigeria. This study investigated the effect of MGC on CSP of quoted firms in Nigeria using ex-post facto research design and variance decomposition method. Population consisted 169 firms quoted on the Nigerian Stock Exchange as at 31st December 2017. 90 firms were selected as samples based on event criterion of consistent listing and availability of data over 10 years period. Descriptive and inferential analyses were employed to analyse the data. Findings revealed that MGC exerted weak, positive and significant effect on CSP ($F(5, 895)=16.06$, Adj.$R^2=.0186$, $p<0.05$) without control variables. However, with the introduction of control variables, the effect became moderate, but still positive and significant ($F(5, 895) =5321.74$, Adj. $R^2=.3113$, $p<0.05$). The weak/moderate relationship between MGC and CSP, which is evident in the adj. R^2 of 1.86% and 31.13% could be due to the fact that very few (less than 10%) of the sampled population had their CSP ranked on the csrhub, which affected the overall level of CSP. The study concluded that MGC significantly influences CSP and that SZ, LC, TPE, and MC jointly control the effect of MGC on CSP. The study recommended that firms should quantify their investment on CSR in order to enhance CSP level, amongst others.

Keywords: Corporate social performance, Firm size, Managerial capability, Tax payment efficiency, Total asset turnover

1. Introduction

The objectives of a corporate organization are to guarantee shareholders wealth and maximize the value of the firm. The achievement of these can be hinged on the strategies employed by the management. Globalization and competition have generated the need for the managers of firms to pay keen attention to issues relating to environmental protection, implementation of policies and satisfaction of the social needs (welfare) of the populace in order to maintain a good relationship with stakeholders and boost their social performance. Erbetta and Fraquelli (2012) affirmed that the discordant worldwide economic crisis that began in the second half of 2008 generated great difficulties and created a lot of disequilibrium in most developed and developing countries. The main reason for crisis is that, management of firms focus more on the maximization of short-term results which are measured only in terms of financial efficiency or financial performance, regardless of the consequences. This leads to long term losses which are usually, not manifest at the point of first result estimation and growth of mistrust on the market which in return, decrease the desire of potential investors to risks (Bagautdinova, 2014; Svirina, 2013).

Performance evaluation and measurement strategy of firms have been mostly based on key financial performance indicators (KFPI) of firms neglecting the non-financial aspect leading to biased estimation of the overall performance. This, perhaps, is due to the inherent multi-dimensional nature of corporate social performance (CSP) activities, which has led to its widespread of research. According to Kleindorfer, Singhal, and Van Wassenhove (2005), there is a growing concern for corporate social performance and sustainability due to scarcity and cost of materials and energy, pressure from the public for social and environmental performance, awareness of the issues concerning the triple bottom line and strong activity of the non–governmental organizations (NGOs). Corporate corruption and scandals have also heightened the attention that researchers and practitioners alike pay to CSP (Zhao, Chen &Xiong, 2016).

The concept of CSP has drawn the attention of policy makers and the public at large, and has been debated and researched by academics till date (O'Shaughnessy, Gedajlovic & Reinmoeller, 2007). Thus, excerpts from Dumitru and Ana-Maria (2012) indicate that, corporate social performance (CSP) and the concepts relating to it (corporate social responsiveness, corporate citizenship and corporate social responsibility) have been debated for over forty five (45) years, yet, CSP is greatly equated to doing good and has remained controversial till date due to its nature and metrics. Measuring CSP has proven to be very tasking because it represents a broad range of economic, social, and environmental impacts caused by business operations and therefore, requires multiple metrics to cover its scope fully (Chen & Delmas, 2010). In other words, measuring corporate social performance is a complex task due to its multi-dimensional nature. In this vein, Cimas and Stan (2010) and Ganescu (2012) opine that due to increasing globalization and competition, the issue of corporate social responsibility has become critical to the firms' competitiveness, financial stability, security and good relationship with the environment such that, policies on how to quantitatively measure companies' social performances, policies measuring the extent to which the management, the organization, and equipment are performing so as to protect the environment, have gained much prominence. Therefore, the capability or efficiency of the management to strategize on how to improve the firm's social performance and remain competitive becomes germane.

On this note, Jacobs, Kruade, and Narayanan (2016) posit that operational productivity (OP) is a key managerial capability (MGC) for enhancing CSP to achieve high economic performance. Cho and Lee (2017) argue that managerial efficiency has a positive effect on change in CSP (although, weak in total CSP level) and with efficient managers, CSP has a positive relationship with corporate financial performance perhaps, because they might get involved in product-related corporate social responsibility (CSR) leading to financial performance but, may not invest in environment-related CSR. This implies that managers have influence on the choices of their firms including their performance and managerial capability needs to be quantified so as to determine accurately, its contribution and effect on corporate social performance of firms in Nigeria.

However, despite the importance of this management role in the production function, little is known about the actual effect of changes in managerial skills on the firm's output, due to lack of proprietary data and difficulty in measuring meaningfully, the inputs and outputs of a complex production process leading to management bias (Porter & Scully, 1982; Marques & Barros, 2011). In other words, measuring managerial efficiency is one of the major problems in the contemporary world, which its importance came to limelight in the global economic crisis (Svirina, 2013; Jakada& Aliyu, 2015). Since then, studies abound on the subject matter.
Prior studies focused on the relationship between corporate social performance and corporate financial performance or vice versa (Peloza, 2009; Joao, Ralph, & Rodrigo, 2012; Laan, Ees & Witteloostuijn, 2008; Perini, Russo, Tencati & Vurro 2011; Wang & Berens, 2014) and the link between managerial ability and CSP or CFP (Ejike & Agha, 2018; Jakada& Aliyu, 2015; Martin, 2011; Osazefua, 2019). Most of these studies took place in advanced countries where different metrics were applied indicating that studies on the link between managerial capability and corporate social performance is lacking in Nigeria with the specific metrics employed in this study. This study therefore, investigates the effect of managerial capability (Cost of production to sales, Operating cost to sales, Total asset turnover, Debt to equity ratio and Working capital turnover ratio)on corporate social performance (geometric mean of community relations, governance issues, employee and environmental issues) of Nigerian quoted firms.

Based on the foregoing therefore, the basic research question and hypothesis are stated as follows:

What is the controlling effect of firm size, its life cycle, tax payment efficiency, and managerial compensation on the effect of managerial capability on corporate social performance (CSP) of quoted firms in Nigeria?

H_0**:** There is no significant controlling effect of firm size, its life cycle, tax payment efficiency, and managerial compensation on the effect of managerial capability on corporate social performance (CSP) of quoted firms in Nigeria.

The rest of this paper is organized as follows: section 2 reviews literatures related to this study, defines the key concepts and highlights the underpinning theories. Section 3 presents the methodology adopted in the study. In section 4, the empirical results and discussion of the findings are presented while section 5 concludes the study and makes recommendations for further studies.

2. Literature Review/Theoretical Framework

2.1 Conceptual Review

2.1.1 Corporate Social Performance

A review of past literature shows that there is no one definition of Corporate Social Performance (CSP) that is generally acceptable to all, thus, many definitions exist. Matarazzo, Clasadonte, Ingrao and Lanuzza (2013) defined corporate social responsibility as the sum of good corporate governance (protecting financial shareholders' interests), environmental efficiency (protecting environmental stakeholders' interests) and good stakeholder relations (protecting the interests of other stakeholders including the employees, the local community and future generations. Thus, CSP has been described in past literature as a multifaceted construct including the outcome of those voluntary actions which firms undertake above or beyond the legal or economic requirements which arise due to the direction of managerial efforts towards the maximization of firm's and stakeholder's value (Shahzad &Sharfman, 2015). In this study therefore, CSP is a concept which refers to how organizations respond to the social needs of the populace.
CSP has been measured differently by researchers. However, the most prominent is the use of third party ratings like the KLD ratings adopted in the developed economies like the US and other third party ratings in other countries. This assertion is in harmony with Chen and Delmas (2010) who noted that CSP have been measured in prior studies using survey questionnaires, content analysis of annual reports, expert evaluations and regulatory compliance data. Recently, some profit making organizations such as SAM Group Inc., the Riskmetrics Group, and Kinder, Lindernberg and Domini Inc. (KLD) have taken up the CSP measurement task. Based on the indices developed by these groups, some studies (for example, Chen & Delmas, 2010; Jacobs *et al*, 2016) usually adopt the aggregation method such as simple linear aggregation, weighted or non-weighted aggregation and aggregation based on DEA (from efficiency perspective) in order to assess the overall CSP of firms. Xu and Xi (2013) measured CSP using the Chinese Academy of Social Science (CASS) index for corporate social responsibilities which included aspects such as: management, economic, social and environmental responsibilities and administrative activities, while Zhao, Chen and Ziong (2016) adopted the SNAI ratings. This study therefore, in consideration of the Nigerian environment, utilised the geometric mean of the index score of CSP sourced from www.csrhub.com as a measure of CSP. It should be noted that, the use of CSR hub data is because perhaps, that is the only source that has rated or scored the CSP of Nigerian firms on four key areas (performance in terms of environmental issues, governance issues, employee relations and community relations) and it does not rank the firms based on the areas of strengths and concerns.

2.1.1.1 Community

Community as a measure of CSP deals with a company's effectiveness and commitment within the local, national and global community where it operates. It covers the human right record and treatment of its supply chain, environmental and social impact of the company's product and services and the development of sustainable products, processes and technologies.

2.1.1.2 Employee

This is a CSP index which has to do with the disclosure of policies, programs and performance of a company in diversity, labor relations and labor rights, compensation, benefits and employee training, health and safety.

2.1.1.3 Environment

Environmental component of CSP deals with how a company interacts with the environment at large including its use of natural resources and its impact on the ecosystem. It evaluates a company's corporate environmental performance in terms of: its compliance with environmental regulations, how it mitigates environmental footprint, how the leadership addresses climate change through appropriate policies and strategies.

2.1.1.4 Governance

The governance entails the disclosure of policies and procedures, independence and diversity of the board, compensation of the executive, attention to the concerns of the stakeholder, and the evaluation of a company's culture of ethical leadership and governance. It is also one of the indices of CSP.

2.1.2 Managerial Capability

The concept of capability or managerial capability (MGC) has been used by researchers in various forms representing different but synonymous concepts such as, managerial efficiency, managerial ability, managerial performance, operations capability, operational efficiency, operational productivity, technical efficiency. This is because, the construct is multi-dimensional in nature and there is no agreed upon or generally accepted definition thereof. To this end, many definitions exist some of which are:

Jacobs, Kraude, and Narayanan (2016) defined operational productivity as various manufacturing inputs such as labor, facilities, equipment and inventory which operations managers control in order to maximize the output of the firm. Alghar and Sadidi (2018) contend that managerial ability is one of the aspects of human capital, classified as an intangible asset in accounting studies and has been defined as management efficiency in converting a firm's resources into revenue when compared to its competitors.

This study therefore, defines MGC as the ability of the management to efficiently, utilize, handle, control or manage issues relating to cost and resources including risk and working capital in an attempt to optimally transform specific or certain inputs of the organization into output.

2.1.3 Firm Size

This refers to how large/small a company is. It is measured as logarithm of total assets of a company. Jacobs *et al* (2016) and Andreou, Philip and Robejsek (2016) controlled for firm size based on the argument that bigger firms are likely to have economies of scale which could affect (positively or negatively) the links between OP, CSP, FP and risk. In Dekker *et al* (2012), there is an argument that larger firms have higher agency costs due to higher risk of cross–subsidizing non-profitable units and consuming perks. On the other hand, larger firms tend to engage in corporate social performance to a greater extent (Zhao *et al*, 2016). Xu and Xi (2013) therefore, controlled for the size of the firm. Also, a model in O'shaughnessy, Gedajlovic and Reinmoeller (2007) distinguished between people oriented and product oriented social responsibilities, suggesting that research should be conducted to understand whether and how corporate size materially affect CSP of firms. Thus, controlling for firm size is necessary as larger firms might enjoy economics of scale which may likely enhance or reduce the relationship between and amongst the variables of study.

2.1.4 Life Cycle of the Firm

This refers to the actual number of years of a company since its incorporation. Arcelus, Melgarejo and Simon (2014) used age (lifecycle) as one of their independent variables arguing that, age of the firm could explain the differences in managerial performance measures. Also, Xu and Xi (2013) controlled for the age of the firm based on prior literatures confirming that the firm's age and other firm characteristics will disturb social performances as well as the relationship between stakeholder orientation and corporate performance (financial and social).

2.1.5 Tax payment efficiency

Tax payment efficiency is a tax planning technique or a legal means of reducing the tax liability of a firm thereby, paying a lesser tax than that which is required. Efficiency of tax payment is defined in Kiswanto, Uli, Fachrurrozie and Retnoningrum (2016) as a process of tax planning used to detect theoretical flaw in the provisions of the legislation thereby, devising an efficient means or strategy of saving tax payments as a result of the theoretical defect. It is a means of streamlining the tax payable, by utilizing the tax provisions in order to minimize tax liability; it is counted through effective tax rate (ETR) and calculated as tax expense divided by profit before tax. ETR give the summary statistic of tax performance that describes the tax paid by firms in relation to their profit before tax (Nwaobia, Kwarbai & Ogundajo, 2016).

Excerpts from Adegbie, Siyanbola and Olurin (2015) emphasized the need for firms to design their tax policies so as to attain efficiency in tax payment while avoiding tax evasion. In Kiswanto *et al* (2016), efficiency is said to be better if the comparison of cost with the realization achieved, gives a smaller value as follows: cost< 20% = very efficient; 20 %< cost< 85% = efficient; cost >85%= inefficient. In this study however, the management is efficient when the ETR is < the statutory tax rate of 30% depending on the sector (as small businesses and agri-businesses pay only 20%). Therefore, tax payment efficiency engagements are actions taken by corporate managers who are likely to be risk takers with the aim of reducing their corporate tax expense. In other words, tax payment efficiency increases with managers who are risk takers but decreases with risk adverse managers.

2.1.6 Managerial Compensation

This is the log of remuneration of the managerial team. Demerjian, Lev and McVay (2010) found that a strong relationship exists between efficiency and managers of publicly traded firms stating that, efficiency is directly linked to executive compensation, stock price performance of the firm and stock price reactions to managerial turnovers. Also, executive compensation is one of the factors which researchers have identified in Le *et al* (2015) that determine or influence CSP of firms.

2.1.7 Managerial Capability and Corporate Social Performance (CSP)

Meznar and Nigh (1995) affirmed that external pressures placed on organizations may compel the top managers to react by taking those decisions which are most likely to improve CSP. This means that CSP might be a managerial response to direct stakeholder pressure placed on the organization (Shahzad & Sharfman, 2015). To this end, Cho and Lee (2017) argued that managerial characteristics could play a key role in firms' CSR investment decision as an important determinant of CSP which could affect its relationship with CFP. Among the various managerial characteristics such as reputation, discretion, leadership style, and demographic characteristics, they concentrated on managerial efficiency as an important factor in the choice of CSR to organize, implement, execute and interact or communicate with stakeholders outside the firm. Therefore, managerial efficiency could affect the choice of investment in CSR which would affect the relationship between CSP and CFP.

On the other hand, managerial effort towards stakeholder management may not be observed easily by the stakeholders (including potential investors). In this case, the inclusion of firms in social choice investment advisory –SIA (third party) rankings provides a strong, clear and credible signal to socially responsible investors as a means of independent verification of CSP efforts of firms (Shahzad & Sharfman, 2015). In some cases however, the exclusion of firms in such databases could be a form of incentive or motivation for managers to improve their CSP so as to make it into the rankings. This could therefore, mean that managers of firms who desire or wish that their efforts towards the management of stakeholders' relationships be acknowledged by external observers are the ones who decide to engage, involve or enhance CSP related investments for their firms so as to obtain observable level(s) of CSP.

Moreover, assuming that firms' presence in CSP databases is dependent on managerial decision to deliberately invest in CSP related activities and also dependent on their future performance, the firm's specific decisions to engage in CSP is potentially endogenous, and if this decision is actually endogenous, there is the need to model it to be so when examining the relationship between CSP and financial performance (FP) otherwise, the model will suffer from an endogeneity bias resulting to incorrect outcomes and incorrect inferences about any link so identified (Mackey, Mackey & Barney, 2007; Shahzad & Sharfman, 2015). Therefore correcting this problem would require the model to be correctly specified by including the factors which may likely influence the decision of firms to engage in CSP activities but, not directly related to FP (Semykina & Wooldridge, 2010).

Cho and Lee (2017) are of the view that, while selecting CSR activities, managerial competency is required due to the fact that more able or efficient managers are likely to be competent and are expected to be more effective in implementing investment in CSR than inefficient managers. Thus, individual competence of managers may affect effectiveness of CSP (Osagie, Wesselink, Blok, Lans, & Mulder, 2016; Cho & Lee, 2017). Also, the importance of managerial role could be seen from the aspects of CSR investment involved because, the benefits or outcomes of CSR cannot always be measured immediately or obtained visibly due to its intangible nature; so, managerial discretion is needed to decide whether firms should engage in CSR activities and the type of CSR activity to invest in (Cho & Lee, 2017). Therefore, they modeled ME and CSP relationship as follows:

$CSP_{it} = \alpha_1 + \alpha_2 ME_{it-1} + \alpha_3 ROA_{it} + \alpha_4 SIZE_{it-1} + \alpha_5 LEV_{it} + \alpha_6 INST_{it} + \alpha_7 M\_RET_{it} + \alpha_8 STD\_RET_{it} + \eta_{it}$ ……… (2.1)

Where: CSP is the total aggregated net score of weighted KLD performance score, ME is the prior year's managerial efficiency; ROA is the return on asset; size is the log of lagged total assets; LEV is a measure of risk in leverage; INST is a percentage of institutional ownership; M_RET is the mean value of buy-and-hold stock returns for the accounting year; and STD_RET is the risk measure in standard deviation of daily stock returns.

However, managers' roles differ based on the type of CSR activity because, if managers of firms should engage in pure altruistic CSR, such might lead to inefficiency in the use of resources as, they (managers) just spend to show that they are good, sincere and socially responsible but, not to generate direct economic benefit. This implies that, pure altruism is too costly as managers use more resources than necessary which could have a negative effect on shareholders wealth. Hence, cost-benefit analysis is very crucial in the choice of CSR activities.

In the words of Jacobs *et al* (2016), the adoption of quality employment practices in a firm leads to low level of risk involved in workplace lawsuit, and health and safety issues; also, good environmental performance leads to the reduction or elimination of emissions which enables firms to lower, to the barest minimum, the possible environmental crisis such as spills, leaks or contamination. A firm that has good relationship with the community could be able to reduce the risk involved in high taxation and more regulation, and such firms would be able to accumulate moral capital, thereby, protecting themselves from financial losses which could occur as a result of some negative events (prevention of risk), however, costly CSP or that which is not properly communicated, could increase the level of financial risk.

Zhao *et al* (2016) examined the relationship between manager's attention focus on corporate social responsibility (CSR) and corporate social performance (CSP), moderated by corporate governance mechanisms which are likely to limit the discretion of managers, using a cross–sectional data set of 344 Chinese firms for 2007/2008 period. The dependent variable (CSP) was measured by the log of aggregate CSP indices from SNAI ratings due to its skewness while the independent variable (managers' attention focus to social issues) was measured by means of content analysis of the annual report of firms under investigation. The study controlled for firm size (natural log of total assets); financial performance (ROA); debt ratio; and firm growth (growth rate of net income) and the data were analyzed by means of correlation and regression analysis. The findings show that managers' attention to social issues has positive and significant influence on CSP and this influence may be moderated by corporate governance mechanisms.

Le, Fuller, Muriithi, Walters and Kroll (2015) examined the influence of top managers' values on corporate social performance (CSP), moderated by the type of CSP activity, by aggregating the results of extant empirical literature (desk research) using an ex-post facto design and a meta-analysis. The findings reveal that: executives' stakeholder values could predict the CSP of firms because, the link between top managers' stakeholders' value and CSP is positively and statistically significant; top managers age and tenure have no statistically significant relationship with CSP while top managers' experience diversity has a significant relationship with CSP; also, there is no statistical significant relationship between top management values and strategic CSP while top managements' stakeholders' value has a statistical significant relationship with social CSP which means that the effect of the type of CSP (strategic or social) could moderate the relationship between top managers' values and CSP. The study therefore, concludes that the selection of executives to fit into the firm's profile should be based on the assessment of values instead of the reliance on demographic proxies such as age and tenure because, such would generate a more fruitful result. Also, since executives easily make decisions concerning investments in strategic CSR than the social CSR, firms should device means or strategies of motivating the top managers, to enable them to invest in both types of CSR activities, and for effective and accurate evaluation of the top managers' CSP, the type of CSP involved or engaged into, is required to be considered.

2.2 Theoretical Framework

The theories that underpin this study are as follows:

2.2.1 Upper Echelon's Theory

This theory was propounded by Hambrick and Mason (1984). The upper echelons assume that organizations are reflections of their top managers (Martin, 2011). According to Andreou *et al* (2016), this theory stipulates that the complexity of the actual decision-making situations leads to an idiosyncratic importance of the top management team, and they observed that managerial ability has unique and more effect on firms' disclosure policies, accounting behaviors, and reporting quality than environment firm specific characteristics. The theory, states that, qualities and different background characteristics of managers of firms partly influence or affect the strategic outcomes or performance of firms, that is, determine the firm's strategic decisions (choices) and performance levels; in other words, organizational outcomes-both strategies and effectiveness are viewed as reflections of the values and cognitive bases of powerful actors in the organization (Hambrick, 2007; Hambrick & Mason, 1984). On this note, Cho and Lee (2017) argue that the CEOs or senior management teams' characteristics (tangible and intangible expert knowledge) are related with individual past experience, value and educational background which enable them to make efficient and valuable decisions.

2.2.2 Stakeholders' Theory

This theory was developed by Freeman (1984) who observed that the concept of stakeholder was first utilized in 1963 at Stanford Research Institute where it was viewed as a group which its support is needed by a firm to succeed, that is, without the support of the stakeholders, the firm ceases to exist. However, Freeman (1984) redefined the stakeholder concept to mean 'any group or individual who can affect or is affected by the achievement of the organization's objective'. This simply implies that stakeholders comprise of a variety of persons or individuals (including the shareholders) and the stakeholders' theory attempts to serve or protect the interest of these stakeholders. Hence, the focus of this theory is articulated in two core questions of what the purpose of a firm is. And what responsibility managers of firms have to stakeholders? The first question propels firms forward and allows them to generate outstanding performances (Freeman, Wicks & Parmer, 2004 in Alu & Akinwunmi, 2017). The second question pushes the managers to articulate how they want to do business and specifically the kind of relationships they want to create with their stakeholders. This theory also expects managers to develop and run their firms in a way that is consistent with the demands of the theory that is, stakeholders' value maximization rather than shareholder's value maximization.

2.2.3 Good Quality Management Theory

Deming was one of the strongest proponents of quality management whose method is still widely adopted by many firms around the world (Anderson, Rungtusanathem & Schroeder, 1994) and the widespread popularity of quality management could be attributed to various case studies which relate organizational turnaround to the influence of Deming's management method. In other words, among the proponents of total quality management (TQM), Deming's (1982, 1986) works are likely the most relevant in the understanding of the connections or links between total quality and work performance as well as the management of such performance (Waldman, 1994).

This theory suggests that CSP has a direct relationship with management quality, as good management (managers) involve in CSP activities thereby, improving their financial performance and this management quality is a resource which adds value to the firm by improving its efficiency in the attainment of high operational productivity (Jacobs *et al*, 2016). As such, managers cannot be socially aware and concerned except, they have acquired the necessary skills to run a superior firm in the traditional sense of managing productivity to attain financial performance; hence, other resources are required in addition to good management, to achieve more operational productivity, such as organizational capability in waste reduction, employee involvement and continuous improvement (Jacobs *et al*, 2016). It should be noted that good management is not easy to imitate and is likely to be a key resource that leads to superior productivity.

2.2.4 The Theory of Eco-efficiency

Eco-efficiency as a corporate social environmental policy strategy was first introduced in the 1990s by the Business Council for Sustainable Development (BCSD) now World Business Council for Sustainable Development (WBCSD) in its 1992 report to the United Nations Conference on Environmental Development (UNCED) in Rio de Jainerio which, in principle, attempts to merge in practice, the material and economic efficiency of a firm's system of production and its ecological sustainability so as to guarantee the maintenance of a certain level of sustainability, at least, not less than the level required for human welfare satisfaction and the core aim of such is, to avoid in advance, the environmental hazards that are likely to occur during the production process which might lead to a reduction in human welfare (Hoffren, 2001; Jollands, 2003). According to Matarazzo *et al* (2013), the concept of eco-efficiency was suggested at a firm-level by the idea of maintaining a sustainable development and does not include the third ethical dimension of sustainable development but, only the economy and ecology. Eco-efficiency is a philosophy of management that supports businesses to strive for improvements in the environment that could give them maximum economic benefits, which implies that it allows the management of firms to seek for opportunities that could make them environmentally responsible and profitable.

Eco-efficiency is achieved by the delivery of competitively priced goods and services that satisfy human needs and bring quality of life, while progressively reducing ecological impact and resource intensity throughout the lifecycle, to a level at least, in line with the earth's estimated carrying capacity (WBCSD, 2006:3) the council views eco-efficiency as a medium through which natural resource consumption and pollution could be reduced while the firm's level of competitiveness increases. It could also be defined as the creation of more value or lesser environmental resources or using low environmental impact-less pollution or natural resource exhaustion (Freeman, 1984) or the ratio of the value which a firm adds by producing their products to the waste which such a firm generates in the process of creating that value. The bottom-line is the creation of value with less impact such as pollution and volume of waste. Therefore, this theory posits that investors increasingly require that firms should adopt strategies that could reduce the damage(s) caused to the environment compatibly with increasing or at least not decreasing the profit (Matarazzo *et al*, 2013). Thus, the rationale behind eco-efficiency is to provide a decent and equitable welfare for every individual and at the same time, reduce environmental degradation to a sustainable level (Hoffren, 2001).

3. Methodology

This study adopted the *ex-post facto* design. Systematic disaggregated approach was as well applied in this study which implies that, the nature of the study variables and the relationship between and among them were fully described. Secondary data sourced from the published annual reports of the sampled firms were utilized, as well as other relevant published sources. The use of systematic disaggregated approach which O'Shaughnessy, Gedajlovic and Reinmoller (2007) referred to as variance decomposition method enabled the separate examination of the impact that each of the dimensions of managerial capability (CP/SL, OPC/SL, SL/TA, DER, and SL/WC) has on corporate social performance (CSPI). Systematic disaggregated approach has been used by various scholars such as (Aggarwal 2013; Ching, Gerab& Toste, 2017; O'Shaughnessy, Gedajlovic & Reinmoller, 2007).

The population of the study consists of one hundred and sixty nine (169) quoted firms as at 31st December, 2017 out of which 90 firms (whose corporate social performance (CSP) has been scored on the CSR hub, and those whose CSP has not been rated) were selected in order to avoid sample selection bias and account for endogeneity problem as stated by Shahzad and Sharfman (2015) who contend that the selection of firms who have third party ratings (CSR hub) only, could create a sample selection bias. Purposive sampling technique was adopted in the selection based on event criterion selection that is, based on availability of data, active trading and continuous listing of the firms over the study periods. The period of study is ten (10) years (2008-2017) making a nine hundred (900) firm-year observations and secondary data sources were utilized from the published, audited annual reports of the firms, www.csrhub.com and other relevant published data concerning the firms under study. This is because, such sources enhance the reliability and validity of data used in the study. Data for the study were analyzed by means of descriptive and inferential statistics which includes the use of multivariate analysis.

Also, the data of this study was estimated using Unobserved Effects Model (UEM) which were either a fixed effect or a random effect depending on the assumptions about the distribution of the unobserved components and the error term, the stochastic process of the time series across companies (unit root processes) and the asymptotic properties of year (t) and company (i). This is because, the study data constitutes a panel data as it cuts across companies over several years and the choice of the UEM was based on Hausman test result and other diagnostic tests which were performed in accordance with the underlying assumptions of linear regression. According to Li, Chiang, Choi and Man, (2013), the Hauseman test examines a more efficient model against a less but, consistent results in order to ensure that the more efficient model would also produce consistent results; the null hypothesis states that the random-effect estimator coefficient is the same as that of the fixed-effect estimator, however, if the results are significant then, the fixed-effect model is selected, otherwise, the random-effect model is recommended. It is thus, expected that both models should produce the same/similar results if the panel data in consideration, constitutes a very long period.

3.1 Variable Description and Measurement

3.1.1 Corporate Social Performance

In measuring CSP, the fulfilment of various stakeholders' demands is sought. Therefore, Corporate Social Performance Indices (CSPI) obtained from CSR hub database served as a measure of corporate social performance in this study. The choice of CSR hub data as a measure of CSP of firms arose due to the draw-backs of using corporate social responsibility report or websites of firms which Zhao *et al* (2016) noted to include: firms may be selective in those reports and self-reported CSP may not give a true picture of the firms' practices and the stakeholders' concerns; those reports may also be symbolic and not revealing the actual CSP of those firms. Therefore, they believe that third party ratings are more reliable, more objective and more transparent. Also, considering the nature of our environment (Nigerian context), the index that captures the CSP proxy is that of CSRhub.

3.1.2 Managerial Capability

For the purpose of this study, managerial capability is measured in terms of cost management (cost of production to sales and operating cost to sales); resource management that is, total asset turnover (sales/total assets); credit/risk management (debt to equity ratio) and working capital management (working capital turnover ratio).

3.1.2.1 Cost of Production to Sales

Cost of production to sales measures the efficiency of the management in handling costs relating to productions in the generation of sales revenue. In other words, cost of production to sales deals with the efficient management of direct costs of production in relation to sales. Extant literature such as Li, Chiang, Choi and Man (2013) applied this measure as growth in cost of goods sold. However, this study utilised every item of cost that made up the cost of sales, that is, cost items before arriving at the gross profit divided by sales or turnover figure. Thus, in the case of financial or service rendering firms, interest expense and interest income were used to represent the cost of production and sales or turnover value respectively.

3.1.2.2 Cost of Operations to Sales

Cost of operations to sales reveals the efficiency of management in managing operating and other administrative costs. It is calculated as indirect costs of operations divided by sales revenue. Prior studies utilised only an aspect of the said costs and applied it as follows: personnel expenses to sales (Syrja, Sjogren & Tuominen, 2012); growth in salary and expenses (Li, Chiang, Choi & Man, 2013); personnel expenditures to profit before taxes, personnel expenditures to profit before interest and taxes (Arcelus, Melgarejo & Simon, 2014). In this paper however, the totality of operating costs or expenses were utilised as the costs of operation. Therefore, the cost of operation to sales was simply arrived at by dividing the total operating expenses with the turnover value.

3.1.2.3 Sales to Total Assets

Sales to total assets otherwise known as total assets turnover, is a measure of how much of resources (total assets) have been used to generate reported sales revenue. In other words, it measures the efficiency of management to utilise total assets in the generation of sales revenue. It is calculated in this paper as sales revenue divided by total assets, which is in line with the measure adopted by Evans (2018). However, some studies such as Syrja, Sjogren and Tuominen (2012) apply it as total assets divided by sales. Total asset turnover has been used as a measure of managerial efficiency or capability in prior studies such as Papadogonas (2007), and Jakada and Aliyu (2015).

3.1.2.4 Debt to Equity Ratio

This is a measure of the managerial ability in handling or managing credit risk. The use of debt ratio as a measure of managerial capability to handle risk is necessary because, according to Zhao, Chen and Xiong (2016) the debt ratio does not only capture the effect of resources constraints but also, the influence of creditor power on the performance of firms especially CSP. In addition, excerpts from Abubaker, Maishanu, Abubaker and Aliero (2018) indicate that decisions concerning capital structure are key managerial decisions which determine the shareholders' return and risk as well as market value of shares. However, Zhao, *et al.* (2016) and Shahzad and Sharfman (2015) used this risk measure (debt/asset ratio) as a control variable. In the same manner, Xu and Xi (2013) controlled for this firm's risk (debt/total assets) while Ghebregiorgis and Atewerbrhan (2016) adopted it (debt-asset ratio) as a risk proxy in their measurement of bank's performance. In this wise, managers of firms, as policy and decision makers, possess different characteristics which could affect the level of risk which they may be involved in; while some are risk takers, others may be risk averse, and a higher level of risk in a firm indicates the presence of risk taking management but, if the risk involved in a firm is low, it implies that the managers are risk averse (Kiswanto, Uli, Fachrurrozie & Retnoningrum, 2016).

Furthermore, Angelopoulos and Georgopoulos (2015) observed that, in a period of crisis or adverse economic shocks, the positive value effect of income diversification is reversed and becomes intensified in the case of value premium of efficient cost management, thus, more abled managers are expected to respond to such shocks better than lesser ability managers by de-leveraging (all things being equal). This means that, risks taken by such high ability managers have been reliably estimated ahead of time and requires not to be hidden from the stakeholders by perhaps, rolling over bad debts. Therefore, one can infer that more capable managers would take more risk and have a high ability or skill and confidence to manage such risk which would eventually, affect the corporate performance of their firms.

3.1.2.5 Working Capital Turnover Ratio

This measures the efficiency of the management to generate sales through the use of working capital. In other words, it is the contribution of working capital to sales revenue. The use of working capital turnover ratio, as one of the measures of managerial capability, lends credence from the study of Arcelus *et al.* (2014) who compared the managerial performance differences between labour owned and participatory capitalist firms for micro and small firms. Furthermore, excerpts from Ejike and Agha (2018) indicate that working capital turnover leads to profit (the higher the turnover rate, the higher the profitability rate of the firm) but the higher the current assets volume, the higher the associated costs which would in turn decrease the profitability level of firms. El Zoubi and Baig (2016) opine that turnover ratios indicate the rate or speed at which assets are converted into sales. Hence, when firms are effective and efficient in their operations, excessive working capital spending could be minimised thereby, improving their levels of performance (Owolabi & Obida, 2012).

3.2 Model Specification

Y = f(X, Z)
Y = Dependent variable
X = Independent variable
Z = Control variables
Y = Corporate Social Performance (CSP)
X = Managerial Capability (MGC)
CSP = f (MGC)
Y= CSP indices [environment (ENV), governance (GOV), employee (EMP), community (COMM)]
X = Managerial Capability (MGC)

x_1 = Cost of production to sales (CP/SL)
x_2 = Operating cost to sales (OPC/SL)
x_3= Total asset turnover (SL/TA)
x_4= Debt to equity ratio (DER)
x_5= Working capital turnover ratio (SL/WC)

Z = Control variables =

z_1 = firm size (SZ)
z_2 = Life cycle (LC)

z_3 = Tax payment efficiency (TPE)
z_4 = Managerial compensation (MC)
Therefore,
CSPI = f (CPSL, OPCSL, SLTA, DER, SLWC, SZ, LC, TPE, lnMC) ------------------ (3.1)
$\mathbf{CSPI}_{it} = \alpha_{it} + \beta_1 CPSL_{it}, + \beta_2 \, OPCSL_{it}, + \beta_3 SLTA_{it}, + \beta_4 DER_{it} + \beta_5 SLWC_{it}, + \beta_6 SZ_{it} + \beta_7 LC_{it} + \beta_8 TPE_{it} + \beta_9 lnMC_{it} + \mu_{it}$-- (3.2)

Where:
$CSPI_{it}$ = Geometric Mean of Corporate Social Performance Index for firm i at time t,
$CPSL_{it}$ = Cost of Production of firm to sales i at time t,
$OPCSL_{it}$ = Operating Cost to Sales of firm i at time t,
$SLTA_{it}$ = Sales to Total Assets of firm i at time t,
DER_{it} = Debt to Equity Ratio of firm i at time t,
$SLWC_{it}$ = Sales to Working Capital ratio of firm i at time t,
SZ_{it} = Size of firm i at time t,
LC_{it} = Life Cycle of firm i at time t,
TPE_{it} = Tax Payment Efficiency of firm i at time t,
$lnMC_{it}$ = Log of Managerial Compensations for firm i at time t,
α= Constant term/intercept
β_{1-9} = coefficients of the explanatory variables
μ_{it} = idiosyncratic errors/disturbances which absorb the effect of the omitted variables in the study.

4. Analysis, Findings and Discussion

4.1 Descriptive analysis

The descriptive analysis of the panel data obtained was done through numerical representation shown on table 4.1, which shows the mean, maximum, minimum, and standard deviation of all variables of Managerial Capability (MGC) that is, Cost of Productions to Sales (CP/SL), Operating Costs to Sales (OPC/SL), Sales to Total Asset (SL/TA), Debt to Equity Ratio (DER), Working Capital Turnover Ratio (SL/WC) and Corporate Social Performance (CSP) measured by Corporate Social Performance Indices (CSPI) of the selected quoted firms in Nigeria for the selected period (2008-2017).

Table 4.1 Descriptive Statistics

	Mean	Std. Dev.	Minimum	Maximum
TPE	-0.2177667	2.228484	-41.08	18.84
LC	24.22944	12.7809	1	53
CPSL	0.6076222	0.2432527	0.02	2.86
OPCSL	0.3625889	0.6993346	0.01	17.79
SLTA	0.8148962	0.6908258	0.0013777	5.428314
DER	0.079011	108.2431	-3123.06	754.37
SLWC	-8.480067	279.5967	-7849.63	609.37
SZ	16.86946	2.239281	11.73	22.45
MC	10.7383	1.755729	0	15.74

CSPI	6.795511	18.98727	0	79.82249

Source: Researcher's Study, 2019

Table 4.1 shows that corporate social performance index (CSPI) had a mean value of 6.795511 and a standard deviation value of 18.98727 which shows the level of variations in the data set. Cost of Productions to Sales (CP/SL) has a mean value of 0.6076222 and a standard deviation value of 0.2432527. This implied that there was no much volatility amongst the Cost of Productions to Sales (CP/SL) during the period studied. Operating Costs to Sales (OPC/SL) also showed a mean of 0.3625889 and a standard deviation of 0.6993346. This also indicated that there was no much volatility amongst the Operating Costs to Sales (OPC/SL) amongst the firms studied for the period covered in this study. Sale to Total Asset (SL/TA) has a mean value 0.8148962 and standard deviation of 0.6908258. This shows that there was no much volatility in the Sales to Total Asset (SL/TA) series. Debt to Equity ratio(DER) had a mean value and standard deviation value of 0.079011 and 108.2431 respectively, this is also a clear indication of a very high volatility amongst the Debt to Equity (DER) data set, which can also be seen in the difference between the minimum value (-3123.06) and maximum value of (754.37). Working Capital Turnover Ratio (SL/WC) has a mean value and standard deviation value of -8.480067 and 279.5967 respectively. The value of the standard deviation shows that there is a high level of volatility amongst this data set.

Size (SZ) also has a mean value of 16.86946 and a standard deviation value of 2.239281. The standard deviation value showed that there is no much volatility amongst the sizes of the firms selected for this study during the years studied. Tax Payment Efficiency (TPE) showed a mean value of -0.2177667 and a standard deviation of 2.228484. The standard deviation value of 2.228484 signifies the presence of volatility in the Tax Payment Efficiency (TPE) series which however, is not pronounced. Life Cycle (LC) of the firms studied showed a mean value of 24.22944 with a standard deviation value of 12.7809 which shows that the life cycle of the firms are not all similar but cover a wide range. Managerial Compensation (MC) has mean and standard deviation values of 10.7383 and 1.755729 respectively. This showed that there is no much variations in the Managerial Compensation (MC) data set.

4.2 Empirical Analysis and Testing of Hypothesis

The empirical analysis of the hypothesis that there is no significant controlling effect of firm size, its life cycle, tax payment efficiency, and managerial compensation on managerial capability and corporate social performance (CSP) of quoted firms in Nigeria is presented on table 4.2. However, the analysis was done with and without the control variables.

Table 4.2: Regression Analysis with Driscoll-Kraay standard errors for Model 3.1 & 3.2

Variable	Without Control			With Control		
	Coefficient	t-Stat.	Prob.	Coefficient	t-Stat.	Prob.
C	9.68	3.66	0.00	-80.26	-4.96	0.00
TAT	-0.63	-0.52	0.60	-0.18	-0.32	0.76
CPSL	-1.16	-0.44	0.66	-2.33	-1.57	0.15

OPCSL	-0.15	-0.23	0.82	-0.45	-2.16	0.06
SLWC	0.004	3.93	0.00	0.00	1.32	0.22
DER	0.00008	0.03	0.98	0.00	0.64	0.54
SZ	-	-	-	3.54	4.25	0.00
LC	-	-	-	1.17	4.04	0.00
TPE	-	-	-	-0.17	-3.19	0.01
MC	-	-	-	0.08	0.21	0.84
R-squared	0.0242			0.3184		
AdjustedR-squared	0.0186			0.3113		
F-Statistic	16.06			5321.74		
Prob.(F-Stat)	0.0067			0.0000		
Diagnostic Tests	**Statistics**			**Statistics**		
Hausman test	3.48		0.63	39.94		0.00*
Rho Statistics/ Multiplier test	704.59		0.00*	4.87		0.00*
Pesaran's test of cross sectional independence	3.74		0.00*	59.95		0.00*
Heteroskedasticity test	38.02		0.00*	81674.77		0.00*
Wooldridge test for autocorrelation	61.27		0.00*	55.01		0.00*

Dependent Variable: CSPI; Obs.:900 *significant at 5%
Source: Researcher's Computation, 2019

4.2.1 Interpretation of diagnostic tests

The result of the diagnostic tests on table 4.2 showed that all the various tests are significant with probability values of 5% except for Hausman test for the model without control variables. Specifically, the significance of Hausman test shows that the null hypothesis to estimate random effect was accepted; as such, the model was tested for the appropriateness of random effect and for the model with control was tested for the appropriateness of fixed effect. The significance of the statistics at 5% shows that random effect and fixed effect is appropriate for model without and with the control variables respectively.

In addition, the Breusch-pagan heteroskedasticity test showed a p-value of 5% implying that the null hypothesis of constant variance was rejected and there is presence of heteroskedasticity. As such, if predictions are based on their regression estimates, would be biased and inconsistent. Furthermore, the Wooldridge test for autocorrelation is significant at 5% which implies that there is presence of first-order autocorrelation. This indicates that the residuals are correlated over time. As well, the Pesaran's test of cross sectional independence shows that the residuals are cross sectionally correlated at 5% level of significance.

4.2.2 Results and Discussion

The result of the regression analysis on table 4.2 shows that managerial capability measured by SLWC and DER has positive effects on CSPI. This is in tandem with *a priori* expectation however, TAT, CPSL and OPCSL, exerted negative effects on CSPI. This is indicated by the signs of the coefficients, that is β_1 = -0.63, β_2 = -1.16, β_3 = -0.15, β_4 = 0.00, and β_5 = 0.00. Also, the size of the coefficient of the independent variable shows that a change in the managerial capability of firms can cause an increase or decrease in CSPI indices as this is indicated by the

coefficients of the variable discussed above. Likewise, the probability of the individual t-statistics shows that only SLWC significantly affected the CSPI at 5% significant level while TAT, CPSL, OPCSL and DER had not significantly affected CSPI. Additionally, the adjusted R-squared showed that about 1.86% variations in CSPI is attributed to the measure of Managerial Capabilitywhile the remaining 98.14% variations in CSPI are caused by other factors not included in this model. Hence, the coefficient of determination shows that the main model has a weak explanatory power on the changes on CSPI. Furthermore the probability of the F-statistic of 0.0067 shows that the regression result is statistically significant because, this is less than 5%, the level of significance adopted for this study.
The controlling influence of firm size, life cycle, tax payment efficiency and managerial compensation on the relationship between managerial capability and CSPI is evident in the change in the size and sign of the coefficients of the variables but has not affected the direction of the relationship. Specifically, working capital management (SLWC) and credit risk management (DER) have positive and insignificant effect on CSPI while resource management (SLTA) and cost management (CPSL and OPCSL) have negative and insignificant relationship with CSP at 5% level of significance when the control variables are introduced. Thus, the joint effect of the control variables on MGC and CPS relationship was moderate (31.13%), positively and statistically significant at 5%.

The weak/moderate relationship between MGC and CSP which is evident in the adj. R^2 of 1.86% and 31.13% could be due to the fact that very few (less than 10%) of the sampled population had their CSP ranked on the csrhub which affected the overall level of CSP. This means that MGC is linked with enhanced CSP and size, life cycle, tax payment efficiency and managerial compensation have a joint controlling effect on that relationship.Hence, at the level of significance of 0.05, and F-statistics of 16.06, the p-value of 0.0067, the null hypothesis that managerial capability has no significant effect on CSP of quoted firms in Nigeria is rejected. Therefore, managerial capability has significant effect on CSP of quoted firms in Nigeria.

These findings are in line with the findings of Cho and Lee (2017) which revealed that ME has a weak relationship with CSP and could affect the choice of investment in CSR. The weak and moderate explanatory power (adj R^2=1.86% and 31.13%) of MGC on CSP could mean that less capable managers do not engage in CSR activities which is in consonance with the assertion of Cho and Lee (2017) that managerial competency is required in the selection of CSR activities because, more able and efficient managers are likely to be competent and are expected to be more effective in implementing CRS investment than inefficient managers. The statistical significant relationship of MGC and CSP conforms to the findings of Jacobs *et al* (2016) whose study revealed a positive and significant relationship between OP and CSP and that of Zhao *et al* (2016) who found a positive relationship between managers attention focus to CSR and CSP as well as Le *et al* (2015) whose study revealed that executives' stake-holders values could predict the CSP of firms. Furthermore, the findings of Andreou *et al* (2016) that firms who are well managed by high ability managers are more profitable and create more value but are more risky are in harmony with the findings of this study.

5. Conclusion and Recommendations

5.1 Conclusion

The capability of the management to efficiently deploy or manage the firm's resources and control cost is quite low which is evident in the inverse relationship with CSP as such reduced their CSP while they were somehow capable to manage their working capital and handle the risk involved in financing mix which improved the level of CSP of those firms although, such reduction/improvement is immaterial except for working capital management. This could imply that firms who wish that their efforts toward the management of stakeholders' relationships be acknowledged by external observers are the ones who engage in CSR activities. Moreover, this could imply that more capable managers engage in CSR activities than non-capable managers and the managers' dilemma concerning CSR engagements is evident as well. The study therefore, concluded that managerial capability has a positive and significant effect on corporate social performance of quoted Nigerian firms and that firm size, its life cycle, tax payment efficiency and managerial compensation jointly control the effect of MGC on CSP.

5.2 Recommendations

Based on the findings, this study recommended that the management of firms should ensure good governance and strong stakeholder's protection

Management of firms should focus on enhancing their CSP by managing effectively and efficiently the firm's resources, costs, working capital and the risk involved in their finance mix instead of concentrating on only few (working capital and the risk involved in their finance mix)

Firms that have not been ranked should endeavor to make it into the ranking because such would increase the public image and reputation of their firms thereby, enhancing their CSP.

The government/policy makers should encourage socially responsible firms by instituting a favorable policy that could enable them improve their corporate social performance such as, tax incentive for the period (s) of engagement in socially responsible investments/activities or firms that have zero or negative social value would pay higher tax liabilities than firms who provide high social values.

Government should as well make the business environment more conducive, competitive and attractive by providing certain basic/social amenities such as good road networks, regular power supply, and security of human lives.

5.3 Recommendation for Further Studies

Because the outcome of CSR cannot always be measured immediately or visibly obtained due to its intangible nature, future studies or stakeholders could device other measures of CSP in addition to the CSR ratings (indices) perhaps, by including actual investment of firms on CSR, locating the benefactors (stakeholders) and finding out the CSP of firms from them or adopting other means for a holistic measure of CSP due to its multidimensionality; future studies could as well concentrate on the impact of CSP on shareholders wealth while controlling for managerial capability because of the belief that CSR activity engaged with altruistic motive is too costly as managers use resources beyond the optimal level which would affect the shareholders wealth negatively; future researchers may adopt the variance decomposition methodology so as to reveal the specific effect which each of the managerial capability measures has on each of the corporate social performance components so as to determine the area of CSP that needs more improvement; further studies can as well extend this study to other countries by making a comparative analysis of managerial capability and corporate social performances of firms (quoted and unquoted).

5.4 Contribution to Knowledge

This study contributes to existing knowledge by investigating the effect of managerial capability [in terms of cost management (cost of production to sales and operating cost to sales); resource management/total asset turnover (sales/total assets); credit/risk management (debt to equity ratio) and working capital management (working capital turnover ratio)] on corporate social performance of quoted firms in Nigeria.

By this approach, the study addresses the problem of managerial capability measurement and the multidimensional aspect of corporate social performance of firms while controlling for the firm's size, its business cycle, tax payment efficiency and managerial compensation as well as account for some firm-specific factors and managerial characteristics that may constrain the strategic choices of the management to improve corporate social performance by engaging in more corporate social responsibility activities.

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IMPACTS OF CUSTOMS AND EXCISE DUTIES ON GOVERNMENT EXPENDITURE IN NIGERIA

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Abstract

The study examined the impacts of customs and excise duties on government expenditure in Nigeria. The inability of previous studies to examine how components of taxation had affected government expenditure prompted the study to fill the gap in the existing studies by investigating the contribution of customs and excise duties on government expenditure in Nigeria. The study used secondary data and sourced from various issues of Central Bank of Nigeria (CBN) Statistical Bulletin and publications of National Bureau of Statistics. The analyses were performed through co-integration, error correction and muilti-regression model; and were integrated by order of one and became stationary after first differentiation at 1% level of significance when using the augmented dicky fuller test (ADF). The result showed negative relationship between the two variables and concluded that customs and excise duties had no significant contribution to government expenditure at 1% level of significance and recommended that tax clearing certificates should be employed by government in order to prevent evasion from customs and excise duties.

Keywords: Customs and Excise Duties, Government Expenditure and Multi-Regression

1.1 Introduction

The government is solely responsible in providing social amenities to its citizens from its funds especially custom and excise duties. The collection and administration of tax in Nigeria faced a lot of challenges which greatly affected revenue generation in the country (Festus and Samuel, 2007).

Aguolu (2004) stated that tax has been the major source of revenue to the government but there is an inadequacy in its collection that can be used to increase government expenditure.

Ojo, (2008) argued that tax has been served as a major source of income to government that can be used for the redistribution of wealth and economic re-adjustment.

1.2 Statement of the Problems

The studies of Festus and Samuel, (2007), Aguolu (2004), and Ojo, (2008) above specifically focused on taxation without considering comprehensively how different types of taxation has affected government expenditure in Nigeria. As a result of inability of the previous studies to examine how components of taxation had affected government expenditure prompted the study to fill the gap in the existing studies by investigating the contribution of customs and excise duties on government expenditure in Nigeria.

2.1 Conceptual Review

Custom and excise duties are sources of revenue generated from imported, exported and locally manufactured goods. Government expenditure is the total amount incurred on capital expenditure for the specific period by the government that can be used to improve standards of living and development in the country with the purpose of stabilizing the country.

2.2 Theoretical Review

2.2.1 Ability to Pay Theory

According to Chigbu, Eze and Ebimobowei, (2011), taxpayers should pay tax in accordance with their ability that is, that people with higher income should pay more than people with lower income.

2.2.2 Expediency theory

Bhartia (2009) said that taxation theory could be rationalized on the basis of association between tax paid (liability) and benefits derived from the state activities. It is stated that the economy, effectiveness and efficiency of tax collection instrument should be given the desired consideration in any tax policy. The study adopted Expediency theory.

2.3 Empirical Literature

The reviews were carrying out through Developed Countries, Developing Countries and Nigeria.

2.3.1 Developed Countries

Yousuf and Jakaria (2013) assessed the efficiency of tax system and changes in gross domestic product (GDP). Time Series Data were used for the period 1980-2011 to estimate the elasticity of the Bangladesh tax system and discovered that customs duties appear to be rigid, due to overall tax elasticity is relatively low. Poulson and Kaplan (2008) discussed effects of tax on economy of the U.S.A. and concluded that the higher tax rates, the greater significant effects on economy in the country. Stoilova and Patonov (2012) carried out research on effects of taxation on economic growth in European Union countries and concluded that direct tax revenue has a great effect on economic growth in EU countries.Mukarram (2005) studied the nature of taxes in Pakistan (1981-2001), it was discovered that customs and excise duties greatly had impact on tax elasticity.

2.3.2 Developing Countries

Ibadin and Oladipupo (2015) researched on impact of indirect taxes on economic growth of Nigeria, 1981-2014. They used unit root test and discovered to be stationary while analysing custom and excise duties (CED). It was also revealed that custom and excise duties have a positive relationship with gross domestic product (GDP).

Tosun and Abizadeh (2005) researched on economic growth on tax multiplier of economic co-operation and development countries (OECD) for 1980-1999 and concluded that there is a significant effect on the countries.

Ogbonna and Appah (2012) researched on effect of tax issues on economy in Nigeria and realised that all different types of tax had significantly positive on economy of Nigeria.

Umoru and Anyiwe (2013) conducted research on the correlation between the new national tax policy and economic growth in Nigeria and concluded that there is a lack of indirect tax justification but nation can improve its direct tax structure.

3.1 Research Method

The study used secondary data and sourced from the Central Bank of Nigeria (CBN) and National Bureau of Statistics' publication.Analyses used error correction model and multi regression model to test short-run relationship and co-integration test was conducted to find long-run linear relationship among the variables. The model propounded by Tawose (2012) when using co-integration and error correction models were adopted.

The model is specified below:

$\Delta GDP_t = \Theta_o + \Theta_1(\Delta CED_{t-i}) + \mu_t$--- (3.1)

Where: Δ = Difference Operator, Θi= Parameter to be estimated, $t\text{-}i$ = Unknown lags to be estimated, μt= The error term, and GDP= Gross domestic product used to measure government expenditure, CED=custom and excise duties.

It assumes that variables behaved well; otherwise equation (3.1) will translate to:

$\Delta^{ko} GDP_t = \Theta_o + \Theta_1(\Delta^k CED_{t-i}) + \mu_t$--- (3.2)

Where: K = Order of differencing

Equation (3.2) assumes that: K_0 is not equal to K_1, Else if K_0 is equal to K_1, then there is a need to investigate co-integration between the variables (Johansen, 1988).

If the residuals are stationary and a long-run relationship is established, then the parameters will thus be suitably estimated by introducing an error correction mechanism (ECM) as developed by Engle and Granger (1987).

The ECM gives chance to estimate the degree at which equilibrium behaviour drives short-run dynamics. It must be noted that the existence of co-integration between the variables transferred equation (3.2) to error correction model (ECM) as shown below:

$\Delta^{ko} GDP_t = \Theta_o + \Theta_1(\Delta^{k1} CED_{t-i}) + + \Theta_2(ECM_{t-i}) + \mu_t$-- (3.3)

4. Data Analysis and Discussion Of Findings

The findings divided into Descriptive Analysis and Unit Root test.

4.1 Descriptive Analysis

The descriptive analysis in table 1 below showed an average custom and excise duties generated with amount of ₦242.5billionm, ₦102billion a maximum and ₦75billion a minimum.

It was showed in the table that custom and excise duties did not have significant effects on government expenditure.

Table 1: Summary of Descriptive Analysis

Variables	Mean	Std.Dev.	Minimum	Maximum
GDP	2.42e+05	7.61e+06	102b	75b
CED	.134	.012	0	1

Source: Researcher's Computation, 2021

Table 2: Unit Root Tests

	TEST AUGMENTED DICKY FULLER			TEST ON PHILLIP PERRON		
VARIABLES	LEVEL	DIFFERENCE 1ST PLACE	INTEGRATIO ORDER	LEVEL	DIFFERENTATION 1ST PLACE	INTEGRATIONORDER
CED	2.736981	-3.701718*	$I(1)$	-3.70	-5.863744*	$I(1)$
GDP	4.296689	4.549443*	$I(1)$	2.051412	-5.487767*	$I(1)$
ERROR	-3.90		$I(0)$	-4.75284*		$I(0)$

*, **, and *** stand for significant at 1%, 5% and 10% respectively

Source: Researcher's Computation, 2021

The paragraphs continue from here and are only separated by headings, subheadings, images, and formulae. The section headings are arranged by numbers, bold and 10 pt. Here, the authors are to follow further instructions.

4.2 Discussion of Findings

Table 2 presents a summary of the ADF and PP unit root test and showed that custom and excise duties (CED) is not stationary at level. However, it becomes stationary after first differencing at 1% level of significance using ADF. In other words, the variable is integrated of order one.

e_t become stationary if the estimated α< 0 and significant.

The unit root test of e_t is presented on the last row of table above, the test result showed that e_t is stationary at 1% level of significance when using the ADF test and the same with the PP test result. The full implication of this is that the variables are of the same interest and have long-run association with co-integrated in the long-run.

Table 3: Long-run Relationship

Variable	Co-efficient	t Statistic	p Statistic

CED	-0.053355**	-1.953545	0.0793
C	13874.31*	39.74624	0.0000

Source: Researcher's Computation, 2021.   Significance at 1%, 5% and 10% respectively.

4.3 Discussion of Findings

The Table 3 showed that variable has significant impact on government expenditure in the long-run.

The coefficient of customs and excise duty (CED) is negative and significant at 10% level. The coefficient of 0.05 implies that an increase in (CED) will result in a fall in the government expenditure. The negative value can be justified on the issue that Nigeria is greatly an import-dependent nation. Hence, increase in the taxation of imported good will ultimately translated into higher prices to the consumers and which will further resulted to inflation in the domestic economy as the country experiences presently.

Finally, the constant term is positive and also significant at 1%. The R-Squared and Adjusted R-Squared are approximately 90% and 87% respectively.

The F-Statistics is significant at 1% level; implying that all the coefficients in the estimated regression result is jointly significant.

The Durbin Watson statistics of 1.88 suggested that the model was free from the problem of serial correlation and the error terms in the estimated regression are not correlated

Table 4: Post Estimation Tests

	Test Statistics	p-values
Jacque-Bera Test for Normality	0.7789	0.6774
Breusch-Pagan-Godfrey Heteroskedasticity Test:	0.556152	0.6557
Breusch-Godfrey Serial Correlation LM Test:	0.0316	0.9690

Source: Researcher's Computation, 2021

4.4 Discussion of Findings

Table 4 presented the post estimation test results with normality of the error term in regression estimation and the Jacque-Bera test for normality was performed. The probability value of the test statistic was 0.6774 and extremely high to reject the null hypothesis of normality error term. The implication was that the error statistically distributed with zero mean and a constant variance and satisfied the standard OLS assumption.

The Breusch-Pagan-Godfrey Test for Heteroskedasticity was performed in order to confirm the flexibility of error terms variance. The F-statistic 0.5561 was not significant at the standard level and resulted in accepting the null hypothesis of homoscedasticity (constant variance) of error term.

The Breusch-Godfrey test for serial correlation was performed in order to test its estimated regression error term.

The F-statistic has a probability value of 17% and hence null hypothesis has no serial correlation between the error terms.

The conclusion showed that estimated model satisfied the assumptions of OLS hence, the parameters obtained were best and linear unbiased estimates (BLUE).

Table 5: Short-run Relationship

Variable	Coefficient	t Statistic	P. Statistic
D(CED)	-0.123188***	-1.156816	0.0853
ERROR(-1)	-0.982938*	-3.410289	0.0066

Source: Researcher's Computation, 2021

4.5 Discussion of Findings

Table 5 showed short-run relationship between variables and co-efficient of the variables with exception of lagged value error term at significant of 10% level. The co-efficient of lagged value of the error term was negative and significant at 1% level along with theoretical expectation.

The co-efficient of lagged value in error term was also known as error correction mechanism (ECM).

Also, in the long-run, the coefficient of custom and excise duties (CED) was negative and significant and this implies an increase in imported goods duties will reduce economy's real GDP of government expenditure and this same with explanations provided in the short-run.

The co-efficient of lagged value in the error term was negative and significant as expected with 0.983 approximately as 98% of the discrepancy between the short-run and the long-run real GDP of government expenditure was covered in the current period. This also implies that it will take approximately 2 months for the discrepancy to be fully corrected.

The R-Squared and Adjusted R-Squared were approximately as 80% and 78% respectively. This strongly suggested that most of the short-run variations in the dependent variable, government expenditure (real GDP) were explained by variations in the independent variables.

The F-Statistics was significant at 5% level and showed that short-run co-efficient of the estimated regression result was jointly significant.

The Durbin Watson statistics of 1.674 showed that model was free from serial correlation problem and error terms in the estimated regression were not correlated.

5.1 Conclusion

The findings contribute a better understanding of custom and excise duties and government expenditure in Nigeria. The results showed that custom and excite duties were not significant variable in explaining the government expenditure in Nigeria.

5.2 Recommendation

It is recommended that tax clearing certificates should be employed by government in order to prevent evasion from customs and excise duties.

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EFFECT OF BOARD CHARACTERISTICS ON FINANCIAL PERFORMANCE OF SELECTED QUOTED COMPANIES IN NIGERIA

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Abstract
The boards of directors are responsible for overall financial performance of the firm which for decades had been at the centre of driving the economies of developing country like Nigeria.Corporate governance comprised of unique systems and procedures of which a country decides on the most appropriate to suit her case in resolving organizational problem. Boards of directors are often held to higher financial performance standards with focus on their independence, diversity and expertise of board members. Unfortunately, performance of most quoted companies in Nigeria tend to decline significantly at the end of 2009 based on effect of global financial crisis. This had been partially attributed to poor governance structures in these companies. Therefore, this study examined the effect of board characteristics on financial performance of 30 selected quoted companies in Nigeria for the period of 2009-2018. Ex post facto research design was adopted and data were sourced from audited annual accounts and reports of selected quoted companies. Using panel data regression models, findings revealed that board size, board independence and board tenure had negative and significant effect on performance.(-0.00636,-016209 and-0.00904) at10%, 5% and 1% conventional levels of significance. Board expertise however showed positive and significant effect on performance. (0.32252) at 5% level of significance. Based on these findings, the study concluded that inclusion of directors with accounting or finance knowledge would result into improved performance. Thus, the study recommends among others that non- executive directors should be allowed to participate actively in the affairs of the company and have access to vital information to reduce communication gap. In addition, a board with large board members should be discouraged among quoted companies to improve coordination and faster decision making.
Keywords*: directors; performance; governance; companies; accounting.*

1. Introduction

The boards of directors play an important role in corporate governance process and this has been observed by the general public. Corporate governance comprised of unique systems and procedures of which a country decides on the most appropriate to suit her case in resolving organisational problems. Toward this, all board characteristics are expected to have beneficial influence on the performance of a company. Although some characteristics provide more controlling mechanism than others. Board characteristics are an important corporate governance mechanism designed to alleviate several disorders which exist in a company’s internal environment.For instance, the presence of an independent director can reduce agency problem and its associated agency costs. In addition, larger board could bring diversity that would help the firm to secure important resources needed to achieve corporate objective. It is fundamental that, to safeguard investors’ investment there is need for an effective board structure that would facilitates transparent and fairness dealings among various stakeholders.Apparently, the board of directors has a key role to monitor the performance of top management to ensure that they act in the best interest of owners. However, the spate of distress that ravaged most quoted companies is a proof that board structure has notactually improved performance as expected.It is often argued that the semantic role of the board in decision making process has resulted into quality financial reporting process and better result. More elaborately, the general public views the board and their characteristics as important element in the corporate governance process which influence the integrity of financial report. The potential effect of board characteristics on firm’s performance can be linked with financial statement credibility given the thorough oversight functions of the board of director. The board has a primary responsibility of overseeing the firm’s financial reporting process to ensure that all stakeholders are well catered for. There is no doubt that directors are held accountable for corporate performance and responsible for stewardship of their shareholders. However, it not clear whether their efforts accounted for poor result of most quoted companies given the prevalent corporate failure. From the foregoing, the study attempts to provide answers to the following research questions on how board characteristics affects the financial performance of selected quoted companies in Nigeria.

1.1 Research Questions

- What is the effect of board size on financial performance of selected quoted companies in Nigeria?
- What impact does board gender diversity has on financial performance of selected companies in Nigeria?
- Does board expertise affect the financial performance of selected quoted companies in Nigeria?
- What is the relationship between board independence and financial performance of selected quoted companies in Nigeria?
- To what extent does board tenure affect the financial performance of selected listed quoted companies in Nigeria?

1.2 Objectives of the Study

The broad objective of this study is to examine the effect of board characteristics on financial performance of selected quoted companies in Nigeria. The specific objectives are to:

- examine the effect of board size on financial performance of selected quoted companies in Nigeria;
- assess the impact of board gender diversity on financial performance of selected quoted companies in Nigeria;
- ascertain the influence of board expertise on financial performance of selected quoted companies in Nigeria;
- determine the effect of board independence on financial performance of selected quoted companies in Nigeria; and
- investigate the extent to which board tenure affect the financial performance of selected quoted companies in Nigeria.

1.3 Research Hypothesis

Ho1: There is no significant relationship between board size on financial performance of selected quoted companies in Nigeria.
Ho2: There is no significant relationship between board gender diversity on financial performance of selected quoted companies in Nigeria.
Ho3: There is no significant relationship betweenboard expertise on financial performance of selected quoted companies in Nigeria;.
Ho4: There is no significant relationship betweenboard independence on financial performance of selected quoted companies in Nigeria.
Ho5: There is no significant relationship betweenboard tenure affect the financial performance of selected quoted companies in Nigeria.

1.4 Motivation for the Study

The rationale for this study arose from the desire to broaden the base of knowledge about board tenure and how expertise of board member contributing to financial performance. This was considered necessary because these variables are often ignored notwithstanding their effect on firms' performance. The average length of time spent by each director remains important board characteristics that gives rise to informed decision and this invariably affect performance.In addition, the effect of global financial crisis in 2008 has resulted into a situation where corporate governance in most quoted companies came under intense scrutiny and analysis indicating poor regulation might have caused the crisis coupled with the fact that this period witnessed years of mismanagement and reforms which put the country on the tracks towards achieving its full economic potential.

2. Literature Review

2.1 Conceptual Issues

2.1.1 Board Size and Financial Performance

Financial performance as a concept has been difficult to define because of its multidimensional meanings. In addition, board size is not uniform across the firm.Evidence suggests that companies with good financial performance had greater investments prospect. Hence, the orientation of a company is always geared towards performance. The concept of board size has been discussed extensively in literature with no agreement on the ideal number that should constitute a given board. Board size refers to the number of directors sitting on the board of any corporate organisation (Dozie, 2003; Levrau & Den Berghe,2007). Muhammad (2016) noted that board size should not be large because it often results into financial difficulty which may hinder firm's development. He however reiterated that, board sizes with few members are prone to make biased and poor judgment. According to Ebenezer and Appiah (2017), an effective board with optimal size is capable of monitoring the performance of management entirely. Lius, Jose and Raquel (2018) also affirmed that the number of members on the board has impact on corporate reputation and this corroborates the views of Farag and Mallin (2017) that a firm with financial distress needs diverse and relevant knowledge to resolve issues affecting performance.

2.1.2 Board gender diversity and Financial Performance

Board gender diversity has become popular in the recent years given the new trend in corporate world. In actual sense, gender diversity is an attempt to minimize inefficiency among members in such a manner that diversity will result into new perspectives based on knowledge and expertise that individual can bring. While, Rhode and Packel (2014) opined that diversity has uncertain impact on governance quality; Shapiro,Tang, Wang and Zhang (2015), are of theview that board diversity enhance internal structures in an organisation. The best board is a mix of individuals with different skills, knowledge, and information, power and readily available to contribute his or her quota professionally. It is generally believed that gender diversity will influence activity because females are more active inmonitoring and they are considered as a vital corporate governance device. Unfortunately, women are poorly represented in most quoted companies in Nigeria. Cultural background makes it difficult for women to chair most executive position. This has hindered the contribution of these women which might be of great value to the company and society at large Nevertheless, gender diverse board increase transparency and this complement other forms of governancestructure. It is important that board composition should reflect an appropriate number of women on the board but this has not been followed to the letter.

2.1.3 Board Expertise and Financial Performance

Board expertise is yet another critical issue for legislators and academics and its main purpose is to improve the firm performance.Financial literacy of members has been ascribed as major factor that increase credibility of company's financial position. The link between the financial performance and board expertise has been identified in the literature. According to Kor and Sundaramuthy (2009), members with adequate financial background will handle better organizational conflicts and its associated problems. Relatedly, Alzoubi and Selamat (2012) asserted that higher level of board expertise lead to a greater level of motivation for monitoring the organization's operation. Hence, the expertise of the board is generally considered as important characteristics influencing the company's performance. To corroborates this, Johl, Kaur and Cooper (2015) opined that board members with accounting expertise will compliment others effort in enhancing performance. Accordingly, Custodio and Metzger (2014) argued that senior finance expert directors are able to communicate and relates well with the participants of stock market. It is important however that, the knowledge, skill and competence of board members commensurate with organization needs and requirements.

2.1.4 Board Independence and Financial Performance

Another board characteristic that enhance good governance is board independence. Independent director is a director who has no relationship with the organisation other than being on the firm's board of directors (Beasely, 1996). Code of corporate governance in Nigeria requires that board of directors comprised of people with different but relevant knowledge to ensure that attention are focused on core areas of business. Although, independent directors may not participate actively in the day-to day running of the business but they are capable of influencing major decisions through their monitoring functions. Moreover, the presence of independent director as a major source of outside directors' representation adds value to management by ensuring discipline among members, make constructive and reliable decisions. Independent directors are entrusted with responsibility to provide unbiased and varied perspectives beneficial even for firms with limited managerial decisions. To achieve this, Sharifah, Syrahrina and Julizaerma (2016) believes that independent directors must free from management influences and their presence serve as a deterrent against misappropriation and bad management practices.

2.1.5 Board Tenure and Financial Performance

Board tenure is another board characteristic which is rarely discussed in literature.Board tenure is the average length of the time a director has been on the board of a particular company. Board tenure has a direct link with a director's experience and also a material effect on the decision making process. For example, directors with longer board tenure would logically accumulate more specific knowledge while sitting on the board (Johnson, Schnatterly & Hill 2013). Similarly, Bonini, Deng and John (2015), provide evidence that longer tenure board members have wealth of experience relevant to company's internal environment. In addition, a single long serving director is endowed with comprehensive knowledge about the company to share with the rest of board members. However, communication and co-ordination hinder this knowledge diffusion.

On the contrary, the detrimental effect of longer board tenure on financial performance is stronger for big companies due to board members' inability to advice on technical matters. Although, longer board tenure is an indication that company is stable and not subject to constant retrenchment. Experience has shown that monitoring function of board members' deteriorates with length of service because they become more affiliated with managers and more entrenched in their position. Deteriorating monitoring allows manager to act opportunistically resulting in lower firm value.

2.2 Theoretical Framework

2.2.1 Agency Theory

Agency theory is one of theoretical framework underpinning most discussions on corporate governance. Agency theorists opined that the ultimate goal of any organization is maximizing the shareholders value and this thought should be upheld. Toward this, directors help in monitoring and give incentives to managers that are doing coordinated and cooperative work. According to Udeh and Ugwu (2014) agent has more responsibilities to carry out on behalf of principal and in most cases inability to align with their interest often lead to agency cost.The basic assumption under agency theory is that both behavior and consequences are homogeneous and easily monitored such that directors compensate the managers that are doing coordinated and cooperative work. The relationship between principals and agents usually results to conflicts due to one party motivated by self interest above their professional and moral responsibilities. Agency theory has its own limitations on the ground of over reliance of the stakeholders on the board of directors which has proven to be unreliable because the level of independence of some directors can still be questioned.

2.2.2 Resource Dependency Theory

This study is hinged on resource dependency theory because of its importance in explaining the roles of the board in providing access to resources for the organization. In addition, the weaknesses in agency theory on the role of the board strengthen the reliance on this theory.
Resource dependency theory is concerned with how organizational behaviour is affected by external resources that organization utilises. The implication of resource dependency theory revolved around organizational structure, human capital development and many other aspect of organisational strategy. According to Kalu (2016), resource dependency theory addresses hiringof directors as organisation resources required to accomplish the firm's objective. Similarly, Robert and Young (2006), affirmed that board of directors as part of organizational resources is a unique way to consider their roles in creating high performance. According to them the presence of independent directors can provide the organization with relevant experience required to complement executive director's effort in achieving the goal of an organisation. They further affirmed that appointment of independent directors can serve as a check against management misappropriation and other fraudulent practices.

The tenet of resource dependency theory is such that whoever controls resources has the power over those actors who need these resources. Moreover, resources are often controlled by the organisation and often not in the control of organisation needing them. This indicates that strategies must be carefully considered in order to maintain open access to resources. Board of directors is considered as reservoir of resources necessary for greater corporate performance. Consequently, board expertise and competence are resources required to drive other resources to stimulate firm performance.

2.3 Empirical Evidences

A review of empirical evidences on the effect of board characteristics and financial performance shows mixed results. While studying the relationship between board characteristics and firm performance of listed Malaysian companies, Johl, Kaur and Cooper (2015) found that board size and board expertise have significant and positive relationship with performance.In another related study, Ilaboya and Obaretin (2015) made use of content analysis to examine the relationship between board characteristics and performance ofquoted food and beverages companies in Nigeria. It was found that board size and board expertise have significant influence on performance.

Amama, Shaukat and Grzegorzm (2017) investigated how corporate governance affect performance of UK listed companies by utilizing a large sample of 2,212 quoted companies. Their findings revealed among others that board independence had a positive and significant effect on performance. Kajola, Onaolapo and Adelowotan also researched on the effect of board size on financial performance of 35 non- financial quotedcompanies in Nigeria.The result revealed that board size had positive and significant effect on performance. In addition, Rashid (2018) provides evidence on relationship between board independence and performance of non-financial quoted companies in Bangladesh. It was found that board independence had negative impact on performance. Findings by Gambo, Bello and Rimanshung (2018) on impact of board characteristics on financial performance of listed consumer goods in Nigeria showed that board size had negative impact on performance. In summary, previous studies on board characteristics and financial performance have centered on certain attributes such as (size, independence, expertise, gender diversity) with little attention on board tenure especially in most Nigerian studies on corporate governance. There are scanty literatures on the effect of board tenure on performance due to nature of information in the audited reports and accounts of companies. This study considers the average length of time spent by directors as important variable that could impact on performance of companies.

3. Methodology

3.1 Model Specification

The test of association between the explanatory variables and financial performance is estimated using the following econometric model.

FP= f(BDS, BDV, BDE, BDI, BDT, FZ, FL)

$FP=\beta_0+\beta_1 BDS+\beta_2 BDV+\beta_3 BDE+\beta_4 BDI+\beta_5 BDT+\beta_6 FSZ+\beta_7 FL+£_i$

Where: BDS= Board Size
BDV= Board Diversity
BDE=Board Expertise
BDI=Board Independence
BDT=Board Tenure
FSZ=Firm Size
FL=Financial Leverage
β_o=Intercept (Constant Term)
$\beta_1 – \beta_7$= Estimated Parameters
$£_i$= Error Term

3.2 Research Design

This study employed ex post facto research design to measure the effect of dependent variable on explanatory variables. This design is considered appropriatebecause it allows the use of already available data while testing for cause and effect relationship using statistical hypothesis technique.

3.3 Population and Sample Size of the Study

The population of the study comprised of all quoted companies listed on Nigerian stock exchange as at 31st December, 2018. A sample size of forty (30) quoted companies were selected using purposive sampling technique. These quoted companies were chosen due to availability of relevant data required to achieve the aims of the study and their importance in the growth of nation’s economy. Specifically, complete data on board tenure and board expertise only available in these companies. Moreover, the rationale for using purposive sampling is also premised on data availability needed to answer the questions earlier stated in this study.

The variables used in this study are described in the Table 1 below

Table 1:Variables Description, Measurements and Sources

Variables	Type	Measurements/ Sources	Supporting Scholars

Financial performance	Dependent	This is measured as earnings before interest and tax divided by total assets.	Johl, et al.,(2015).
Board size	Independent	Measured as the total number of directors sitting on the board of a particular company.	Oyerogba, et al., (2016; Bebejiet al2015).
Board Diversity	Independent	Measured as the proportion of women directors on the board divided by the total directors.	Ogboi,et al., (2018)
Board Expertise	Independent	Measured as the proportion of members with finance or accounting professional certificate.	Johl,et al., (2015).
Board independence	Independent	Measured as the proportion of non-executive directors divided by the total directors.	Adekunle, et al., (2014).
Board Tenure	Independent	Measured as the total number of years that director has serve on the board divided by total number of directors.	Mc-clelland,et al., (2012).
Firm Size	Control	Measured as the natural log of total assets.	Kalu, (2016).
Financial Leverage	Control	Measured as total liabilities divided by total assets	Ogiriki, Andabai and Bina (2018).

Source: Author's compilation from the literature review (2020)

3.4 A priori Expectation

The a priori expectations are such that board size, board independence, board expertise, board diversity and firm sizewill exhibit a positive relationship with financial performance. This implies that an increase in any of these variables will have a positive influence on the financial performance of selected companies. However, board tenure, and financial leverage are expected to have an inverse relationship with financial performance.

$$ROA = \beta_0 + \beta_1 BDS_{it} + \beta_2 BDV_{it} + \beta_3 BDEX_{it} + \beta_4 BDI_{it} + \beta_5 BDT_{it} + \beta_6 FSit + \beta_7 FL_{it} + £_{It}$$

Expected sign (+) (+) (+) (+) (-) (+) (-)

4. Presentation, Analysis and Interpretation of Results

This section presents the analysis of data collected from secondary source which is the annual reports and accounts of sampled listed firms. This analysis was carried out using descriptive and inferential approaches. The descriptive approach entails the summary statistics of the variables and pair-wise correlation matrix while the inferential analysis involves statistical tool of regression, particularly the fixed and random effects models.

Table 2:Correlation Matrix

	(1) ROA	(2) BDS	(3) BDV	(4) BDE	(5) BDI	(6) BDT	(7) FMZFL	(8)	
ROA	1								
BDS	-0.08	1							
	(0.16)								
BDV	0.26*	0.05	1						
	(0.00)	(0.39)							
BDE	-0.15*	0.11*	0.00	1					
	(0.01)	(0.05)	(0.98)						
BDI	0.03	0.00	0.12*	0.12*	1				
	(0.67)	(0.98)	(0.04)	(0.04)					
BDT	-0.19*	0.13*	0.28*	0.25*	0.07	1			
	(0.00)	(0.02)	(0.00)	(0.00)	(0.21)				
FMZ	0.05	0.55*	0.18*	0.24*	-0.03	0.35*	-0.15*	1	
	(0.38)	(0.00)	(0.00)	(0.00)	(0.66)	(0.00)	(0.01)		
FL	-0.34*	-0.08	-0.07	-0.05	-0.08	0.07	-0.02	0.00	1
		(0.17)	(0.23)	(0.42)	(0.16)	(0.21)	*(0.79)	(0.98)	

Note: values in parenthesis; * indicates significant relationships at 5 percent significance level

Table 2 presents the correlation matrix of the variables to show the relationship that exists among the variables involved in the models of this study. Return on asset has negative correlation coefficients with each of board size, board expertise, board tenure and financial leverage but positive correlation coefficients with board diversity, board independence and firm size. However, only the correlation coefficients of return on assets with board diversity, board expertise, board tenure and financial leverage are statistically significant. This implies that return on assets move in the same direction with BDE,BDT and FL but in opposite direction with BDV. A significant and positive relationship exist among BDS, BDE, BDT and FMZ which indicates that as board size increase, there is a proportional increase in these variables.Board diversity has negative correlation with financial leverage but positive correlation coefficients with BDE, BDT, BDI and FMZ.

Overall assessment of these correlation results suggests that including these variables in a single model would not lead to multi collinearity problem since none of their correlation coefficients is up to 0.8.

Table 3: Fixed Effects Model Results

Variable	Coef.	Std. Err.	T	P>t
BDS	-0.00636	0.003523	-1.81	0.072
BDV	0.109796	0.081883	1.34	0.181
BDE	0.32252	0.115236	2.8	0.006
BDI	-0.16209	0.062417	-2.6	0.010
BDT	-0.00904	0.003065	-2.95	0.003
FSIZE	0.00627	0.017343	0.36	0.718

FL	-0.16235	0.022979	-7.07	0.000
CONS	0.109244	0.395464	0.28	0.783
F-statistic	12.06			
p-value (F)	0.000			
R-squared	0.269			

Source: Author's Computations, 2020.

The above tablepresents the fixed effects results. The overall significance of the model, measured by F-statistic shows a value of 12.06 with a very low p-value, indicating that the statistic value is significant and hence, the overall model is significant. This also implies that the model is in good fit. The model R-squared shows a value of 0.269, indicating that about 26.9 percent of variations in return on assets is explained by the model.

To evaluate the coefficients of the model, the result shows that board size, board independence, board tenure and financial leverage have negative coefficients while board diversity, board expertise and firm size have positive coefficients. Of all these coefficients, only those of board size, board expertise, board independence, board tenure and financial leverage are statistically significant. This implies that only these variables significantly affect financial performance of the listed firms. This is evident from their lower p-values than the conventional significance levels (i.e. 0.1, 0.05 and 0.01). Board size is significant at 10 percent;board independence is significant at 5 percent while board expertise, board tenure and financial leverage are significant at 1 percent.

The significant negative coefficient of board size indicates that increase in the number of directors serving on the board by one individual will lead to a decline in return on asset by about 0.006 points, and vice versa. Similarly, the significant negative coefficients of board independence, board tenure and financial leverage indicate that increase in each of these variables by a point, a year and a point respectively, will lead to a decline in return on asset by about 0.16, 0.009 and 0.16 points, respectively. On the other hand, the positive significant coefficient of board expertise indicates that a point increase in the proportion of directors that have financial expertise will lead to an increase in return on asset by about 0.323 points, and vice versa.

These results indicate that even though variables such as board size, board expertise, board independence, board tenure and financial leverage have significant effect on firms' financial performance, majority of them have negative effects and hence, drawing back financial performance. The only exception is board expertise which was shown to have positive effect on financial performance of firms.

Table 4: Random Effects Model results

Variable	**Coef.**	**Std. Err.**	**Z**	**P>z**
BDS	-0.00715	0.003401	-2.1	0.036
BDV	0.205572	0.078232	2.63	0.009
BDE	0.225791	0.114539	1.97	0.049

BDI	-0.1525	0.063892	-2.39	0.017
BDT	-0.01157	0.00257	-4.5	0.000
FSIZE	0.014826	0.010311	1.44	0.150
FL	-0.16193	0.022589	-7.17	0.000
CONS	-0.04747	0.230659	-0.21	0.837
Wald Chi-squared	98.2			
p-value (F)	0.000			
R-squared	0.324			

Source: Author's Computations, 2020.

Table 4 presents the random effects results. The overall significance of the model, measured by Wald Chi-squared statistic shows a value of 98.2 with a very low p-value, indicating that the statistic value is significant and hence, the overall model is significant. This also implies that the model is in good fit. The model R-squared shows a value of 0.324, indicating that about 32.4 percent of variations in return on assets is explained by the model.

To evaluate the coefficients of the model, the result shows that board size, board independence, board tenure and financial leverage have negative coefficients while board diversity, board expertise and firm size have positive coefficients. Of all these coefficients, only those of board size, board diversity, board expertise, board independence, board tenure and financial leverage are statistically significant. This implies that only these variables significantly affect financial performance of the listed firms. This is evident from their p-values being lower than the conventional significance levels (i.e. 0.1, 0.05 and 0.01). Board size, board expertise and board independence are significant at 5 percent significance level while board diversity and financial leverage are significant at 1 percent significance level.

The significant negative coefficient of board size indicates that increase in the number of directors serving on the board by one individual will lead to a decline in return on asset by about 0.007 points, and vice versa. Similarly, the significant negative coefficients of board independence, board tenure and financial leverage indicate that increase in each of these variables by a point, a year and a point respectively; will lead to a decline in return on asset by about 0.15, 0.011 and 0.162 points, respectively. On the other hand, the positive significant coefficients of board diversity and board expertise indicate that a point increase in the proportion of directors that are female and the proportion of directors that have financial expertise will lead to an increase in return on asset by about 0.21 and 0.23 points, respectively.

These results also indicate and further reveal that even though variables such as board size, board diversity, board expertise, board independence, board tenure and financial leverage have significant effect on firms' financial performance, majority of them have negative effects and hence, drawing back financial performance. The only exception is board diversity and board expertise which were shown to have positive effects on financial performance of firms

Table 5: Results of Model Diagnostics

Statistic	Test of	Hausman Test	Heteroscedasticity	Autocorrelation

	Homogeneity			
F/Chi-squared statistic	16.27	37.89	2.78	2.31
p-value	0.000	0.000	0.095	0.124

Source: Author's Computations, 2020.

Table 5 presents the results of model diagnostics to verify the validity of the regression results presented above. The table shows results for F-statistic values in cases of test of homogeneity and Wooldridge autocorrelation test while it shows results for Chi-squared values in case of Hausman specification test and Heteroscedasticity test.

The result shows that the statistic value of the F-test of homogeneity is statistically significant with very low p-value. This indicates rejection of the hypothesis that all individual differences among the firms in the sample are zero, meaning that they are homogeneous. Rejection of this hypothesis suggests that the firms are not homogeneous and employing ordinary least squares method, which assumes homogeneity would be inappropriate. Therefore, employing the fixed and random effects model, which accounts for heterogeneity in the panel is more appropriate.

The Hausman specification test result is useful to determine the appropriate specification between the fixed and random effects models. The test has a significant statistic value of 37.89 with p-value of 0.000. This indicates rejection of the hypothesis that the difference in coefficients of the fixed and random effects is not systematic, i.e. that random effects is better. This rejection suggests that the difference in the coefficients of the two methods is systematic and hence, the fixed effects model is more appropriate.

Heteroscedasticity test shows a Chi-squared statistic value of 2.78 with p-value of 0.095. This indicates that the statistic value is not significant at 5 percent level of significance. Therefore, the test hypothesis that the residuals have equal variance could not be rejected at the 5 percent levels and hence, a safe conclusion can be reached that the model is free from the problems of heteroscedasticity.

The Wooldridge test of first-order autocorrelation generates F-statistic value of 2.31 with p-value of 0.124. This indicates that the statistic is not significant and the hypothesis that there is no first-order autocorrelation could not be rejected. This implies that the model is free from serial correlation problems.

4.1 Discussion of Findings

Board size reveals negative but significant relationship with performance. This indicates that board size has an inverse relationship with performance and corroborates the findings of Gambo, Bello and Rimanshung (2018). This result contradicts the positive findings by Kajola, Onaolapo and Adelowotan (2017). This study repudiates the idea of larger board size supported by agency and resource dependency theories. The financial performance of companies would rather increase with appropriate number of board members having required skills and competence to engage in genuine interaction and debate that will result into improved performance.

Board Expertise: The result of both fixed and random effects revealed that board expertise had a significant positive relationship with financial performance. This implies that inclusion of board members with finance experience will improve performance. This further suggests that increase in number of directors with a professional qualification in accounting or finance has a direct impact on the financial performance of selected companies. This outcome is similar to findings of Johl, Kaur and Cooper (2015). The findings ofIlaboya and Obaretin (2015), however found no significant relationship between board expertise and financial performance. Resource dependency theory is in support of this on the basis that directors serve as a link that connect organization with its environment by utilizing their expertise to facilitate strategic actions.

Board Independence is negatively and significantly influencing the performance of selected quoted Nigerian companies. This implies that the proportion of non-executive directors has an inverse relationship with financial performance. It has been observed that board independence is difficult to achieve because non-executive director usually operates part-time basis and has very little to do with monitoring of management. In addition, inability of non-executive director to take active part in day-to-day activities of the firm has reduced that part of earnings being managed by executive directors and consequently negative impact on performance.This conforms with the study of Rashid (2018) but contradicts the positive findings by Amama, Shaukat and Grzegorzm (2017). This result refutes the perspective of agency theory that non-executive directors are better to protect the interests of shareholders because they can be more dispassionate in their evaluation of ongoing strategies.

Board Tenure: The negative result of board tenure with financial performance implies thatlong tenured director may become complacent andreluctant to learn about the firms' operation the longer they stay on board. In addition, more seasoned directors have been shown to lose their independence over time and favour of management interests over shareholders.This finding is supported by allegiance hypothesis which argued that long term relationships with management reduce the incentive to criticize managerial proposals. Management friendliness hypothesis also suggests that directors with long tenure are more likely to be friend and less likely to monitor managers. Kennedy &Kosgey (2017) provide similar evidence on the basis that companies with longer board tenure have high chances of facing financial distress, thus, negative impact on performance. The result of this finding is however in contrast with the view that longer tenured directors have more firm and industry experience and superior monitoring abilities and thus pursue to raise firm value.

5. Conclusion and Recommendations

This study examined the relationship between board characteristics and financial performance among 30 quoted Nigerian companies. Higher financial performance indicates management commitments to ethical norm in the use of resources.The boards of directors are accountable to shareholders and give proper stewardship on how financial resources are managed. The overall pattern of this study implies that companies are likely to perform better with reduced board size, lower leverage and active involvement of independent directors. The study thus concludes that board size, board tenure, board independence and financial leverage affect financial performance of quoted companies during the period of study. This study further concludes that increase number of directors with accounting and finance expertise and presence of women directors on board would lead to better monitoring of top management and hence, improve performance.

Based on the findings in this study, the following recommendations are made:

1. Larger board size should be discouraged in Nigerian quoted companies to facilitate easy communication and coordination among board members. It has been observed that larger board are less effective with associated free riding problem and often slow in decision making. In addition, setting unrealistic benchmark for board size may not be productive especially when required skills and expertise are lacking.
2. The result of board expertise suggests that the selected quoted companies should increase the number of directors with accounting or finance knowledge. This is necessary to enhance board effectiveness and make greater contribution to corporate growth.
3. Non-executive directors should participate actively in running the business and have access to vital information to reduce communication gap. In addition, the appointment of non-executive directors should not be subjective preferably on integrity, skills and competence of individual involved.
4. The study recommends a single tenure of five years for each director to prevent undue intimacy with management. Longer tenured directors are often passive and may be indifferent to shareholders concerns.

5.1 Contributions to Knowledge

This study is an improvement to the previous studies that finds a link between board characteristics and financial performance. It demonstrates that average length of time spent by the board members is a determinant factor in assessing the relationship between their characteristics and performance. The study also contributes to corporate governance literature in emerging economy like Nigeria by providing empirical support on how companies could be affected by several factors other than internal structure.

5.2Suggestions for Further Studies

The fact that board characteristics affect financial performance suggests that a similar study can be conducted using both primary and secondary data to give a robust different result. Further studies could consider the use of different factors not considered in this study. In addition, study can also be conducted focusing on private non-listed firms in order to establish how corporate governance adopted by those firms' affected their level of performance. Using public sector as a case study could also be of value relevance to the society at large

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AN EMPIRICAL ANALYSIS OF DEFICIT BUDGET AND ECONOMIC DEVELOPMENT IN NIGERIA (2002-2017)

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Abstract

The fundamental purpose of this investigation analyses the concept of deficit budget and the impact on the Nigerian economic development. Data were extracted using the desk survey technique from statistical bulletin and yearly reports of the central bank of Nigeria (CBN) statistical bulletin and journals. An Ordinary Least Square (OLS) was utilized in evaluating the relationship between economic development variables and budget deficit. Results showed that government spending shortage had a significant but negative influence on per capita income in Nigeria. Budget deficit has insignificant but negative influence on human development index (HDI) in Nigeria. Budget deficit has significant but negative influence on gross domestic product (GDP) in Nigeria. It was recommended among other things that for positive influence of deficit on human development index (HDI) in Nigeria, there is need for proper responsibility in the public spending to such an extent that all spending on shortfall financial plan is advocated, and government transactions are coordinated as per global standards of value and proficiency.

Keywords: Budget deficit, human development index, gross national product and per capita Income

1.1 Introduction

The Keynesian school which are the demand-side economist stresses the need for government to increase its expenditures even beyond current income, especially when there is depression at the point when the economy experiences inadequacy of dynamic demand, similar to the economic crisis of the early 20s, and all the more as of late, the 2008 worldwide economic and financial crisis. According to Anyanwu and Oaikem (1995), this will result to an increase in the demand for productive output, resulting in overcoming unemployment. But the Ricardian equivalence argued categorically, that deficit does not influence aggregate demand in the economy in any direction positively or otherwise.

Focus has shifted to fiscal deficit as a result of astronomical growth witnessed in both developing and developed nations. According to Islam and Wetzel (1991), government spending deficiency and its development is not new to economic literature, but previous decades has revived these thoughts on fiscal development. However, looking at macroeconomic aggregates, Ariyo (1993) restated that the subject of spending shortfall has become an incessant element of government funding globally. The boundless utilization of spending shortfall is mostly because of the longing

of different government to deliver good to the consistent expanding requests of the general population and to improve sped-up development. It is within the framework of increased capital expansion, increased spending on consumption, expansive employment and savings and overall capital formation translates to this level of anticipated accelerated economic growth.
Researchers have believed that budget deficit can influence economic advancement positively because of the best limits that are being utilized in the economy. The economy may develop quicker than the weight of the obligation, if the shortfalls are directed into putting resources into productive investments. Again, during depression, deficits were utilized as a tool to stimulate economic activities through induced aggregate demand.

Nigeria has been encountering the contrary perspective on the quintessence of deficits irrespective of the fact that it has been operating deficit budget for a long period now. It had been in circumstances of underemployment, distress in her economy, fall in the growth of the common persistent unfavourable balance of payment, decline in the living standard of citizens, continuous depletion of foreign reserves, increased public debt etc. With all these negative indicators, one may ask if budget deficits no longer has the power to boost economic growth and development. In the light of the above challenges, this research work is meant to address the nexus between deficit budget and economic development.

1.2 Research Objective

Although, the main focus of the study is to examine the impact of budget deficit on economic development in Nigeria, specific investigation is to:

(i) Establish the influence of budget deficit on human development index (HDI) in Nigeria.

(ii) Ascertain the how budget deficit relates to the Gross National Product in Nigeria.

(iii) Investigate the impact of budget deficit on Consumer Price Index in Nigeria.

The following questions guide the investigation:

(i) What kind of relationship exists between budget deficit and human development index in Nigeria?

(ii) How does budget deficit influence gross national product (GNP) in Nigeria?

(iii) To what extent had budget deficit influence consumer price index in Nigeria?

1.3 Research Hypothesis

In order to find answers to the questions raised above, the following hypothesis were tested:

Ho1: Budget deficit has no significant relationship with human development index in Nigeria.

Ho2: Budget deficit does not significantly influence Gross National Product in Nigeria

Ho3: There is insignificant influence of budget deficit on consumer price index in Nigeria.

This investigation covers budget deficit and how it relates to economic development in Nigeria. The development index covered by the study is limited to human development index (HDI), consumer price index (CPI) and the gross domestic product (GDP) in Nigeria. The period of study covers from 2002-2017 within this period, Nigeria had consistent budget deficit and the period is equally considered long enough for reliable results to he obtained.

2.0 Literature Review

Globally, literature unfold that they observed a persistent and high growth of government deficit in various nations. The fiscal effect of deficits is vital on the macroeconomic planning. Obviously broad investigations on government monetary shortfalls exist that zero in on Wagner's law, since it identifies with increased portion of the public sector in the economy which involves the measure of economic development process. Initially, Buchanan and Wagner (1997) noticed that large federal expenditure caused the rapid increase in government deficits.

Niskanen (1978), however, adapted the Buchanan and Wagner's theory for the USA. The result of Niskanen study upheld the position that the huge federal expenditure translates to increase in federal deficits. Using a sample size of 96, Landau (1983) used cross country investigation and showed that enormous government (prompting monetary deficiencies), estimated by the portion of government consumption expenditure in GDP, decreased per capita income growth. He summarized that, fiscal shortages influence economic growth negatively and also growth income.

A more recent study by Ram(1986), used the cross country analysis to report that deficit growth in government expenditure leads to a positive relationship with the rate of change in total government expenditure, and that it has also has a negative relationship with the level of such expenditure. The causality direction of budget deficit and trade deficit of the US was tested by Dearest (1988), and he used the Granger causality and he established evidence of casual determinant of trade deficit. However, the study maintained that persistent deficit will eventually lead to unfavorable balance of payment position.

Martian and Fradmanesh (1990) used the simple regression model to investigate the impact of budget deficit on economic and they discovered that budget deficit has significantly adverse growth effects. Egwaikhide (1991), investigate the determinant if fiscal deficits and the results showed that inflation, unstable revenue and increase in government participation in the economy are the significant economic variables in Nigeria that leads to chronic fiscal deficits. Yekini (2001) arrived at similar conclusion when he investigate the structural determinant fiscal deficits in Nigeria.

Easterly and Rebel (1993), used the regression analysis with cross section time series data drawn from some developing and developed counties to investigate the impact of fiscal policy on economic development. Easterly and Rebel discovered that the response by the private sector savings to public sector deficits (dissavings) does not neutralize the latter completely. Ariyo and Raheem (1991) also made a thorough research on the impact of fiscal deficits on the direction and level of economic and growth as might be reflected in the behaviour of key macroeconomic namely government investment, private investment current account balance, inflation interest rate and so on. The research also supported the motion that there exist a direct relationship between inflation and fiscal deficit.

Using the ordinary least square technique(Ekpo, 1994) investigates the impact of government expenditure on economic growth and development in Nigeria between the periods of 1960 and 1992. The investigation confirms that government expenditure on agriculture as well as infrastructure crowd in private investment. The study came to a conclusion that public sector investment in infrastructure complement the private sector and enhances growth and development.

Government expenditure on consumption and investment have different impacts on economic activity. Government investment enhances output and so government revenue are increased and this will eventually allow the government to spend more. Expansionary fiscal policy has a positive impact on the economy (JappeLH and Means, 1994). Humpage (1992), applied a co-integration test and no evidence was found of a long-term relationship the common aggregate measures of the fiscal policy in United State of America and the real long term interest rate and real net export.

Aizenman and Marion (1993), applied a cross country there of a large sample size of countries that are developing and the result was that there is a significant and negative relationship between growth and uncertainty in the number of fiscal variables namely government expenditure, budget deficits and levels of revenue.The effect of fiscal policy on economic growth and development was investigated by Krajewski, And Mackiewicz, (1998). He applied the ordinary least square (OLS) technique and the investigation was centered on the relationship between government expenditure and growth through private investment. The result of the study shows that expenditure especially on health and education crowd in private investment. These studies also show some evidence of causality running from infrastructure to private investment to growth and development.

Ball and Mankiw (1995), reports that running public fiscal deficits lower national savings and reduces national savings and this leads to decrease in net export and decrease in investment. There is need for investment because a fall in national savings forces interest rate higher because of the restrictions in the supply of loanable funds. A fall in investment will lowers the capital stock, reduces productive capital and output in a long run. Another factor that lowers productivity growth and also real wages is the crowding out of investment and capital. Osoro (1997) made some finding and the findings suggested that rapid growth in government expenditure is one of the causes of deficits in Tanzania. Osoro tested the Hypothesis that increased in government expenditure is a result of high deficits. The investigation also discovered income elasticity reported, means that income growth is a strong factor in a continuous increase in government expenditure in Tanzania in the long run.

The rate at which a economy grows and develop seems to be the number one important variables that will contribute to the reduction of public deficits by increasing revenue. Vavouras (1999) used the ordinary least square (OLS) technique to study the impact of macroeconomic variables on public deficits growth in Greece. The findings show that the overall effect of economic

variables on the relative size of the public deficits was negative. He made a conclusion that when there is higher levels of economic growth and development there will be a reduction in the need for deficits.
The relationship between the fiscal deficits and the key macroeconomic variables in Nigeria using a Two Stage Least Square elimination method was investigated by Adam and Bangkole (2000). They discovered that money supply is strongly influenced in a positive direction by domestic credits and fiscal deficits. This means that other tiers are denied of the much needed finance because of the concentration of fiscal powers in the centre. Thus, decentralization will reduce federal government deficits.
Using the ordinary least square (OLS) technique, Olaniyan (2000) made an investigation on the impact if economic instability on Nigeria's aggregate investment. The investigation discovered that unstable economic is a key determinant of the performance of investment in Nigeria. He made his conclusion on all instabilities combines to depress investment in the private economy.

Using a production-function- based regression framework, Lin and Liu (2000) did an investigation on the effect if fiscal decentralization in the growth rate of per capital Gross Domestic product (GDP) in China. The result suggested that fiscal decentralization has made a significant contribution to economic growth. The study concludes that both growth rate was raised by improving the efficiency of resource allocation rather than inducing more investment.

Chete and Adeoye (2002) employed different methodological approaches namely Granger causality tests, variance decomposition analysis, impulse response analysis and econometric techniques to explore the connection bb human capital and economic growth and development. The study suggests that human capital has a positive impact on economic growth and development. Chete and Adeoye concluded that development of knowledge and skills is very important for the economic growth and development of any country.

A meta-analysis of past investigation on the fiscal policy and growth was conducted and it was discovered that in a sample size of forty-one (41) studied,17% showed a positive relationship between fiscal policy and growth, 29% showed a negative relationship and 54% showed an inconclusive relationship (Nijkamp and poot, 2002).BuTsing the Ordinary least square (OLS) technique, Nwaogwugwu (2005), investigates the structure and trends of relevant fiscal variables in Nigeria. He discovers that expenditure by the federal heads produces a sign impact on the overall fiscal deficit. He also pinpointed that the relationship between both variables has significant effects for fiscal management in Nigeria. He concludes that a fall in government revenue does not singularly define the budget position in Nigeria because expenditure management also has a very important role to play.

Adeoye (2006) employed the ordinary least square (OLS) technique to examine the impact of fiscal policy on economic growth and development. The study discovers that private investment and expenditure n Nigeria is productive and has a positive impact on economic growth and development. Public investment induces a crowding out impact on private investment, thus, affecting output growth negatively. The result of the study also unfolded that the impact of fiscal policy specifically fiscal deficits, on output is negative. He came into a conclusion that a cut in the budget should be discouraged by the central bank of Nigeria (CBN).

3.0 Research Methodology

3.1 Research Design

The type of design employed is the export facto design because the data and the situation for the study already exist. Desk survey technique was adopted in extracting data from statistical bulletin of CBN and various financial reports and journals in view of the macroeconomic nature of the study. The study employed an Ordinary Least Square (OLS), and the choice of the technique is based on the fact that the computational procedure of Ordinary Least Square is fairly simple as compared with other econometrics techniques and data requirements are not excessive. It has minimal bias and is widely use in research.

3.2 Model Specification

Following from economic theory, economic development is model as a function of budget deficit variables. The econometric form of the models can be written as follows for the three models:

Model 1

$\text{CPI} = \beta o + \beta 1\ BD + \beta 2DDS + \beta 3\ GE + U$…………………………………..... (1)

Model II

$\text{HDI} = \beta o + \beta 1\ BD + \beta 2DDS + \beta 3\ GE + U$……………………………………… (2)

Model III

GNP= βo + β1 *BD* + β2 *DDS* + β3 *GE*+ *U*………………………………………… (3)

Where: βo = The regression constant, $\beta 1$, $\beta 2$, $\beta 3$ are the coefficient to be estimated, DDT and GE are control variables in the equation, and U is the stochastic error term.

GNP = Gross National Product, measuring economic growth
HDI = Human Development Index
CPI = Consumer Price Index
BD = Budget Deficit
DDS = Budget domestic debt stock
GE = Government Expenditure

4.0 Data Analysis and results

Table 4.0 Descriptive Statistics

	Mean	Std. Deviation	N
CPI	1730.9706	947.90614	16
DEFICIT	.8977	.68215	16

GOVEXP	3457.0456	1596.33746	16
DDS	4942.6913	3716.05473	16

Table 4.0 x-rays result of our descriptive statistics and shows that mean Consumer Price Index of about 1730.97 with standard deviation of 947.90 for the length of investigation. Correspondingly; the predictor variables utilized proxy as (DEFICIT, GOVEXP AND DDS) maintains an averaged mean distribution value of about 0.899, 3457.05, and 4942.69 respectively, with a standard deviation of 0.682, 1596.34 and 3716.05.

Table 4.1 Correlations

		CPI	DEFICIT	GOVEXP	DDS
Pearson Correlation	CPI	1.000	.547	.891	.745
	DEFICIT	.547	1.000	.820	.841
	GOVEXP	.891	.820	1.000	.904
	DDS	.745	.841	.904	1.000
Sig. (1-tailed)	CPI	.	.014	.000	.000
	DEFICIT	.014	.	.000	.000
	GOVEXP	.000	.000	.	.000
	DDS	.000	.000	.000	.
N	CPI	16	16	16	16
	DEFICIT	16	16	16	16
	GOVEXP	16	16	16	16
	DDS	16	16	16	16

Table 4.1 depicts how consumer price index (CPI) and deficit budget correlates using Pearson's model, and the results reveals 0.547 which means positive relationship among CPI and Deficit. CPI correlates with government expenditure at 0.891 and 0.745 with domestic debt stock (DDS). Overall Pearson's model reveals a CPI correlates positively with other variables. Again, Pearson's correlation analysis also captured for government spending, 0.891, 0.820 and 0.904 with CPI, Deficit and DDS respectively, meaning perfect positive relationship exist. Furthermore, Deficit Budget is shown to exhibit a positive correlation with CPI, GovExp and DDs at 0.547, 0.820 and 0.841 respectively.

MODEL I

Table 4.2 Regression results

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	DDS, DEFICIT, GOVEXP[b]	.	Enter

a. Dependent Variable: CPI

b. All requested variables entered.

Model Summary[b]

Model	R	R. Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.947[a]	.897	.871	340.60381	.897	34.726	3	12	.000	1.701

a. Predictors: (Constant), DDS, DEFICIT, GOVEXP

b. Dependent Variable: CPI

From the Table 4.2 , the coefficient of determinations (R^2), that explains how fitted the model is, indicates about 94.7% of the variation in Consumer Price Index (CPI) in Nigeria are influenced by the explanatory variables namely, the DDS, DEFICIT and GOVEXP. The standard error of the estimate shows the standard deviation of the error term and the square root of the mean square residual as indicated in the ANOVA table. The rest for the existence of autocorrelation was performed using Durbin-Waston statistic. The test result indicates the absence of positive autocorrelation in the model, since the calculated DW is 1.701. This is judged as a good fit, as such, it will be safe to conclude the result as devoid from autocorrelation.

Table 4.3 ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	12085759.385	3	4028586.462	34.726	.000[b]
Residual	1392131.452	12	116010.954		
Total	13477890.837	15			

a. Dependent Variable: CPI

b. Predictors: (Constant), DDS, DEFICIT, GOVEXP

From the ANOVA Table 4.3 above, it is important to note that SS regression divided by SS total is equal to the R-squared of 0.897. The F-value of 34.726 is used to test the significant of the predictors in the model. This is associated with the P-value of 0.000 conclude that the group of variables DEFICIT, DDS and GOVEXP shows a significant relationship with relationship with the explained variable or the group of explanatory variables reliably predict the explained variable.

Table 4.4 Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	-355.946	246.297		-1.445	.174		
DEFICIT	-763.898	246.459	-.550	-3.099	.009	.274	3.655
GOVEXP	.813	.134	1.370	6.091	.000	.170	5.876
DDS	-.008	.061	-.031	-.131	.898	.152	6.582

a. Dependent Variable: CPI

From the table 4.4 above the unstandardized coefficient shows the value for the regression model for estimating the explained variable from the predictors. The regression equation for table 4.5 can be presented below:

Y predicted = $b_0+b_1X_1+b_2X_2+b_3X_3$

Expressed in terms of the variables used in the table above

PCI = - 355.946 - 763.898DEFICIT +0.813 GOVEXP -0.008 DDS

This estimation shows the relationship between explained and the explanatory variables. It captures the level of increase in CPI that is predicted by a 1unit increment in the predictor.

a. DEFICIT with coefficient (parameter estimate) of -768.898 means that for every unit increase in Deficit Budget, a 768 unit decrease in PCI is predicted every other variable remaining constant. This is statistically significant at 0.05 level of significance with P-value of 0.009
b. GOVEXP with 0.813 as its coefficient means that for every 1unit increase in Government expenditure, we expect an approximately 0.8 unit increase CPI. This is not statistically significant at 0.05 since the p-value is 0.000
c. DDS with coefficient of -0.008 implies that for every one unit increase in Domestic Debt Stock there will be 0.008 decrease in CPI. This is statistically not significant at 0.05 since the p-value is 0.898 is greater than 0.05.

MODEL II
Table 4.5 Regression

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	DDS, DEFICIT, GOVEXP[b]	.	Enter

a. Dependent Variable: HDI
b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.939[a]	.881	.851	.01192	.881	29.665	3	12	.000	1.147

a. Predictors: (Constant), DDS, DEFICIT, GOVEXP
b. Dependent Variable: HDI

From the Table 4.5, the coefficient of determinations (R^2), that explain quality of indicates that about 88.1% of the variation in Human development index (HDI) in Nigeria are influenced by the explanatory variables namely, DDS, DEFICIT and GOVEXP. The standard error of the estimate shows the standard deviation of the error term and the square root of the mean square residual as indicated in the ANOVA table. The rest for the existence of autocorrelation was performed using Durbin-Waston statistic. The test result indicates the absence of positive autocorrelation in the model, since the calculated DW is 1.147. This is judged as a good fit, as such, it will be safe to conclude the result as devoid from autocorrelation.

Table 4.6 ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.013	3	.004	29.665	.000[b]
	Residual	.002	12	.000		
	Total	.014	15			

a. Dependent Variable: HDI
b. Predictors: (Constant), DDS, DEFICIT, GOVEXP

From the ANOVA Table 4.6 above, it is important to note that SS regression divided by SS total is equal to the R-squared of 0.881. The F-value of 29.665 is used to test the significant of the predictors in the model. This is associated with the P-value of 0.000. conclude that the group of predictors DEFICIT, DDS and GOVEXP have a significant relationship with the explained variable.

Table 4.7 Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Tolerance	F
1	(Constant)	.435	.009		50.467	.000		
	DEFICIT	-.012	.009	-.275	-1.446	.174	.274	3.655
	GOVEXP	1.176E-5	.000	.607	2.515	.027	.170	5.876
	DDS	4.859E-6	.000	.584	2.286	.041	.152	6.582

a. Dependent Variable: HDI

From the Table 4.7 above the unstandardized coefficient shows the value for the regression model for estimating the explained variable from the predictors. The regression equation for Table 4.5 can be presented below:

Y predicted = $b_0+b_1X_1+b_2X_2+b_3X_3$

Expressed in terms of the variables used in the table above

HDI = -0.435- 0.12 DEFICIT +0.0000117 GOVEXP +0.000459DDS

The estimation shows the relationship between the explained variable and predictors. It also tells the amount of increase in HDI that would be predicted by a 1unit increment in the predictor.

a. DEFICIT with coefficient (parameter estimate) of -0.12 means that for every unit increase in Deficit Budget, a 0.12 unit decrease in HDI is predicted holding all other variable constant. This is statistically insignificant at 0.05 level of significance with P-value of 0.174

b. GOVEXP with 0.000117 as its coefficient means that for every 1unit increase in Government expenditure, we expect an approximately 0.00017 unit increase HPI. This is statistically significant at 0.05 since the p-value is 0.027

c. DDS with coefficient of 0.000459 implies that for every one unit increase in Domestic Debt Stock there will be 0.000459 increase crease in HPI. This is statistically significant at 0.05 since the p-value is 0.04 less than 0.05.

MODEL III

Table 4.8 Regression

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	DDS, DEFICIT, GOVEXP[b]	.	Enter

a. Dependent Variable: GNP

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.984[a]	.967	.959	.05505	.967	118.348	3	12	.000	1.480

a. Predictors: (Constant), DDS, DEFICIT, GOVEXP

b. Dependent Variable: GNP

From the Table 4.8 above, the R is the square root of the R-squared and is the correlation between the observed and predicted value of the Gross National Product (GNP). The coefficient of determinations (R^2), which indicates the quality of fitness of the model, shows that about 96.7% of the changes in Gross National Product (GNP) in Nigeria are caused by the combined influence of the independent variables of the DDS, DEFICIT and GOVEXP. The standard error of the estimate shows the standard deviation of the error term and the square root of the mean square residual as indicated in the ANOVA table. The rest for the existence of autocorrelation was performed using Durbin-Waston statistic. The test result indicates the absence of positive autocorrelation in the model, since the calculated DW is 1.480. This is judged as a good fit, as such, it will be safe to conclude the result as devoid from autocorrelation.

Table 4.9 ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.076	3	.359	118.348	.000[b]
	Residual	.036	12	.003		
	Total	1.112	15			

a. Dependent Variable: GNP

b. Predictors: (Constant), DDS, DEFICIT, GOVEXP

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.201	.040		5.054	.000		
	DEFICIT	-.091	.040	-.229	-2.293	.041	.274	3.655
	GOVEXP	.000	.000	.730	5.771	.000	.170	5.876
	DDS	3.425E-5	.000	.467	3.490	.004	.152	6.582

a. Dependent Variable: GNP

From the Table 4.9 above the unstandardized coefficient shows the value for the regression model for estimating the explained variable from the predictors. The regression equation for Table 4.5 can be presented below:

Y predicted = $b_0+b_1X_1+b_2X_2+b_3X_3$

Expressed in terms of the variables used in the table above

GNP = -0.201 - 0.091 DEFICIT +0.0000 GOVEXP +0.000342DDS

These estimates tell about the relationship between the independent variable and dependent variable. It also tells the amount of increase in GNP that would be predicted by a 1unit increase in the predictor.

a. DEFICIT with coefficient (parameter estimate) of -0.21 means that for every unit increase in Deficit Budget, a 0.21 unit decrease in HDI is predicted holding all other variable constant. This is statistically insignificant at 0.05 level of significance with P-value of 0.041
b. GOVEXP with 0.000 as its coefficient means that for every 1unit increase in Government expenditure, we expect an approximately 0.00017 unit increase HPI. This is not statistically significant at 0.05 since the p-value is 0.000
c. DDS with coefficient of 0.000342 implies that for every one unit increase in Domestic Debt Stock there will be 0.000342 increase in HPI. This is statistically significant at 0.05 since the p-value is 0.04

Table 4.10 Test of Hypothesis

Hypothesis	t-cal	t-tab	Decision
1. Ho_1: Budget deficit has no significant relationship with human development index in Nigeria.	{3.099}	1.782	Rejects the null hypothesis Conclusion: Budget deficit has significant but negative influence on consumer price index in Nigeria.
2. Ho_2: Budget deficit does not significantly influence Gross National Product in Nigeria	{1.446}	1.782	Accepts the null hypothesis Conclusion: Budget deficit has insignificant but negative influence on human development index (HDI) in Nigeria.
3. Ho_3: There is insignificant influence of budget deficit on consumer price index in Nigeria.	{2.293}	1.782	Rejects the null hypothesis Conclusion: Budget deficit has significant but negative influence on gross national product (GNP) in Nigeria.

4.4 Discussion of Findings

The finding of this examination concedes from certain evidences in financial literature which concentrated on economic growth of countries. For instance, Salleh and Harvie (2005) researched how deficit influenced developing economies demonstrated with solid evidence supporting the hypothesis of Keynesian school of thought which proposes increased deficit budget to promote expansion of importation as well as domestic economic absorption.

The critical discoveries from the empirical examinations exploring the connection between the interest rate and deficit budget also supports the Keynes theoretical proposition of positive and significant relationship between these two variables, and again significant results from the investigations looking at the connection between deficit and inflation revealed that the spending shortfall financed through adaptation and a rising cash supply could prompt expansion in interest rate. (Garcia,&Ramajo, 2004; Gale & Orszag, 2002)

Once more, our findings support additionally discoveries from different investigations. For example, Idris, Bakar and Ahmad (2017) demonstrated by trend pattern investigation that budget deficit antagonistically influences growth rate of economic output and this circumstance has been unmistakable in the domestic economy from the almost thirty years. Other observational outcomes show proof for the adverse consequence of deficiencies on monetary development inside the example time frame. This outcome of their research is undeviating from the epistemological methodology of neo-classical style hypothesis which entrenched deficit to result in development impeding consequences for the economy.

5.1 Summary of Findings

The main objective of the study is to examine the impact of budget deficit on economic development in Nigeria. The study proxied economic development on three key variables namely, per capita income, human development index and gross domestic product of Nigeria. It was empirically discovered that:

a. Budget deficit has significant but negative influence on per capita income in Nigeria;
b. Budget deficit has insignificant and negative influence on human development index (HDI) in Nigeria; and
c. Budget deficit has significant but negative influence on gross national product (GNP) in Nigeria.

5.2 Conclusion

Finding from this research repudiates the Keynesian hypothesis, however is as per Neo-classical model which states that deficiencies translate to decreased GDP. Notwithstanding, the public authority should endeavour to monitor deficit spending within limit that will not restrict or go against the economic expansion in terms of HDI, CPI and GDP, and public spending should be set to discourage heavy financial deficits prompting debt financing above private-sector investment. On the off chance that shortages become unreasonable, it can prompt heavy interest instalments, and the public authority may well default.

Albeit there is no authoritative end regarding whether deficit helps or upsets development for any country in financial literature, many contend that spending shortfall prompts financial development of a country, which can't be accomplished uniquely through homegrown reserve funds, as domestically mobilised fund is insufficient for investment.

It would be considered safe an assumption that to a large degree, deficit isn't useful for economic advancement in the Nigerian viewpoint, since the acquired funds isn't spent on economical viable ventures, consequently the earnings from such ventures falls behind the project cost. For future examination, it will be fascinating to analyse the connections between government expenditure in Nigeria, financial sector development and long-run interest for Nigeria.

5.3 Recommendations

The study recommends the following:

i. Consumer price index in Nigeria will increase if there are productive employment for Nigerians, hence borrowing for deficit should be targeted at specific capital projects that will generate employment and not consumption;
ii. For positive influence of deficit on human development index (HDI) in Nigeria, measures must be instituted that will enshrine public sector accountability to such an extent that all expenditures are supported by clear projected income justification within the project life that will cover cost and government activities are coordinated as per global standard of values and effectiveness; and
iii. Again, total Gross National Product (GNP) in Nigeria would increase if sectoral allocation from deficit budget is in tangent with production. Accordingly, the study recommends that Nigerian should avoid debt and only resort to deficit when evaluated on the basis of gross domestic product.

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SUSTAINABILITY ACCOUNTING INFORMATION AND THE ROLE OF ACCOUNTANTS IN NIGERIAN LISTED FIRMS

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Abstract
Companies are key contributors to economic, environmental and social well-being. Sustainability accounting is an approach aimed at supporting management to improve corporate sustainability and responsibility. Noting that corporations have recognized the importance of sustainability accounting information in facilitating transparency about corporate impact on economic, social and environmental issues, the study examines the role of accountants in ensuring sustainability accounting information reporting among companies. The study adopts survey research design and data were gathered through a survey questionnaire administered to stakeholders. Based on sample of 250 stakeholders (accountants, sustainability managers, general managers and officer with accounting functions) randomly selected from the listed firms, this study seeks to explore how accountants have responded to this global business concerns in Nigeria. The data obtained were analysed using both descriptive and inferential statistic to understand corporate practices using defensive, adaptive and constructive approaches. The findings of the study revealed that accountants are less involve in sustainability information comparing to other professionals. Although they retain information, the results indicate that they are mere interpreter of information and act as a gate-keeper between sustainability managers and top managements. We recommended that increasing the involvement of accountants in sustainability reporting process would enhance the effectiveness and viability of such report for corporate sustainability assessment. Companies should further strengthen the accounting process through training, adoption of policies that support proper platform for effective and sound sustainability accounting information process.

Keywords: Sustainability, Accounting information, Accountants, Managers
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1. Introduction

For the last two and half decades sustainability reporting has received serious attention in management, accounting, and corporate social responsibility (CSR) literature as well as in the corporate practice worldwide (Schaltegger, 2012;Schaltegger & Zvezdov, 2013; Schaltegger & Zvezdov, 2015; Nwobu, 2017; Erhirhie & Ekwueme, 2019). This development is to create more transparency about corporate impacts (Gray *et al.*, 1996, Ball *et al.*, 2000; Schaltegger, 2012; Nnamani, Onyekwelu & Ugwu, 2017). Various scholars view sustainability reporting in different ways and the challenges is disputed (Bebbington & Gray, 2001; Schaltegger & Zvezdov, 2015;

Nwobu, 2017). However, Gray *et al.*, 1993; ICAEW, 2004 revealed that accountants need to be involved more in environmental and sustainability management based on the fact that information provided by accountants are usually used by top and middle management, thus this is important for corporate decision making.

Moreover, corporate managers are always challenged to make decisions that influence social and environmental aspect of business and this depends on the timely preparation and interpretation of information from the reports prepared by accountants and the accounting profession (CIMA, 1981; Schaltegger & Zvezdov, 2015; Siyanbola, Fregene & Ogbebor, 2019; Nwobu & Ngwakwe, 2020). However, some authors posited that accountant are not sufficient, if at all involved in managing sustainability and environmental accounting information in developed countries such as UK, Germany and in the USA (Wilmshurst & Frost, 2001); thus, in the developing countries such as Nigeria the situation is unclear. The extant literatures provide the reasons for investigating the sustainability information and the role of accountants (Nwobu, 2015; Alade & Nasieke, 2016; Erhirhie & Ekwueme, 2019; Nwobu & Ngwakwe, 2020).These include; safeguard corporate legitimacy, integrating sustainability objective into the main strategy and operation of firms and to enhanced sound corporate governance practices of firms (Schaltegger & Zvezdov, 2015; Siyanbola, Fregene & Ogbebor, 2019). In addition, the significance of sustainability information reporting is to comply with regulation and to assess market demand. It also includes, public disclosure to adhere to new accounting tools and approaches that have recently emerged(Schaltegger & Zvezdov, 2015; Nwobu, 2017; Nwobu, Iyoha & Owolabi, 2018). This therefore suggests that there is need to explore the role of accountants in social and environmental accounting information in corporate practice in developing country such as Nigeria.

Consequently, this paper explores the participation and the role of accountants in corporate sustainability accounting practices using the following approaches in involvement level such as adaptive, constructive and defensive in the Nigerian listed companies. The pertinent research questions are to what extent were accountants involved in the corporate practice of managing sustainability information, the role of accountants play and their challenges.

The study used explorative research which is based on survey questionnaire to sought stakeholders' role in sustainability accounting information in listed companies. This paper helps in understanding the drivers and consequences of engagement and contribution of accountants in improving sustainability accounting and its implication in corporate practice. The remaining parts of the paper are structured as follows: Section two provides the review of the extant literature and highlighted the reason for examining the role accountants in environmental and sustainability management. The research method of the study is provided in section three. Section four shows the data analysis, presentation and discussion of findings. Conclusion and recommendation are indicated in section five.

2. Literature review

The concepts relevant to this study are discussed. It also examines the theoretical lenses which provide the theoretical framing for this study.

2.1 Sustainability accounting information

Sustainability accounting information started growing since the beginning of the 1990s and scholars have documented the contributions of accounting and accountants in improve information management practices for sustainability management for over two decades (Alade & Nasieke, 2016; Nwobu, 2017; Siyanbola, Fregene & Ogbebor, 2019; Nwobu & Ngwakwe, 2020). The significance of sustainability information for companies cannot be neglected any longer; the provision of information indicates a mean by which organisation reduce uncertainty about their environment (Daft & Lengel, 1986; Schaltegger & Zvezdov, 2015; Erhirhie & Ekwueme, 2019). The managers are aware of the importance of sustainability information for decision making and how accounting is central to information system of the firm in tackling sustainability challenges (Bebbington & Gray, 2001; Burritt & Schaltegger, 2010; Alade & Nasieke, 2016; Nwobu, 2017; Nwobu, Iyoha & Owolabi, 2018).Some scholars on sustainability information focused on what should be and how it can be measured (Gray, 1996; Nwobu, 2015), identifying what areas of business need to revisited (Burritt, 2004; Scavone, 2006), and others of determinants and drivers of sustainability reporting (Nwobu, 2017; Nwobu, Iyoha & Owolabi, 2018; Siyanbola, Fregene & Ogbebor 2019) this has led to establishing corporate-wide sustainability accounting systems.

The importance of sustainability accounting information for internal decision making for company, its significant to business aspects, higher efficiency and lower costs of production and potential legitimacy gain (Bennett & James, 2000; Burritt *et al.*, 2002; Schaltegger & Burritt, 2010; Bennett *et al.*, 2011; Nwobu, Iyoha & Owolabi, 2018). As a result, there are various sustainability accounting tools and methods that have been developed and or adapted from conventional accounting tools to fit the needs of sustainability managers (Schaltegger & Zvezdov, 2015; Finnveden & Moberg, 2005). Consequently, sustainability accounting information provide decision-oriented perspective to the role of accountants in designing sustainability accounting systems (Alade & Nasieke, 2016; Nwobu & Ngwakwe, 2020), collection of sustainability information (Nwobu 2015; Nnamani, Onyekwelu & Ugwu, 2017) and informing management to make more sustainable decisions (Schaltegger & Zvezdov, 2015; Nwobu, Iyoha & Owolabi, 2018; Siyanbola, Fregene & Ogbebor, 2019).

2.2 The roles of Sustainability accounting in organisational innovation management

Sustainability accounting can be viewed as an organisational innovation. Emergency of sustainability accounting in organisation is from innovation management (Schaltegger& Zvezdov, 2015). According to these scholars, examining the roles of individual that are involved in innovation management perspective may likely revealed the essential information about implementation issues concerning sustainability accounting. Moreover, Burns & Stalker (1961) argued that innovation can be used in explaining organisational behaviour. Also, innovation recognised the role as opposed to a formal responsibility of individual in the failure or success of corporate activities (Lindsay, 2003; Schaltegger & Zvezdov, 2015).

In addition, the scholars in management sciences literature explained that there are main actors which are responsible for the success or failure of corporate innovation as champions or promoters. They were of the believed that there is need to support these actors rather than adverting activity in the organisation (Hauschildt & Schewe, 2000; Hauschildt & Kirchmann, 2001; Coffee, 2006; Cox, 2006). The promoters' perspectives are classified as follows: technological, process and power. The technological promoters are actors serving the company as knowledge experts and inventors, they introduce new thing into organisation. The second group are the process promoters, this includes project champion who introduced organisational know how using existing procedures or introduce new methods to bring innovation (Hauschildt & Schewe, 2000). The last group which is power promoters are sponsors who always support an organisational innovation through hierarchical and network relationship power (Coffee, 2006; Schaltegger& Zvezdov, 2015).

Against this background, the introduction and implementation of sustainability accounting processes and methods comprises of organisational innovation, this idea of features of promoters bring their activities of promoting the innovation will enhance the understanding of the roles of accountants in sustainability accounting information (Schaltegger& Zvezdov, 2015).

2.3Accountants roles in the conventional accounting

Studies on roles of accountants in the conventional accounting perspective revealed that the roles of accountants and management accounting are fragmented in nature (Byrne & Pierce, 2007; Alade & Nasieke, 2016). As a result, Schaltegger& Zvezdov, (2015) posited that there are various studies that have documented the division of the roles of accountants in conventional accounting in a company. The three major roles include; accountants as knowledge and information experts, as methodological experts and as power or authority experts. Firstly, accountants have knowledge of what kind of information that is relevant for managing a company successfully (Davey & Coombers, 1996; Scapens *et al.*, 1998; Scapens & Jzayeri, 2003; Jack & Kholeif, 2008). These scholars argue that accountants can provide relevant information to support management in decision making. In addition, accountants develop key performance indicators in achieving the goals of the company, provider of cost information, storekeepers, and provide future and profit-oriented information to managers (Schaltegger& Zvezdov, 2015).

Secondly, the accountants act as organisational methodological expertise. Some authors designed information management, organising data and information flows, processes large information quantities, reducing large data quantities to a reasonable set of indicators, securing good data quality, familiar with adequate method of data collection and analysis (Byrne & Pierce, 2007).
The third area classified accountants as authority (power) within the organisation (Markus & Pfeffer, 1983; Mintzberg, 1983), have formal access to information for decision makers and to

top management (Dezaley & Sugarman, 1995); Internal business consultant (Burns and Vaivio, 2001), maximise the rationality of operational business activities (Montagna, 1986), development of new areas of advice and mediation from a traditional base in auditing, tax and insolvency (Power, 1997). Furthermore, accountants' power of authority include support of managing and shifting process of commercialisation (Radcliffe *etal.*, 1994), accountants are powerful social actors who far from performing merely calculation, and verification services are greatly involved across wide range of activities in companies (Dezaley, 1995; Schaltegger and Zvezdov, 2015).

2.4 Theoretical framework

This study approaches the questions such does accountants involved in the corporate practice of managing sustainability information and what are the role of accountants, who are other the participation that are involve in sustainability of information. The paper explores the role of innovation management theory and conventional accounting; also, the study used Schaltegger and Zvezdov, (2015) argument that distinguished three roles of accountants as knowledge and information management, expert in organisational and methodological experts. In addition, this study focused more on sustainability accounting and role of accountants from the following theoretical lenses.

a)Defensive theory: This theory believes that the role of accountants is knowledge and information matter expert in information properties and they contribute in retain information. (Bennett et.al, 2011).

b) Adaptive theory: Burritt et.al (2010) revealed that accountant role is methodological expert in which they are the contribution of interpretation of information.

c) Constructive theory claimed that accountants involve in authority; gatekeeper; they have authority, power of linking information and providers of information for decision makers and they act as mediators (Byrne and Pierce, 2007).

3. Research Methods

Previous studies in this area of accounting concentrated on content analysis techniques (Guthrie and Abeysekara, 2006; Milne & Adler, 1999; Owen, 2008) some have used literature and theoretical approaches (Parker, 2005, 2011; Schaltegger and Zvezdov, 2015) and others relied on quantitative methods in understanding the drivers, determinant and its impact on corporation and environment (Nnamani, Onyekwelu & Ugwo, 2017; Nwobu, 2017; Siyanbola, Fregene & Ogbebor, 2019). However, this study utilised a difference approach through survey questionnaire. Exploring this approach allows for a broad analysis across a wide geographical area through a survey questionnaire technique.

3.1 Research Design

The study adopted a descriptive research design involving the survey method. The data was collected through primary source from the survey questionnaire design to elicit answers to the pertinent research questions. The research is explorative and a pilot study is conducted so as to enhance the robust reliability and validity of the findings of the study. The population for the study comprises of accountants, people with accounting function, sustainability managers and general managers from the listed companies in Nigeria. The sampling method for the administration of survey question from the population is purposive sampling method.

3.2Research framework

The research survey questionnaire is based on the technical view with a power theory informed perspective of information management (Schaltegger and Zvezdov, (2015); the framework is structured for the empirical analysis of the role of accountants in the management and the use of sustainability information in corporate practices using defensive, adaptive and constructive approaches which determine the type of involvement.

Table 1 Identified Type of Actor involved in Corporate Sustainability Accounting

Type of Actors	Definition of functions
1) Accountants	Accountants are defined as those who have an accounting background through extensive training, an educational degree or professional focus or explicit accounting title (Schaltegger & Zvezdov, 2015).
2) People with Accounting Function	People with an accounting function are those professionals who do not fit in the previous category (1) but fulfill accounting function
3) Sustainability Managers	This are people who are in charge of managing social or environmental performance or financial performance that is managed by means of social and environmental measures (Schaltegger & Zvezdov, 2015).
4) General Manager	In this study the General Manager refer to all other roles that do not fall in one of the above three categories (Schaltegger & Zvezdov, 2015).

Source: Adapted from Schaltegger and Zyezdoy (2015)

3.3 Sources of data

The instruments used to collect the data for this study was a survey questionnaire, designed based on the technical view with a power theory informed perspective of information management (Schaltegger & Zvezdov, 2015). The statements or items of the survey questionnaire are on a liker scale of five-point (1=strongly disagree to 5= strongly agreed.). The reason for using this scale is to measure intensity of feeling about the area in question. The justification of choice five liker scales is based on Bryman (2007) who posited that five liker scales is important because it enables the respondents to express their level of agreement with the statement in the question effectively.

3.4 Method of data analysis

The study used the descriptive statistics which include standard deviation, mean value and percentage of frequency.

4. Results of Data Analysis of the Study

This section provides the findings based on the survey questionnaire used as instrument in collection of the data on the sustainability accounting information and the role of accountants in selected Nigerian listed firms. The survey document was administered to a total of 300 respondents in the listed firms across the six geo-political zones in Nigeria. In total 250 copies of survey questionnaire were returned; this indicates 83.33 per cent respond rate were subsequently used for the analysis.

4.1 Respondents' Demographic Characteristics

Table 2 below shows the distribution of the respondents' demographic characteristics across all the selected sectors of listed firms in Nigeria. The demographic characteristics consist of sex, job title, geo-political zones, type of industry and sectoral distribution. Table 2 reveals that out of the 250 respondents, 44 per cent were male and 56 per cent were female. These results indicate that the study is gender sensitive as both male and female are represented and the female respondents were in majority. The distribution further revealed that 48.6 per cent were accountants, 31.4 per cent were those performing accounting functions and sustainability manager and the General Manager represent 12 per cent. In terms of zonal distribution, respondents were gathered from all the zones but the South-West had the larges representation of about 40 per cent. The sectoral analysis shows that 76 per cent were from the non-financial industry and the remainder 24 per cent were from financial industry. The results also show that seven (7) sectors were covered in this study.

Table 2: **Provides the Profile of the Survey Questionnaire Respondents**

Descriptive Information	Frequency	Percentages
Sex		
Male	110	44
Female	140	56
Job Title		
Accountants	119	47.6
Professional Accountants in Accounting Firms	25	1.0
Officer with Accounting Functions	25	1.0
Sustainability Managers	51	20.4
General Managers	30	12.0
Geo-Political Zone		
South-West	100	40
South-South	60	24
South-East	40	16
North Central	20	8
North West	20	8
North-East	10	4
Type of Industry		
Financial	60	24
Non-Financial	190	76
Sectorial		
Banking	41	16.4

Insurance	24	9.8
Aviation	34	13.6
Oil and Gas	70	28.0
Construction	14	5.6
Other manufacturing	46	18.4
Food and Beverages	21	8.4

4.2 Descriptive Analysis

This section sought to examine the respondents' views on the role of accountants in sustainability accounting reporting in Nigeria. The area of involvement in sustainability accounting information in the study include the adaptive, constructive and defensive involvement, their contribution, challenges and the role played by accountant and non-accountant group.

Table 3 shows the descriptive analysis that illustrates decision on adaptive, constructive and defensive involvement of the respondents in sustainability accounting information. The results revealed that the respondents agreed (94.8, 67.2 and 95.2 per cent respectively) on the following; that accountant interpreted information on sustainability and communicate to the management (Mean Score = 4.0, Standard Deviation 0.29), acted as mediator (4.0, Standard Deviation 0.52) and focused on providing sustainability information for decision making (Mean = 4.0, Standard Deviation 0.29).

Table 3: Decision on Adaptive, Constructive and Defensive Involvement of Respondents in Sustainability Accounting Information

Statements	**Code**	**Mean Value**	**Stand. Dev.**	**% of Freq.**	**Decision**
Accountants interpreted information on sustainability and communicate to management in your company	ACD_9B	4.0	0.29	94.8	237, Agree
Accountants act as mediator in sustainability information management in your company	ACB_10	4.3	0.52	67.2	168, Agree
In your organisation accountants focused on (selectively) in providing sustainability information to decision makers in top management positions	ACD_11	4.0	0.29	95.2	238, Agree

Table 4 shows the results of the descriptive and frequency of the contribution of respondents to sustainability accounting information. The result indicates that the respondents disagreed (60.8, 54.8, 53.4 per cents respectively) that accountant retained sustainability information in order to retained their existing power in organisation (Mean = 2.4, Standard Deviation 0.62), accountant do not retained sustainability information in order not to retained their existing power in organisation structure (Mean = 2.5, Standard Deviation 0.70) and the need to exercise power is low as a result accountants make use of their formal authority without pursing that objective beyond that authority (Mean = 1.8, Standard Deviation 0.96). However, the respondents (99.6 per cent) agreed on the following; that accountants (99.6, 84.8, 80.4 per cent respectively) are willing to contribute towards improving the overall performance of the company and achieved operational objectives (Mean = 4.9, Standard Deviation 0.63), the need exercise power is higher and as result accountants make use of their formal authority by pursing objectives beyond that authority (Mean = 4.0, Standard Deviation0.43), and accountants are willing and interested in supporting the sustainability accounting process but lack of sustainability expert made them to act as a mediator (Mean = 4.0, Standard Deviation 0.74).

Table 4: Contribution of Respondents in Sustainability Accounting Information

Statements	Code	Mean Value	Stand. Dev.	% of Freq.	Decision
Accountants retained sustainability information in order to retain their existing power in their organisational structure	Contr_12	2.4	0.62	60.8	152, Disagree
Accountants do not retain sustainability information in order not to retain their existing power in their organisational structure	Contr_13	2.5	0.70	54.8	137, Disagree
In your company accountants are willing to contribute towards improving the overall performance of the company and achieve operational objectives	Contr_13	4.9	0.63	99.6	249, Strongly Agree
The need to exercise power for the above item (14) is lower; therefore, accountants make use of their formal authority without pursing objectives beyond that authority	Contr_14	1.8	0.96	53.4	134, Disagreed
The need to exercise power for the above item (14) is higher; therefore accountants make use of their formal authority by pursing objectives beyond that authority	Contr_16	4.0	0.43	84.8	212, Agree
Accountants are willing and interested to support the sustainability accounting process but lack of sustainability expertise of accountants leave them no option but to act as mediators in sustainability information management	Contr_17	4.0	0.74	80.4	201, Agree

The results in Table 5 show the respondents view regarding the gatekeepers, other role of accountants and other actors. The respondents believe that accountants are not really involved in directing data generation and communicating sustainability information to higher management (Mean = 3.2, Standard Deviation 1.2). However, the respondents agreed (with frequency grater than 80 per cent) on the following; accountants, sustainability managers and general managers used their technical expertise in defining what information that needs to be collected and produce on sustainability according to international accounting standard (IAS), accountants, sustainability and general managers provide sustainability information to others; sustainability managers and general manager are involved in directing data generation and communicate the information to higher management. They all have a mean score of 4.0 and above.

Table 5: Respondents view regarding the Gatekeepers, others Roles of Accountants and other Actors in Sustainability Accounting Information Process.

Statements	Code	Mean Value	Stand. Dev.	% of Freq.	Decision
In your organisation accountants are involve in directing data generation and communicating sustainability information to higher management.	Gate_Rol 18	3.2	1.2	48.4	121, Disagree
Accountants used their technical expertise of defining what information that need to be collected and produce this information on sustainability accordance to international accounting standard	Gate_Rol 19	4.1	0.42	80.4	201, Agree
In your company accountants provide sustainability information to others	Gate_Rol 20	4.1	0.34	88.4	221, Agree
In your organisation sustainability managers involvement in directing data generation and communicating sustainability information to higher management	Gate_Rol 21	4.0	0.10	98.8	247, Agree
Sustainability managers used their technical expertise of defining what information that need to be collected and produce this information on sustainability accordance to international accounting standard	Gate_Rol 22	4.1	0.37	84.4	211, Agree
In your company sustainability managers provide sustainability information to others	Gate_Rol 23	4.0	0.26	92.8	232, Agree
In your organization General manager involve in directing data generation and communicating sustainability information to higher management	Gate_Rol 24	4.0	0.57	51	127, Agree
General managers used their technical expertise of defining what information that					127, Agree

need to be collected and produce this information on sustainability according to international accounting standard	Gate_Rol 25	4.0	0.69	50.8	
In your company General managers provide sustainability information to others	Gate_Rol 26	4.0	0.50	65.6	164, Agree

Table 6 highlights the challenges facing accountants in the process of sustainability accounting information. The results indicate that accountants face limitation in performing their role in sustainability information (Mean = 4.4, Standard Deviation 0.54) and other challenges in carrying out their roles (Mean 4.4, Standard Deviation 0.54).

Table 6: Challenges facing Accountants in process of sustainability accounting information

Statements	**Code**	**Mean Value**	**Stand. Dev.**	**% of Freq.**	**Decision**
Accountants face limitation in performing their roles as in section D above	Chale_27	4.4	0.54	54.4	136, Agree
There are challenges facing your company on sustainability accounting information	Chale_28	4.4	0.54	54.4	136, Agree

Table 7 provide the opinion of each respondent (Non-Accountants and Accountants) using independent samples t-test analysis to revealed the view of each category of independent variables such as Non-Accountant/Accountants and the continuous dependent variable such as each statement or items in the survey questionnaire. An Independent-sample t-test analysis show whether there is a statistically significant difference in the mean scores for the two groups (Non-Accountants and Accountants) differ significantly in terms of each statements/items in the data from the survey questionnaire. In statistical term, the two groups were used in testing the probability that the two sets of data are from the same population.

Each group of respondents (Non-Accountants and Accountants) agreed that accountants interpreted information on sustainability and communicates to management; they act as mediator in sustainability information management and provide sustainability information to decision makers. The results in Table 7 show that the difference in each mean scores of each statement is statistically significant. This suggests that accountants have trait of adaptive, constructive and defensive in managing and in using sustainability information. However, each group disagree that accountants retained sustainability information in order to retain their existing power in organizational structure and do not retained information in order to retain power, make use of their formal authority without pursing objectives beyond that authority; while they all agree that accountants contribute towards improving overall performance of the company and achieved operational objectives, they lack sustainability expertise as a result they are mediator in sustainability information management; this finding indicate a significant in the difference in the mean scores.

Moreover, the respondents in each group ((Non-Accountants and Accountants) believed that sustainability manager and general manager direct data generation and communicating information to higher management, provide information to other, used technical expertise to produce information on sustainability in accordance to International Accounting Standard (IAS). Furthermore, the respondents indicate that there are limitations that accountants are facing in performing their roles and there are challenges facing accountant in carrying out their roles in sustainability accounting information process. These findings in Table 7 highlight the existence of an execution gap (Williams, 2018; Bennett, et.al 2013; CIMA, 2011) between the roles accountants should play in the sustainability accounting process.

Table 7: Involvement of Non- Accountant (sustainability managers and general managers) and Accountants in Listed Nigerian Firms

Role of Accountants	Code	Group Variables	N	Mean	SD	t	Significance
Interpreted information on sustainability and communication to management	ACD_9	Non-Accountants Accountants	81 169	4.00 4.03	0.00 0.35	-1.99	0.050
Act as mediator in sustainability information management	ACD_10	Non-Accountants Accountants	81 169	4.64 4.14	0.48 0.45	7.82	0.000
Providing sustainability information to decision makers in top management position	ACD_11	Non-Accountants Accountants	81 169	4.00 4.05	0.00 0.34	-1.80	0.074
Retain sustainability information in order to retain their existing power in organizational structure	Contr_12	Non-Accountants Accountants	81 169	2.20 2.30	0.48 0.65	3.50	0.097
Do not retain sustainability information in order to retain their existing power in organizational structure	Contr_13	Non-Accountants Accountants	81 169	2.88 2.42	0.59 0.70	5.34	0.000
Willingness to contribute towards improving the overall performance of the company and achieve operational objectives	Contr_14	Non-Accountants Accountants	81 169	5.00 4.99	0.00 0.76	0.17	0.0692
Exercise power from above statement in lower level and		Non-Accountants	81 169	2.53 1.54	0.85 0.83	8.61	0.000

make use of their formal authority without pursing objectives beyond that authority	Contr_15	Accountants					
Exercise power from above statement in high level and make use of their formal authority without pursing objectives beyond that authority	Contr_16	Non-Accountants Accountants	81 169	3.87 4.01	0.33 0.46	-2.64	0.009
Accountants willing and interested to support the sustainability accounting process but lack of sustainability expertise	Contr_17	Non-Accountants Accountants	81 169	4.12 3.76	0.33 0.84	4.81	0.000
Accountants involvement in directing data generation and communicating sustainability information to higher management	Gate_Rol 18	Non-Accountants Accountants	81 169	4.01 4.02	0.46 0.45	-2.46	0.000
Accountants collected and produce information onsustainability accordance to International Accounting Standard (IAS)	Gate_Rol 19	Non-Accountants Accountants	81 169	4.36 4.48	0.48 0.57	-1.75	0.000
Accountants provide sustainability information to others	Gate_Rol 20	Non-Accountants Accountants	81 169	4.36 4.48	0.48 0.57	-1.75	0.000
Sustainability managers involvement in directing data generation and communicating sustainability information to higher management	Gate_Rol 21	Non-Accountants Accountants	81 169	3.65 3.00	0.97 1.30	4.43	0.000
Sustainability Managers Collected and produce information on sustainability accordance to International Accounting Standard (IAS)	Gate_Rol 22	Non-Accountants Accountants	81 169	4.12 4.21	0.33 0.45	-1.77	0.078
Sustainability Managers		Non-	81	4.00	0.00		

Provide sustainability information to others	Gate_Rol 23	Accountants Accountants	169	4.15	0.40	-4.90	0.000
General managers direct data generation and communicating information to higher management.	Gate_Rol 24	Non-Accountants Accountants	81 169	4.00 4.01	0.00 0.13	-1.21	0.015
General Managers used technical expertise produce information on sustainability accordance to International Accounting Standard (IAS)	Gate_Rol 25	Non-Accountants Accountants	81 169	4.12 4.17	0.33 0.37	-0.98	0.044
General managers provide sustainability information to others	Gate_Rol 26	Non-Accountants Accountants	81 169	4.00 4.09	0.00 0.31	-3.93	0.000
Accountants face limitation in performing their roles	Chale_27	Non-Accountants Accountants	81 169	4.36 4.48	0.48 0.57	-1.75	0.081
There are challenges facing your company on sustainability accounting process	Chale_28	Non-Accountants Accountants	81 169	4.36 4.48	0.48 0.57	-1.75	0.081

4.3. Discussion of the Findings

Companies are key contributors to economic, environmental and social well-being. Sustainability accounting is an approach aimed at supporting management to improve corporate sustainability and responsibility in order to improve their performance. Consequently, emphasis has been placed on the significant and the need for adequate sustainability accounting information and the key actors of such reporting of such information for decision making (Siyabola, Fregene & Ogbebor, 2019; Nwobu, Iyoha & Owolabi 2018).

The accountant's involvement in directing data generation and communicating information to higher management indicate that accountants are involved in sustainability accounting although less when compared to other professional such as the general managers and sustainability managers. This result suggests that sustainability accounting may likely be practiced by non-accountants in most listed firms in Nigeria. In addition, this study revealed that accountant act as a gatekeeper in area of using their technical expertise in defining what information needs to be collected and produce to others in accordance to International Accounting Standard (IAS). However, there are challenges facing the accountants in acting as a gatekeeper in their role as producers of sustainability accounting information.

In recent time, there is awareness of legal and economic relevance of social and environmental issue in many countries globally, as a result of globalization in business. Sustainability information has a great influence on many firms globally and this enables management to restructure their firms leading to changing power structures (Schaltegger & Zvezdov, 2015). Against this background, accountants allow retaining information, this defensive involvement of accountant and the power in exercising this is very high in most of the listed firms in Nigeria. Besides this, accountants serve as interpreter, providing information for decision makers and willingness to contribute towards improving overall objectives in order to achieve operational objectives (Erhirhie & Ekwueme, 2019). Therefore, accountants act as adaptive, and their main contribution according to results shown in Table 7 is to translate their information into management language (management language). The result further shows that the need to exercise power their power is not too high. This finding is not consistent with Schaltegger and Zvezdov, (2015) on the role of accountants in sustainability information in the UK and Germany firms.

Furthermore, Accountants are willing and interested to support the sustainability accounting information process but lack of sustainability expertise leaves them with the option to act as mediator, their involvement are constructive in sustainability information management. This action indicates that accountants as a mediator in the main contribution in the sustainability information process. The level to exercises this power is another challenges accountants are facing in area of sustainability accounting information process and this results is consistent with the Schaltegger & Zvezdov, (2015) on the role of accountants in sustainability information in the UK and Germany firms.

Independent-sample t-test analysis for each group of respondents (Non-Accountants and Accountants) indicates that the difference in each mean scores of each statement in the survey question is statistically significant. These findings empirically support the results in Tables 2-6 of this paper and buttress the results for this study. The results of the interview show the opinion of various stakeholders in sustainability accounting information management process and the findings also answer the research questions in the study in which the respondents revealed that there are challenges facing the accountants in carrying out their roles in sustainability accounting information process.

5. Conclusion and Policy Implication

Based on the finding from the respondents this paper show that accountants take a gate keeping role between sustainability and top management in relation to sustainability information. However, there are challenges facing accountants in carrying out their roles which include lack of adequate knowledge in data communication. Accountants play their role of defensive by retaining information so that they will not lose their power in corporate structure; thus this makes them also to be a gatekeeper.

Furthermore, accountants' involvement as adaptive makes them to be interpreting sustainability information and power to carry out this role is on the average level. Also in constructive involvement, they act as mediator and the power to exercise this role is minimal.There is need for professional bodies and government regulatory agencies to provide adequate enforcement on guideline and training on sustainability information for accountants in Nigerian firms. This will enhance their involvement in adaptive and constructive area and also eliminate other inherent challenges facing accountants in sustainability accounting information in their firm. The major implication for future research is to examine how accountants can be more strongly involve in sustainability accounting, information management and management of decision making in listed firms in Nigeria and in Sub-Saharan African Countries.

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Survey Questionnaire

Section A: Questions 1-8 are related to your background. Please mark(X) only oneoption.

Gender: Male ☐ Female ☐

Occupation People with accounting function ☐

Sustainability manager ☐

General Manager ☐ Professional

Accounting firm ☐ Accountants ☐

1. Years of experience in your occupation: ____year

2. Formal education: Diploma/Certificate ☐ Bachelor Degree ☐
   Master Degree ☐ Doctoral Degree ☐
   Professional certificate/other ☐

3. Your location: ____

4. How do you rate your knowledge on sustainability accounting information in your firms Low ☐ Medium ☐ High ☐
5. Type of Firm: Financial Firm ☐ Non-Financial Firm ☐
6. Type of sector…………….

Section B: Statements 9-11 relate to your views on main trait of adaptive, constructive and defensive involvement of accountants in managing and using sustainability information. Please rate the extent to which you agree with each statement (X) according to the scale below. Please this applies to all sections.

1=strongly disagree 2=disagree 3=Undecided 4=Agree 5=strongly Agree

9. Accountants interpreted information on sustainability and communicate to management in your company.	1	2	3	4	5
10. Accountants act as mediator in sustainability information management in your company.	1	2	3	4	5
11. In your organisation accountants focused on (selectively) providing sustainability information to decision makers in top management positions.	1	2	3	4	5

Section C: Statements 12-17 relate to your view regarding to the main contribution of accountants to sustainability of information

12. Accountants retain sustainability information in order to retain their existing power organisational structure.	1	2	3	4	5
13.Accountants do not retain sustainability information in order not to retain their existing power organisational structure.	1	2	3	4	5
14. In your company, accountants are willing to contribute towards improving the overall performance of the company and achieve operational objectives.	1	2	3	4	5
15. The need to exercise power for the above item (14) is low therefore accountants make use of their formal authority without pursing objectives beyond that authority..	1	2	3	4	5
16. The need to exercise power for the above item (14) is high therefore accountants make use of their formal authority by pursing objectives beyond that authority.	1	2	3	4	5
17. Accountants are willing and interested to support the sustainability accounting process but lack of sustainability expertise of accountants leave them no option but to act as mediators in sustainability information management.	1	2	3	4	5

Section D: Statements relate to your view regarding to gatekeepers, other roles of accountants and other actors in sustainability accounting information process.

18. In your organisation accountants' involve in directing data generation and communicating sustainability information to higher management.	1	2	3	4	5
19. Accountants used their technical expertise of defining what information that need to be collected and produce this information on sustainability according to international accounting standard.					
20. In your company accountants provide sustainability information to others					
21. In your organisation sustainability managers involve in directing data generation and communicating sustainability information to higher management					
22.Sustainablity managers used their technical expertise of defining what information that need to be collected and produce this information on sustainability accordance to international accounting standard					
23. In your company sustainability managers provide sustainability information to others.					
24.In your organisation General manager involve in directing data generation and communicating sustainability information to higher management					

25. General managers used their technical expertise of defining what information that need to be collected and produce this information on sustainability according to international accounting standard					
26. In your company General managers provide sustainability information to others.					

Section E: Statements relate to your view regarding to challenges facing accountants in sustainability accounting information process.

27. Accountants face limitation in performing their roles as in section D above	1	2	3	4	5
28. There are challenges facing your company on sustainability accounting information.					

Kindly comment on sustainability accounting information and the role of accountant in the listed companies in Nigeria………………………………………………….

SUSTAINABILITY REPORTING AND FINANCIAL PERFORMANCE OF LISTED NON-FINANCIAL COMPANIES IN NIGERIA

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Abstract

Companies face a number of challenges in order to ensure their long-term sustainability, including implementing strong corporate governance practices and ensuring good environmental and social performance. The study examined the effect of sustainability reporting on the financial performance of Nigerian listed non-financial companies for ten years, (2010 to 2019), adopting an ex-post facto research design, and a sample of seventy-five companies was selected using purposive sampling technique on a population of one hundred and twenty companies. The study used secondary data collected from Machameratios a database maintained by Talk data Associates for 10 years. The data were analyzed using regression. Sustainability reporting was proxy with Governance reporting (CGDI), Social reporting (CSRD), and Environmental reporting (EDINDEX), while financial performance was proxy with (Tobin's Q). The result showed that Environmental reporting has a significant negative effect on financial performance of listed non-financial companies in Nigeria, while the effect was positive and insignificant between governance reporting and financial performance of listed non-financial companies in Nigeria. The study also revealed that social reporting has a negative and insignificant effect on financial performance. The study recommended that Financial Reporting Council of Nigeria (FRCN), the Securities and Exchange Commission (SEC), and the Nigerian Stock Exchange (NSE) who are responsible for ensuring that listed companies comply with laid down accounting standards, and other requirement design policies and put in place measures such as recognizing and providing annual awards and certificate to the best company or companies that report detailed sustainability issues in its annual reports. This will enhance the increase in the quality of financial reporting and build stakeholders confidence in financial report released by companies.

Keywords: Environmental Reporting, Financial performance, Governance reporting, Social reporting, Tobin's Q

1. Introduction

Sustainability reporting has become a stern issue that is generating worldwide concern. This could be credited to the fact that in recent years stakeholders have developed a remarkable interest in the company's non-monetary activities. This means that there is serious demand by stakeholders for more disclosure on non-financial metrics. They needed to know the impact of the firms' activities on them and their environment. In 2015, at the United Nations Headquarters in New York, Heads of State and Government and High Representatives adopted a significant

Agenda on an extensive, broad, and people-centered arrangement of widespread and transformative goals and targets, which was based on achieving sustainable development in its three dimensions of economic, social, and environmental in a decent and coordinated way and to likewise expand upon the accomplishments of the Millennium Development Goals.

In any case, sustainability reporting over the years is gaining attention because of expansion in awareness of ecological and social issues in the society (Junior, Best, & Cotter, 2014), the increasing demand by government for detailed disclosure, increased pressure from investors, supplier, competition in labour markets and the host communities where the companies are situated has also necessitated the need for sustainability reporting. However, the main aim of establishing firms is to improve the quality of life in society. Therefore, a necessary gauge should be taken to determine and reports the degree to which the firm has impacted society from period to period. Sustainability Reporting seems to be the best option for reconciling all the doubts and information needs of the stakeholders.

The agreed Agenda includes 17 Sustainable Development Goals and 169 objectives, which are intended to form the scope and focus of this current all-encompassing Agenda, which aims to build on the Millennium Development Goals and complete what they didn't achieve. The long-term goals and targets aim to realize all people's common freedoms, as well as gender equality and the liberalization of all women and children. They are intertwined and inseparable, and they strike a balance between the three pillars of sustainable development namely economic, social, and environmental. Objective 12 under the agenda was to guarantee sustainable consumption and production patterns by the year 2030 and target 6 under this objective is to empower organizations, particularly huge and transnational companies, to adopt sustainability practices and to incorporate sustainability reports into their reporting cycle.

Several empirical studies on the impact of sustainability reporting on financial performance have been performed in different industries and economies around the world, but only a few of these studies have focused on quoted non-financial firms in Nigeria. More also existing studies use different variables and proxy for performance and time frame, for instance the study conducted by Igaga and Okolie, (2020) was on banks using return on asset and earnings per share as proxy for performance for a period of 5years. Chikwendu, Okafor and Jesuwunmi, (2020) studied listed companies and using Return on Assets as a proxy for performance for the period of 5 years. Koaje, Abubarka, Ibrahim and Adeiza, (2019) study was conducted on listed oil marketing companies using return on asset as proxy for performance for a period of 11years. Due to the industry, scope, and variables used in previous studies, this study will focus on listed non-financial firms and will use Tobin's Q as a proxy for financial performance over a 10-year period (2010-2019).

In light of this, the aim of this research is to examine the effect of sustainability reporting on the financial performance of Nigerian listed non-financial companies in Nigeria.In order to achieve the above objectives, the following null hypotheses were developed:

$H0_1$: Governance reporting has no significant effect on the financial performance of Nigeria's quoted non-financial firms.

$H0_2$: Environmental reporting has no significant effect on the financial performance of Nigeria's quoted non-financial firms.

$H0_3$: Social reporting has no significant effect on the financial performance of Nigeria's quoted non-financial firms.

2.0 Literature Review

2.1Conceptual

According to the Global Reporting Initiative (2016), sustainability reporting is a report issued by a company that details the economic, environmental, and social impacts of its daily operations. KPMG as cited by Mitra (2012) defines sustainability reporting (SR) as report(s) that provide financial and non-financial information about an organization's economic, social, and ethical performance.

Governance Reporting

The method or system of reporting policies, procedures, and processes by which a company is guided and managed is known as governance reporting (Aggarwal, 2013). Ebimobowei claims that (2011). The process of disclosing rules and agreed procedures to resolve conflicts between stakeholders and management is known as governance reporting. It's a phrase used to explain how well organisations work and how well they perform. It's a phrase that describes how well organizations function and how well they're accepted by the general public. Governance reports provide comprehensive information about how an agency is doing with specific enforcement measures.

Environmental Reporting

Environmental reporting is a general term that refers to corporate disclosures about the environmental consequences of their operations. Environmental transparency broadens the scope of a company's obligations beyond the traditional position of disseminating financial reports to include any of the company's environmental responsibilities. Environmental news may be considered in this sense. Governance-by-disclosure is often credited to disclosure in the environmental sphere. Companies in Nigeria and around the world are being scrutinized more than ever before, and they must reveal details about their environmental operations. Environmental performance disclosure aids businesses in gaining stakeholder confidence and assessing possible risks associated with such activities and reduce the environmental effects of these activities It considers the effect of their activities on the environment and reports the findings to a variety of stakeholders, including staff, clients, the government, regulators, the media, and shareholders, all of whom are vital to the organizations' long-term viability.

The environmental aspect of sustainability reporting is concerned with an organization's effects on living and non-living natural environments, such as habitats, land, air, and water. Environmental measures measure how well inputs (such as materials, electricity, and water) and outputs work together (e.g., emissions, effluents, waste). Success in relation to biodiversity is one of the other areas discussed.

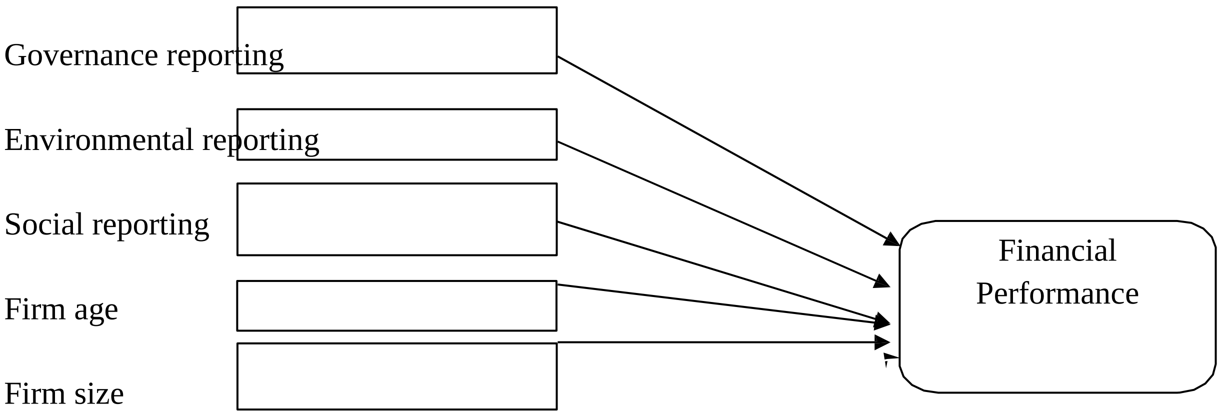
Environmental enforcement, as well as other related data such as environmental expenditures and product and service impacts (GRI, 2011). The use of the company's input and production results in a slew of environmental issues (Caesaria & Basuki, 2017). Previously, financial results were primarily concerned with the financial aspect of operations, providing investors with insight into past performance on key financial metrics. However, an organization's responsibility for the atmosphere in which it works has contributed to the advent of environmental disclosure, which accounts for human and industrial effects on the environment in addition to commenting on financial results.

Social Reporting

A social report is a multidisciplinary term that covers a wide variety of topics in business operations. The fair evaluation of and disclosure on any meaningful domain of a company's operations that have a social impact is known as social reporting (Ebimobowei, 2011). Social reporting helps to quantify the negative and positive impact of an enterprise's operations on the firm and/or those impacted by the firm (in monetary or non-monetary units); it measures social costs and benefits. The social dimension of sustainability is concerned with the effects that a company has on the social structures under which it works (GRI, 2011). With an emphasis on individuals, their interests, and desires, it is one of the three pillars of sustainability. It is considered significant because it addresses topics such as social responsibility, labor rights, community growth, and so on.

Organizations must become interested in this aspect of sustainability in order to provide a good quality of life for their workers and the community in which they work, particularly for those who are less fortunate. Internal parties which receive social disclosure, such as the corporation being forced to pay attention to employee health and safety, or equal opportunity in competition between competitors. Employees, both male and female, as well as human rights issues. Meanwhile, the organization must enforce anti-corruption policies, anti-competitive and monopolistic practices that affect stakeholders, and product labeling for consumer health and safety to external parties (Caesaria& Basuki, 2017).

The dependent and independent variables are depicted in pictorial form in Figure 1.



Independent variables Dependent variable

2.2 Empirical Literature

For five years, from 2011 to 2015, Utile, Tarbo, and Ikya (2017) investigated the effect of corporate environmental reporting on the financial performance of listed manufacturing firms in Nigeria. Ex-post facto analysis was used in this report. A sample of 12 companies were selected from a population of 87 quoted companies based on data availability, and the data was analyzed using multiple regressions. The study found that environmental reporting proxy with erosion control and air pollution and waste management reporting has a significant effect on financial performance.

Using an ex-post facto study design and a sample of three companies drawn from a population of five, Asuquo, Dada, and Onyeogaziri (2018) assessed the impact of sustainability reporting on corporate performance of selected listed brewery companies in Nigeria for five years. Secondary data was collected and analyzed from the three brewery firms under study. Multiple Regression was used to analyze the data. The findings of the study revealed that Economic Performance Reporting (EPR), Environmental Performance Reporting (EPR), and Social Performance Reporting (SPR) have no significant impact on the return on asset (ROA) of selected listed brewery companies in Nigeria.

Ucheagwu, Akintoye and Adegbie (2019) examine the effect of environmental sustainability practices on financial performance of listed firms in Nigeria for 10 years from 2008-2017 adopting ex-post facto design. 34 companies spread across eleven sectors were selected using purposive sampling technique. Data collected was analyzed using multiple regression. The result revealed that environmental sustainability practices has a significant effect on financial performance of listed companies in Nigeria.

Koaje, Abubakar, Ibrahim and Adeiza (2019) Assessed sustainability reporting proxy with (economic, social and environmental) in relation to financial performance (proxy with asset turnover) of listed oil marketing firms in Nigeria for 11 years form (2003-2013) adopting longitudinal study design. The study's population was 15, from which a sample of ten was chosen using the judgmental sampling technique. Secondary data were gathered from the sampled companies' annual reports and analyzed using regression. The study found that total assets, as well as total turnover, have a positive and significant effect on sustainability information disclosure.

Yameen, Farhan and Tabash (2019) examined the impact of corporate governance reporting and practices on the financial performance of listed Indian firms for a period of 4 years from 2013-2016 with special reference to the tourism sector adopting ex- post-fact research. A sample of 39 hotels was selected for the study using the purposive sampling technique. Secondary data collected was analyzed using ordinary least square regression. The findings revealed that board size and audit committee have a significant negative impact on firm financial performance measured by ROE And Tobin’s Q.

Igaga and Okolie (2020). Examined how sustainability reporting can be used to measure the financial success of Nigeria's publicly traded deposit money banks. The research focuses on the economic, environmental, and social aspects of sustainability reporting. Return on Assets, Return on Equity, and Earnings per Share were used as proxies for financial performance of Deposit Money Banks in Nigeria. The study's sample was limited to seventeen deposit money banks out of twenty-one banks that were listed on the Nigerian Stock Exchange as at December 2018. The required data was collected from the selected Deposit Money Banks' audited annual reports for the time span. The study found that banks' sustainability reporting practices have a significant impact on financial performance of Deposit Money Banks in Nigeria.

Chikwendu, Okafor, and Jesuwunmi (2020) conducted a five-year analysis from 2011 to 2015 to determine the effects of sustainability reporting on financial performance of listed companies in Nigeria. Twenty-five Nigerian companies that made Forbes Africa's top twenty-five companies in West Africa in 2012 were chosen for the study. Secondary data was gathered from the annual reports of the companies and analyzed using regression. According to the results, economic and environmental reporting have no significant effect on return on asset, while social reporting has a significant effect on the company performance.

For the eight years between 2009 and 2016, Al-ahdal and Farhan (2020) conducted a study on the effect of corporate governance on the financial performance of listed Indian firms. With a sample of 53 non-financial listed firms, the study used a longitudinal survey design. Secondary data was collected and analyzed with the aid of regression. The results showed that the board of directors' accountability and the audit committee have no significant impact on firm financial performance measured by ROE And Tobin’s Q.

2.3 Theoretical Framework

A lot of theories have been established to add value to the concept of sustainability reporting. In line with this, sustainability can be linked to various theories such as Legitimacy and Agency Theory

Legitimacy Theory

Legitimacy, according to Lindblom (1993), is a state in which an entity's value system is in sync with society's value system. According to this theory, it is important for businesses to fulfill public standards in order to ensure their long-term survival. Legitimacy theory is based on the idea that there is a social contract between businesses and their customers. According to the theory, society grants businesses privileges and permits them to survive in exchange for corporations adhering to society's standards for how their businesses should be run. They must act in compliance with society's norms and principles because failing to meet these expectations would put their life in jeopardy. If these standards aren't met, a credibility gap may develop. An organization may trigger this if its behavior is not, or is considered to be, in line with expectations. Corporations that consider sustainability to be critical to their success may want to include an extensive sustainability report to stakeholders (internal and external) to demonstrate their commitment to sustainability report. The legitimacy theory is enforced by the sustainability report, which can be seen as one of those documents that legitimizes a company's actions.

Agency Theory

Jensen and Meckling (1976) developed agency theory, which holds that managers would only reveal CS(R)-related details if the advantages of doing so outweigh the costs. When management (agent) acts in its own self-interest, it adversely affects financial results and, as a result, shareholder (principal) wealth. However, since ownership and control are separated, agency theory views shareholders as principals and management as agents. Shareholders expect the agents to behave and make decisions in the best interests of the principal. In the other hand, the agent's actions could not always be in the best interests of the principals. According to agency theorists, managers (agents) can engage in opportunistic behaviour that is at odds with the owners' (principal) goals, destroying shareholder wealth. Long-term viability Reporting decreases knowledge asymmetry and perceived risk among investors, improves business performance, and lowers the firm's cost of capital.

3.0 Methodology

The study adopted the ex-post facto research design because the researchers had no influence over the variables, mostly because the incident had already happened and could not be modified.

The population of the study consist of one hundred and twenty non-financial firms listed on the Nigerian Stock Exchange as at 31st December 2019, out of which a sample of seventy 75 firms was selected using the purposive sampling technique. The data for the listed sampled companies were collected from Machame-ratios a database maintained by Talk data Associates for a period of 10 years, from 2010-2019. The period 2010-2019 was chosen based on data availability. The data was analyzed using panel regression via the help of STATA 13 software.

Model Specification

Tobin's Q is used as a proxy for financial performance in this study.While sustainability reporting (independent variable) was proxy by Governance reporting (CGDI), Environmental reporting (ENINDEX), and Social reporting (CSRD). In order to examine the effect of sustainability reporting on financial performance of listed non-financial companies the study adopted with modification the model used by Okolie, and Igaga (2020) as follows:

$$\text{Tobin Q} = B_0 + \beta_1 CGDI_{it} + \beta_2 EDINDEX_{it} + \beta_3 CSRD_{it} + \beta_4 FAGE_{it} + \beta_5 LTA_{it} + \varepsilon_{it} \quad \ldots..(1)$$

Where:

Tobin's Q = Tobin's Q; CGDI = Corporate Governance reporting Index; EDINDEX = Environmental reporting Index; CSR = Corporate Social reporting Disclosure; FAGE = number of years passed after listed on the Nigerian Stock Exchange; LTA = Firm size measured as log of total assets); B_0 = constant or intercept of the regression; B_1-B_6 = coefficients of the explanatory variables; ε = error term. I = firm; t = time

Variables Measurement

CGDI: Governance disclosure panel-data are dummy variables that are used to proxy disclosure of corporate governance information in annual reports, with "1" indicating disclosure and "0" indicating non-disclosure. An index (CGDI) is frequently used to research governance disclosure, and it is the average value of all the dummy disclosure panel results. These panel-data include non-exempt disclosure of board roles and functions (DBRF), and disclosure of board roles and functions (DBRF). board performance mechanism (BODP), conformity to governance requirements (DCGC), internal management system (IMS), board education and training process (BEDU), investor involvement process (DISS), board of directors profile (DBDP), CEO compensation (CEO), board ethics and code of conduct process (DBET), board members age (BMDA), board members appointment dates(BADT), whistle blowing process (WBP), board meetings records(DMBR), board members third-party transactions(DBTP), audit committee (AUCD), risk committee (PRMC), remuneration committee (RECC), nomination committee (NOCC), board change/re-election or resignation (BCED), board shareholding (BOSD) and major shareholders (SHDC).

Environmental disclosure panel data (ENTD) are used to assess the extent of environmental disclosure in a company's annual financial report. The average value of the dummy variables from materials disclosure (G4EN1), energy disclosure (G4EN2), and water disclosure (G4EN3) is used to calculate our environmental disclosure ranking, which is a condensed version of GRI environmental reporting (G4EN3), biodiversity disclosure (G4EN4), emission disclosure (G4EN5), effluents and waste disclosure (G4EN6), product and services environmental impact disclosure (G4EN7) and compliance to environmental laws and regulation disclosure (G4EN8).

CSRD: Social disclosure index (CSRD) is often used and it is the average value of all the social disclosure data. Social disclosure panel-data are dummy variables that proxy disclosure of social information in annual reports with "1" and "0" for otherwise. These panel-data includes local community disclosure (CDIS), social donations and gifting (SDGI), employee and training disclosure (EMYD), health and safety disclosure (HSED) and customer and complaints disclosure (CCCD)

Table 1: Study Variablesandtheir Measurement

Variable Acronym	Variable Name	Measurement	Source(s)
TOBIN'S Q	Tobin's Q	market value of equity divided by the book value of total assets	Yameen, Farhan and Tabash (2019)
CGDI	Governance reporting	Average value of all dummy disclosed panel data	Chikwendu, Okafor and Jesuwunmi (2020)
ENINDEX	Environmental reporting	Average value of all dummy disclosed panel data	Utile, Tarbo and Ikya (2017)
CSRD	Social reporting	Average value of all dummy disclosed panel data	Chikwendu, Okafor and Jesuwunmi (2020)
FAGE	Firm Age	number of years passed	

		after listed on the Nigerian Stock Exchange	Chikwendu, Okafor and Jesuwunmi (2020)
LTA	Firm size	log of total Assets	Utile, Tarbo and Ikya (2017)

Source: Author's Compilation, 2021

4.0 Data analysis and interpretation
Results and Discussion

Table 2 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Tobin's Q	750	1.5227	1.3588	0	11.2986
Corporate Governance Disclosure index (CGDI)	750	0.4016	0.1688	0	0.8333
Corporate Social responsibility Disclosure (CSRD)	750	0.6878	0.2142	0	1
Environmental Disclosure Index (ED index)	750	0.4433	0.1457	0	0.75
Firm Age (FAGE)	750	25.92	13.4867	0	55
Firm size (LTA)	750	7.0622	0.8957	0	9.2409

Source:Stata 13 Output Results based on study data

Table2 presented the descriptive statistics for the dependent and independent variables Tobin's Q, Corporate Governance Disclosure Index (CGDI), Corporate Social Responsibility Disclosure (CSRD), Environmental Disclosure Index, (ED index), Firm Age (FAGE), Firm size (LTA). The standard deviation of the variables ranges from 0.1457 to13.4867. Environmental reporting has the lowest standard deviation of 0.1457 followed by Governance reporting and corporate social reporting disclosure with a standard deviation of 0.16880 and 0.2142 respectively, this was followed by Firm size, Tobin's Q, and firm age with standard deviations of 0.8957, 1.3588, and 13.4867 respectively. The relatively low standard deviation for all the study variables is an indication that the sampled data for the study is normally distributed.

The Table also indicated an average value of 1.5227forTobin's Q. The minimum and maximum values of Tobin's Q during the study period are 0 and 11.2986 respectively. These values implied that all the sampled companies actually have values for Tobin's Q during the study period, while the highest value of Tobin's Q by the sampled companies during the study period stood at 11.2986. The Table further revealed an average value of 0.4016 for corporate governance reporting. The minimum and maximum values of corporate governance reporting during the study period were 0 and 0.8333 respectively. Similarly, the Table showed that Environmental reporting, firm age and firm size had a mean value of 0.4433, 25.92, and 7.0622 respectively during the study period, with minimum and maximum value of 0, 0, 0, and 0.75 55, and 9.2409 respectively.

Table 3 Correlation Analysis of Dependent and Independent Variables

Variable	TOBINSQ	CGDI	CSRD	EDINDEX	FAGE	LTA
Tobin's Q	1.0000					

Corporate Gov. Dis. Index (CGDI)	0.1355	1.0000				
Environmental Dis. Index (ED index)	0.1423	0.3266	1.0000			
Corporate Social responsibility Dis. (CSRD)	0.0105	0.5393	0.2527	1.0000		
Firm Age (FAGE)	0.0823	0.1977	0.2486	0.2452	1.0000	
Firm size (LTA)	0.0654	0.5032	0.4142	0.3035	0.1418	1.0000

Source:Stata 13 Output Results based on study data

FromTable3,it is observed that there is no relationship among the independent variables that is large enough (greater than0.7)to pose the problem of singularity of data(Hassan,2011).The extent of relationship among all the independent variables and the dependent variable is therefore minimal and negligible. The results revealed a positive correlation of 0.1355, 0.0105, 0.1423, between governance reporting, social reporting and Environmental reporting respectively and Tobin's Q listed non- financial companies in Nigeria during the period under study. The positive correlation coefficient is an indication that sustainability reporting is associated with increase in value (proxy with Tobin's Q) of listed non- financial companies during the study period.

Table 4 Results of VIF Test

Variable	VIF	Tolerance (1/VIF)
Corporate Governance Disclosure index (CGDI)	1.68	0.5968
Corporate Social responsibility Disclosure (CSRD)	1.51	0.6624
Environmental Disclosure Index (ED index)	1.20	0.8353
Firm Age (FAGE)	1.11	0.7006
Firm size (LTA)	1.43	0.9014
Mean VIF	1.38	

Source: STATA 13 output Results based on study data

Table 4 showed the VIF and tolerance, in each case, VIF is less than 10 and tolerance level is less than 1 respectively, showing that there was absence of perfect Multicollinearity among the independent variables. The mean VIF of 1.38 also attests to the fact that there is no problem of Multicollinearity among the variables.

Table 5 Breusch- Pagan/ Cook- Weisberg test for Heteroskedasticity

Variable	Chi^2	Prob.> chi^2
Tobin's Q	60.61	0.0000

Source: STATA 13 output Results based on study data

The result of the test in Table 5showed that there is a problem of Heteroskedasticity as the probability chi-square value of 0.0000 is less than 0.05. Consequently, the regression result presented in Table 5 and analyzed based on therobust fixed effect regression.

Table 6 Fixed effect, Random effect regression, Hausman and Lagrangian multiplier test.

	$Chibar^2$	Prob.> chi^2
Fixed effect	8.96	0.0000

Random effect	16.79	0.0049
Breusch and Pagan Lanrangian multiplier	1202.73	0.000
Hausman test	47.36	0.000

Source: STATA 13 output Results based on study data

To decide which of the pooled OLS and random effect regression is the most suitable, the LM test for random effect was used. Since the chi-bars^2 in Table 3 above is 1202.73 and the corresponding prob > chi bar was 0.000, the analysis rejected the null hypothesis and adopted the alternative hypothesis that random effect is the most appropriate model. In addition, Because of the dataset's panel structure, both fixed and random effect regressions were used. The Hausman specification test was then used to decide between fixed and random effect regression models. The test produced a chi-square value of 47.36 and a probability value of 0.000, suggesting that the fixed effect regression model most appropriate for the sampled data.

Table 7 Robust fixed effect Regression Results

Variable	Coef.	Std. err.	T-value	P-value
Corporate Governance Disclosure index (CGDI)	0.5016	0.6938	0.72	0.472
Corporate Social responsibility Disclosure (CSRD)	-0.1520	0.2238	-0.68	0.499
Environmental Disclosure Index (ED index)	-1.5930	0.7608	-2.09	0.040
Firm Age (FAGE)	-0.0582	0.0222	-2.62	0.011
Firm size (LTA)	0.0222	0.1750	0.13	0.897
-Cons	2.8440	1.0580	2.69	0.009
Prob > chi2				0.0087

Source: STATA 13 Output Results based on study data

The robust fixed effect regression result for the sample listed non-financial companies as presented in table 7 above showed that there is a positive relationship between Governance reporting proxy with corporate governance disclosure index (CGDI) and financial performance (proxy with Tobin's Q) as explained by a coefficient value of 0.5016 and a t- value of 0.72 with a corresponding P-value of 0.472 This revealed that a one-unit rise in governance reporting lead to 0.5016 unit increase in financial performance, more also Corporate Social Reporting Disclosure (CSRD) of the sampled companies during the study period has a negative relationship with Tobin's Q as explained by the coefficient of -0.1520 and a t-value of -0.68 with a corresponding P-value of 0.499. This means that for every unit increase in Corporate Social Reporting Disclosure (CSRD), financial performance decrease by 0.1520 unit. Similarly, the results revealed that there is a negative relationship between Environmental Reporting (ENINDEX) and financial performance of the sampled companies during the study period. This is explained by a coefficient value of -1.5930 and a t-value of -2.09 with a corresponding P-value of 0.040. This showed that a unit increase in Environmental Reporting leads to a 1.5930 unit decrease in financial performance. In the same vein, the result showed that there is a positive relationship between firm size (LTA) and financial performance as explained by a coefficient value of 0.0227 and a corresponding t-value of 0.13 with a P-value of 0.897. This implied that for every unit increase in firm size, financial performance increase by 0.0227 unit. Finally, the results from table 3 above revealed that there is a negative relationship between firm age (FAGE) and financial performance as shown by the coefficient of -0.0582 with a t value of -0.0222 and a corresponding p-value of 0.011.

Hypothesis 1: Governance reporting has no significant effect on the financial performance of Nigeria's quoted non-financial firms.
The regression result as presented in Table 7 shows that governance reporting of listed non-financial companies in Nigeria is statistically not significant at 5% significance level. The t-value of 0.72 with a corresponding P-value of 0.472 attest to this fact. This provided evidence of rejecting the alternate hypothesis and accepting the null hypothesis and conclude that governance reporting (proxy with corporate governance disclosure index) has no significant effect on the financial performance of Nigeria's quoted non-financial firms. This result concurs with Al-ahdal and Farhan's (2020) findings that governance reporting has no significant effect on financial performance, but differs from Yameen et al's (2019) findings that governance reporting has a significant positive effect on financial performance.

Hypothesis 2: Environmental reporting has no significant effect on the financial performance of Nigeria's quoted non-financial firms.
Environmental reporting of the sampled firms during the study period has a significant negative effect on financial performance of Nigeria's quoted non-financial firms. This was evidenced by a t-value of -2.09 and a corresponding P-value of 0.040, which is statistically significant at 5% level. This implied that Environmental reporting has a significant effect on financial performance. As a result, the study was able to reject the null hypothesis and support the alternative hypothesis, resulting in the conclusion that environmental reporting has a significant effect on the financial performance of Nigeria's quoted non-financial firms. . These results are similar to those of Utile et al. (2017) and Ucheagwu et al. (2019), but they differ from those of Chikwendu et al. (2020), who also discovered that Environmental reporting has a no significant effect on financial performance.

Hypothesis 3: Social reporting has no significant effect on the financial performance of Nigeria's quoted non-financial firms.
Social reporting of sampled firms during the study period has a negative relationship with financial performance. The regression result showed a t-value of -0.68 with a corresponding P-value of 0.499, which is statistically not significant. This provided the study with evidence of rejecting the alternative hypothesis and accepting the null hypothesis that social reporting has no significant effect on financial performance of listed non-financial companies in Nigeria. These results are consistent with those of Asuquo et al (2018), but they contradict those of Chikwendu et al (2020), who found that social reporting has a significant effect on the financial performance of Nigerian listed companies.

5.0 Conclusion and Recommendation

The study reached the following conclusions as a result of data analysis and interpretation: That governance reporting has a positive but negligible effect on the financial performance of

Nigerian quoted non-financial firms. Environmental reporting has a negative significant effect on the financial performance of quoted non-financial firms in Nigeria, according to the analysis. According to the findings, social reporting had a negative and insignificant effect on the financial performance of Nigerian quoted non-financial firms.

The Financial Reporting Council of Nigeria (FRCN), the Securities and Exchange Commission (SEC), and the Nigerian Stock Exchange (NSE) who are responsible for ensuring that listed companies comply with laid down accounting standards, and other requirement were all recommended by the study to design policies and put in place measures such as recognizing and providing annual awards and certificate to the best company or companies that report detailed sustainability issues in its annual reports. This will enhance the increase in the quality of financial reporting and build stakeholders confidence in financial report released by companies.

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THE EFFECT OF FIRM SPECIFIC AND MACRO-ECONOMIC FACTORS ON PROFITABILITY OF QUOTED OIL AND GAS COMPANIES IN NIGERIA

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Abstract
The oil and gas industry has been one of the hardest hit due to travel restrictions and social isolation policies caused by the COVID-19 pandemic. Additionally, the global movement towards green energy initiatives has threatened the profitability of the oil and gas sector. Along this postulation, there are several other internal factors as well as elements from the external environment that can affect profitability. Companies need to be ready to manage all of these risks efficiently in order to remain relevant. Therefore, this study examines the effect of liquidity, operational, inflation and exchange rate risks on the return on assets (ROA) of quoted oil and gas companies in Nigeria, whilst using a pre COVID-19 pandemic scope of 2014 to 2018. The hypotheses are evaluated using Random Effects GLS based analysis after conducting diagnostic tests. The results show that only operational risk has a significant negative impact on ROA, while liquidity, inflation and exchange rate risks have insignificant positive effects on ROA of quoted oil and gas companies in Nigeria. The study recommends that oil and gas stakeholders divert resources to monitor cultural weaknesses, develop alternative energy initiatives and train staff to be more aware of operational risk indicators.

Keywords: COVID-19; oil and gas companies; firm specific factors; profitability; green energy.

1.1 Introduction

A universal benchmark for analysing the competitiveness of a company, is by looking at how much it has achieved its objectives, vis-à-vis profitability and its responsibilities to its stakeholders.Some of the information relating to profitability can be retrieved from the financial statements of quoted companies. According to Rehman, Khan, Khan and Rahman (2018), these are the internal factors. Along the same line, Pham, Tran and Nguyen (2018) used the term "macro factors" to describe elements from the external environment. A change in any of these external factors will positively or adversely impact the profitability of a company, although it should be stressed that this may be subject to the change in the structure of the firm. Interestingly, it has been established that two companies in the same sector may not react in a similar fashion to a similar change in their macro environment (Gökçehan & Anwar, 2014).

Some internal factors, like liquidity risk (Fani, Khan, Kumar & Kumar, 2018) and operational risks (Shafarin & Aisyah, 2019) have been established to be critical contributors to a company's financial performance. While inflation (Fani, Khan, Kumar, & Kumar, 2018; Shafarin & Aisyah, 2019) and exchange rates (Egbunike & Okerekeoti, 2018; Sarwar, Mustafa, Abid, & Ahmad,

2018) have been commonly acknowledged as proxies for external factors that can affect a company's financial performance.

Usually, financial performance is not evaluated in isolation. It is computed, compared and analyzed with industry averages, budgets and prior years' performance in order to arrive at a more robust conclusion. A reliable metric that is employed to measure financial performance is the return on asset. It is calculated by dividing profit after tax by total assets. One advantage this tool has over others- like the return on equity, is that it takes into consideration a company's debt (Burja, 2011). At this point, it should be noted that when a company's return on asset is high, it signifies a high rate of asset efficiency.

Liquidity risk is connected to the ability of a company to pay its debts without bearing large losses and the most common way in which funding liquidity risk is measured is by the current ratio.If a company is not able to meet its short-term liquidity, it may face a crisis which will adversely affect the image of the company (Fani, Khan, Kumar, & Kumar, 2018).This is calculated by dividing the current assets by the current liabilities. Operational risk is a form of business risk which can be described as the threats that a business encounters during its daily activities and procedures, which cover a broad variety of its business systems. As there has been no principal definition of operational risk, many researchers have agreed to define it as financial loss that can be ascribed to insufficient or failed internal processes and information systems (Jobst, 2007). This risk has been calculated by dividing operating expenses by net sales (Shafarin & Aisyah, 2019).

It is imperative that inflation risk is included in financial planning because it is a feature of the economies of all countries. Financial managers need to agree that the minimum return required by an investor will increase as inflation increases. In Nigeria, inflation rate is estimated through the percentage change in the consumer price index. The consumer price index measures inflation through the prices of retail goods and services (Egbunike & Okerekeoti, 2018).

A lot of companies are beginning to perform a large amount of transactions in foreign currencies and usually, these will involve significant risks, except the exchange rates are predetermined in connection with one another. The problems with transaction exchange rate risk lies in the uncertainty of future cash flows. It must be established at this point that achieving the most favorable cash flow is not the objective of exchange rate risk management, the objective is to attain a definite cash flow. This has been determined to be what will aid proper planning that can influence financial performance (Garrett, 2021).

The problem of this study is anchored on the dwindling financial performance of quoted oil and gas firms in Nigeria and the resultant effect on stakeholders like employees, creditors and shareholders. According to Oladipo (2021), maintaining financial competitiveness within Nigeria's oil and gas sector has been a herculean task. Many of the firms in this sector have been left with the options of either downsizing their labour force or divesting their operations, in other to remain afloat.

Along the same line regarding the effects on stakeholders, many indigenous oil and gas companies are struggling to obtain favorable financial performance, as prices of their products have fallen below production costs and these companies are failing to meet their debt obligations to deposit money banks. Most of these have been ascribed to inflation and exchange rate risks and the major negative effect of this is that their portion of non-performing loans in the banking industry is threatening the soundness of the nation's entire banking sector (Ojo, 2021)

In consequence of the foregoing, the principal aim of this research is to determine the impact of firm specific and macro-economic factors on the profitability of quoted oil and gas companies in Nigeria and the specific objectives to

a. Evaluate the effect of liquidity risk on return on assets of quoted oil and gas companies in Nigeria.
b. Evaluate the effect of operational risk on return on assets of quoted oil and gas companies in Nigeria.
c. Evaluate the effect of inflation risk on return on assets of quoted oil and gas companies in Nigeria.
d. Evaluate the effect of exchange rate risk on return on assets of quoted oil and gas companies in Nigeria.

In order to derive hypothetical solutions for the research problems, the following null hypotheses are designed;

Ho_1 Liquidity risk has no significance effect on return on assets of quoted oil and gas companies in Nigeria

Ho_2 Operational risk has no significant effect on return on assets of quoted oil and gas companies in Nigeria

Ho_3 Inflation rate risk has no significant effect on return on assets of quoted oil and gas companies in Nigeria

Ho_4 Exchange rate risk has no significant effect on return on assets of quoted oil and gas companies in Nigeria.

1.2 Significance of the Study

a. Significance to Managers

To start with, managers will be better informed on more efficient financial planning mechanisms they need to deploy, to achieve higher profitability.

b. Significance to the Government

Also, the government will benefit from identifying the macroeconomic factors that relate to the improvement of the performance of the oil and gas sector in Nigeria.

c. Significance to Employees

In addition to these, employees will be armed with better tools that they will need to evaluate their job security.

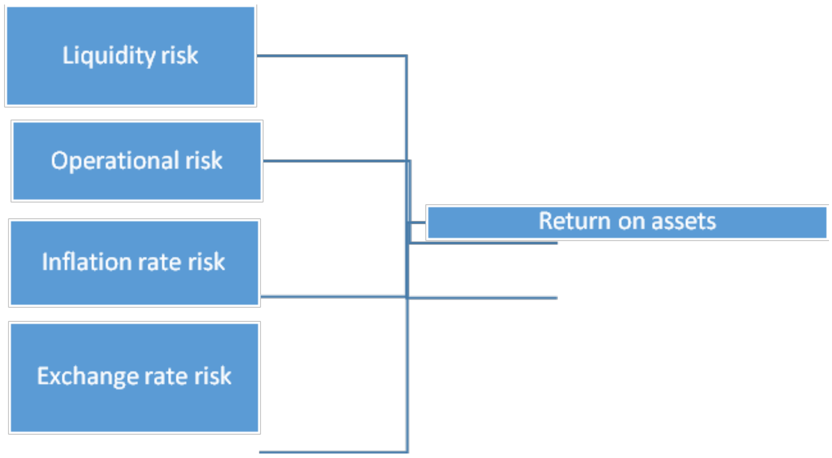
d. Significance to Banks and Insurance Companies

The results from this study will also empower stakeholders like banks and insurance companies with more knowledge in order to assess the consequences that each of the independent variables will have on their financial performance and risk management, which will depend on the financial performance of the oil and gas companies that have been researched.

e. Significance to other Researchers

Consequently, researchers will use the knowledge from this research to expand the scope of this area, to other time periods, countries and sectors.

2.1 Conceptual Framework



Independent variables **Dependent variable**

Figure 2.1: Framework of research

2.1.1 The Concept of the Return on Asset as a Measure of Financial Performance

The ROA focuses on the statement of profit or loss and the statement of financial position. This approach is more comprehensive when compared to similar metrics, majority of which are at risk of creative accounting techniques. For example, while debt has an important role in aiding a company to meet its targets, too much of it will potentially impact the going concern status of the company. This kind of impact cannot be easily identified when other profitability metrics- like the return on equity, is used to measure profitability. In essence, the ROA calculation accommodates decisions that relate to substantial non-current assets, which are not easy to manipulate within a short period of time. Consequently, in volatile economies like Nigeria, the ROA has been largely agreed to be the foremost method that is used to evaluate the financial performance of a company and is a more robust measure of the results from decisions that are made by the management of a company (Hagel, Seely Brown, Samoylova & Lui, 2013). It can therefore be deduced that the framework that is needed to make successful long-term strategies is tied to the knowledge of the ROA trend of a company. In conclusion, the trend of a reducing ROA will provide information on the soundness of earlier decisions and will encourage companies to challenge their previously held assumptions that were tied to those decisions. ROA according to this study means total profit after tax divided by total assets.

2.1.2 Liquidity Risk and Profitability

Evaluating liquidity risk will provide a good picture of how efficiently a company is managing its working capital. For many companies, inability to adequately meet debt obligations have eaten deep into their cash flows and deprived them of the capacity to pay suppliers and wages. The appropriate amount of working capital provides an assurance that a business should be able to meet its current liability commitments. A liquidity ratio like the current ratio has been regarded as the standard test of liquidity and it is used to show if a company is overtrading or overcapitalized ("Ratio analysis", 2021; Ashworth, 2021)

However, attention needs to be paid to this analysis because the dual objectives of liquidity and profitability will often conflict and this is because liquid assets provide the lowest returns. In essence, when the current ratio is too high, it is an indication that excessive cash is tied up in current assets and it has been established that when this is too high, profitability will be affected. Consequently, it has been agreed that the appropriate level of current ratio will be different between different sectors and industries (Bpp Learning Media., 2016).

2.1.3 Operational Risk and ROA

In the oil and gas sector in Nigeria, operational risks can be connected to environmental disasters and depending on the severity of the situation- loss of human lives. In some cases, it is difficult to ascertain exposure to operational risk. Estimates from occurrences of system failure and fraud can be easier to make, while the exposure to operational risk is less predictable and even harder to model. While some types of operational risks are measurable, such as fraud or system failure, others escape any measurement discipline due to their inherent characteristics and the absence of historical precedent (Cigolini Roberto & Tommaso Rossi, 2010).

Again, operational risks will vary in different sectors, however, establishing and monitoring threats should be of precedence and utmost importance for companies in the oil and gas sector. By doing this, many of these companies will be able to reduce or eliminate expensive incidents and high insurance premiums, as a means to effectively pilot profitability, employees' safety and support their going concern status (Planche, Jacobs, & Vassallo,2016).

2.1.4 Inflation Risk and ROA

When management and other stakeholders evaluate investment projects, the inflation rate is usually at best an estimate. This estimate may turn out to be incorrect because it is difficult to provide a precise inflation rate forecast. Inflation risk can affect profitability indirectly or directly in several ways. Firstly, higher capital will be required to finance the increase in value of certain tangible assets. Again, higher costs and in effect- selling prices, that are caused by inflation will likely alter demand behavior from customers. In other words, a company may face a drastic reduction in demand as soon as selling prices increase. In addition, the cost of capital will be affected due to the effect of inflation on gearing(Bpp Learning Media 2016).

2.1.5 Exchange Rate Risk and ROA

This type of risk is the risk that arises as a result of unexpected change in the value of a currency, especially in relation to other currencies. When certain business decisions are made by the management of oil and gas companies in Nigeria, these decisions will highly depend on the current and expected exchange rates in the future. This is something that is usual in the oil and gas industry and as such presents an area of risk that can affect profitability. There are various types of foreign exchange risks, namely; translation risk, transaction risk and economic risk. Of these three risks, translation risk is said to be the type of risk which can pose a greater danger to profitability. This is apparent with importers who pay in a foreign currency and exporters that invoice their customers in a foreign currency (Bpp Learning Media, 2016).

2.2 Review of Related Literature

Gul, Irshad and Zaman (2011) used data from fifteen Pakistani commercial banks to examine the relationship between bank-specific and macro-economic characteristics over bank profitability. Targeting a scope of 2005-2009 and using the pooled Ordinary Least Square method, the researchers investigated the impact of assets, loans, equity, deposits, economic growth, inflation and market capitalization on major profitability indicators like the return on asset (ROA), return on equity (ROE), return on capital employed (ROCE) and net interest margin (NIM) separately. The study found strong evidence that both internal and external factors have a strong influence on profitability. The researchers recommended that policy makers and future researchers key into the findings of the study broaden their knowledge.

Samadi (2012) investigated the effects of operating risk and capital structure on profitability in the Iranian banking industry. The researcher used 17 commercial banks in Iran which were active from 2006 to 2010 and the results of the study showed that there was a positive relationship between capital structure and profitability, meanwhile, there was no meaningful relationship between operating risk and capital structure. The research stressed that operating risks negatively effects profitability while economic figures do not have any influence on profitability, operating risks and capital structure. The researcher alluded that companies should focus more on controlling their operational risks than macro-economic variables which may be out of their control.

Xu and Banchuenvijit (2014) in their study looked at the impacts of liquidity, asset utilization, leverage and firm size on profitability of 28 companies listed on SSE 50. Dependent variables of the study were return on assets (ROA) and return on equity (ROE), and independent variables were liquidity as measured by current ratio (CR), asset utilization as measured by total asset turnover ratio (TAT), leverage as measured by debt ratio (DR), and a dummy variable of firm size. Employing data from financial statements starting from periods 2008 to 2012 and using multiple regressions with Ordinary Least Squares, the study found that asset utilization and leverage are factors that affect financial performance of firms listed on SSE 50. For both types of firm performance measurement (ROA and ROE), the results showed a positive and significant relationship between assets utilization and firm performance and a negative and significant relationship between leverage and firm performance. The researchers recommended that companies should closely monitor leverage while focusing on efficient asset utilization.

Rostami and Mosavi (2016) studied the effect of economic openness and inflation on profitability on selected banks listed on The Tehran stock exchange from 2006-2014 using the entire population. After subjecting data to regression techniques, results from the analyses show that economic openness has an inverse effect on profitability of the banks listed in Tehran stock exchange. However, it was determined that when inflation rate increases, it results in improvement and increase of profitability in the understudied banks. The researchers suggest that companies should divert their attention towards economic openness factors, as these have more potential to negatively affect profitability.

Nnado and Ugwu (2016) did a study on how inflation and the value of firms relate in the manufacturing sector in Nigeria. Profitability was represented by return on assets and the study analyzed data using multiple regressions and analysis of variance. Results from these analyses showed a strong negative relationship between inflation and firm value and an insignificant negative relationship between inflation and return on assets (proxy for profitability). Again, the relationship between return on assets and economic value added is insignificant and inflation was determined to understate the true value of the firm. The findings stress that an accurate estimation of the real value of the firm entails incorporating inflation in order to arrive at the value of investments in fixed assets and other long term investments. The researchers recommended tools for efficient valuation of non-current assets and inventories to fight the effects of inflation.

Dioha, Mohammed and Okpanachi (2018) examined the impact of firm specific characteristics on profitability of listed consumer goods companies in Nigeria. Profitability was proxied by Return on sales (ROS) while firm age, firm size, sales growth, liquidity and leverage were the independent variables. 18 companies through a period of six years (2011-2016) were analysed by panel techniques to test the hypotheses. The results showed that firm size, sales growth and leverage have significant effects on profitability. However, firm age and liquidity are not significantly affecting the profitability of listed consumer goods companies in Nigeria. The researchers recommended that prior to establishing significant business strategies, consumer goods companies should evaluate relevant firm characteristics.

Egbunike and Okerekeoti (2018), in exploring the interconnection between macroeconomic factors, firm characteristics and financial performance of quoted manufacturing firms in Nigeria, found that interest rate and exchange rate had no significant effect on profitability, but inflation rate and GDP had a significant effect on ROA. For the firm specific factors, leverage, liquidity and firm size had a significant effect on ROA. This study was done using sample drawn from selected manufacturing industries in the consumer goods sector of the Nigerian Stock Exchange and multiple linear regression was used to test the hypotheses. The study recommended that the respective stakeholders monitor and attempt to control the internal and external factors, while management focuses on expanding and diversifying due to the positive effects of firm size on the growth potential of companies.

Ur Rehman, Khan, Khan and Rahman (2018) employed the fixed effect model to analyze the effect of internal and external factors on the profitability of banks in Pakistan from 2007 to 2015. The findings of their study established that only bank size and asset composition from internal factors, significantly influence the profitability of banks. However, among the proxies for external factors, interest rates and GDP growth rates only have significant effect on the profitability of banks. The recommendations stressed on the importance of stakeholders to understand the elements that affect the financial performance of banks, so that negative shocks can be well managed.

Sarwar, Mustafa, Abid and Ahmad (2018) were able to determine that among internal factors, bank size, capital adequacy ratio, liquidity, management quality, and asset management are found to be significant determinants of banks' profitability. In case of external factors, GDP and exchange rate are significant determinants of profitability, whereas, the interest rate is significant at 10% level of significance. They did this by taking data from 21 commercial banks listed on Pakistan Stock Exchange-PSX, earlier Karachi Stock Exchange, from 2006-2015. Panel regression analysis was used to evaluate the impact of internal and external determinants of profitability and the data was analyzed with E-views software. ROA and ROE were used as proxy variables to measure profitability. Internal variables used were; bank size, capital adequacy, asset quality, asset management, liquidity, management quality, and financial risk. Whereas, GDP, inflation, interest rate, and, exchange rate were used as external determinants. It was recommended that the fiscal policy of the country be managed to be more in tune with specific needs of the banking sector.

Fani, Khan, Kumar and Kumar (2018) in their study looked at the impact of banks' internal (CAMEL factors) and external factors (inflation, GDP, and stock market performance) on banks' performance targeting all PSX listed commercial banks. To achieve its objective, the study used a scope of 2012 to 2016 and employed the Feasible Generalized Least Squares (FGLS) panel data model. It was determined that capital adequacy, asset quality, liquidity, and inflation have strong but indirect correlation with banks' performance while management efficiency, earning quality, GDP, and stock market performance have positive correlation though significant impact on bank performance. FGLS also showed that CAMEL factors along with economic indicators statistically affects banks' performance significantly over the studied period. It was recommended that the management of banks to be more concerned about CAMEL factors as an avenue for improving their performances.

Batool and Sahi (2019) in comparing the insurance sectors of two countries therefore, collected 24 insurance companies' Quarterly data from 2007-16 using panel data techniques. Explanatory variables were based on internal factors (Size of firm, liquidity, leverage and asset turnover) and external factors (GDP, CPI, interest rate and WTI). As for dependent variables: ROA and ROE (profitability indicators) were used. This study concluded that in the USA, size of firm, liquidity, leverage, asset turnover, GDP and WTI have positive while CPI and interest rate have negative significant impact. In UK, size of firm, liquidity, GDP, CPI and WTI have positive but leverage, asset turnover and interest rate have negative significant impact. The implication is that the US insurance sector is more efficient as compared to their counterparts in the UK. The researchers recommended that future research that will be based on their work, expand their variables and number of companies in their individual studies.

Deyganto and Alemu (2019) investigated the factors affecting financial performance of insurance companies operating in Hawassa city Administration, Ethiopia. The researchers employed causal research design with mixed research approach and a sample size of 6 general insurance companies operating in Ethiopia from 2008 to 2018. Ordinary least square model was used to show that out of eight (8) explanatory variables incorporated in the model, five (5) variables such as underwriting, premium growth, solvency ratio, growth rate of GDP, and inflation rate have significant effect on financial performance of the insurance companies operating in Hawassa city Administration. Whereas, the reinsurance dependence, company size and interest rate have no significant effect on financial performance of the insurance companies in Hawassa city Administration. The researchers recommended that future research that will be based on their work should increase the scope and establish the effect of regulation on non-financial performance.

Shafarin and Aisyah (2019) employed SPSS to establish the performance of Telekom Malaysia Berhad, using firm-specific and macroeconomics factors. The data collected spanned a five year period of 2014 to 2018 and the study used liquidity risk, credit risk, operational risk, market risk, gross domestic products (GDP), inflation, interest rate, exchange rate, BETA, and corporate governance index. The researchers were able to determine that operational risk is the most significant to ROA since it gives the highest impact on the performance of the company. Nonetheless, the other variables gave low impact on the ROA and there was no significance related with these. The researchers' recommendations stressed on how companies can improve on collection periods and introduce a cost efficient culture among its workforce.

Moyo and Tursoy (2020) were able to determine that there is a significant negative relationship between inflation and return on equity and a weak relationship between exchange rate and the return on equity. The independent variable was the return on equity while inflation and exchange rate were used as independent variable proxies. The hypotheses were tested and analysed by the use of information from the four largest commercial banks in South Africa for the period 2003-2019 while employing the ARDL, FMOLS and DOLS models. The researchers recommended that the scope be extended and more research be conducted in the field regarding the effect of exchange rate and inflation on other financial performance proxies.

2.2.4 Gap in literature

Most of the empirical studies like Xu and Banchuenvijit (2014); Samedi (2012); Moyo and Tursoy (2020) examined either firm specific factors or macroeconomic factors. There seemed to be limited literature on both firm specific and macro-economic factors. Again, a significant amount of the studies Deyganto and Alemu (2019); Shafarin and Aisyah (2019); Batool and Sahi (2019) concentrated their studies on foreign countries. Another gap in literature is the absence of research on the oil and gas sector, an industry which was pertinent and well affected during the covid-19 pandemic shut-down era. The aforementioned gaps in choice of variables, industry and scope in terms of geographical factors, gave birth to the choice of this study.

2.3 Theoretical Frameworks

Various theories explain firm specific and macro-economic factors with regards to how they relate with profitability and two of those factors are the risk bearing theory of profit and the uncertainty bearing theory of profit.

2.3.1 The Risk Bearing Theory of Profit

This is one of the theories underpinning this study as it stresses how imperative it is that companies understand that profit is the reward for taking risks and that profits will differ between industries (Hawley, 1907). Businesses according to Hawley, will entertain various kinds of risks and other emergency expenses and no establishment will take on risk without an expectation of profit. An assumption of this theory is that if a business owner avoids risk by insuring against it, he ceases to be entrepreneurial and this is a weakness because risk taking is not the only function that can lead to the attainment of profits.

2.3.2 Uncertainty Bearing Theory of Profit

In 1921, Prof. F. H. Knight propounded a theory, which stated that profits are the reward for bearing uncertainty rather than risk taking. Risks were split up into insurable and uninsurable risks and it was made clear that insurable risks were risks like those relating to failed internal processes, theft and accidents to assets, whose statistical probabilities can be computed (Knight, 1921). However, non-insurable risks, also known as uncertainties were tied to technological changes and government policies that can affect variables like the prevailing exchange rates and inflation. The weakness of this theory however, is that it is often difficult to measure uncertainty quantitatively.

3.1 Methodology

The research design employed in this study is the ex-post facto research design and the population of the study comprises of the 11 oil and gas companies listed on the Nigerian Stock Exchange as at the end of the 2018 financial year. The period of 2014 to 2018 was chosen for the study because the 2018 financial year signaled the pre covid-19 shut down era, of which data gotten during this pandemic led depression, could have distorted the results of the analyses.

Data were sourced from financial statements of sampled 8 firms out of the population of eleven, after three companies were dropped due to incomplete information during the time period.

Table 3.1: Operationalization of Variables

Variables	Acronym	Variable Definition	Justification
Return on Asset	ROA	Net income ÷ Total assets	Egbunike & Okerekeoti (2018
Liquidity Risk	LIQ	Total current assets ÷ Total current liabilities	Shafarin & Aisyah (2019)
Operating Risk	OR	Net operating expenses ÷ Sales revenue	Shafarin&Aisyah (2019)
Inflation Risk	IFR	Consumer price index (Annual %)	Fani, Khan, Kumar & Kumar
Exchange Rate Risk	EXR	official exchange rate during a year	Egbunike&Okerekeoti (2018)

Source: Researchers' compilation, 2019

3.2 Model Specification

The panel regression model is used by this study and it involves aggregating observations cross-sectionally through several periods, thereby giving results that may be difficult to detect in pure time-series studies. The general form of the panel data econometric model, as adapted from Edogbanya, Idrisu and Elaigwu (2020) is represented as follows:

$$ROA_{it} = \alpha + \beta_1 LIQ_{it} + \beta_2 OR_{it} + \beta_3 IFR_{it} + \beta_4 EXR_{it} + \varepsilon_{it}$$

From the model above, the subscript $_i$ stands for individual companies while $_t$ represents the period from 2014-2018 and the symbol α is used to mean the intercept. ROA is the dependent variable which stands in for profitability, LIQ stands for liquidity risk; OR represents operating risk; IFR represents inflation risk while EXR stands for exchange rate risk. ε represents the error term and β_1 to β_4 represent the coefficients of the models.

4.1 Analysis

Table 4.1: Descriptive Statistics of the Variables

Variable	Obs	Mean	Std. Dev.	Min.	Max
ROA	40	-.0102349	.1653312	-.7349427	.1321575
LIQ	40	.9445163	.4347513	.1139068	1.851547
OR	40	.4799713	1.315885	.0129052	6.945823
IFR	40	12.56998	3.927091	7.978297	18.55
EXR	40	243.4389	60.14401	158.5526	306.0802

Source: Researchers' compilation, 2019

From Table 4.1, the result of the descriptive statistics of ROA and liquidity risk, operating risk, inflation risk and exchange rate risk are presented. The results show that ROA of the sampled oil and gas companies during the period range from the ratio of -0.73 to 0.13 maximum with a mean of -0.01 and a standard deviation of 0.17. This is an indication that quoted companies in the oil and gas sector achieved on average a ROA of -1.02% and this value can deviate from both sides at a rate of 17%. This also shows that for each value of the investment on the asset of oil and gas companies, there was a 1.02 percent returns on investment. The liquidity risk varies between the ratio of 0.11 and 1.85 within the period with an average value of 0.94, showing that for each value of current liability, there was 94% current assets to meet the oil and gas companies' obligations. Also, the standard deviation shows that the value of liquidity can deviate from its mean to both sides by 43%. Operating risk also varies between the ratio of 0.01 and 6.95 with an average value of 0.48, indicating that for each value of sales revenue, there was 48% more net operating expenses. As for the inflation and exchange rate risks, from the table above, it can be seen that their mean values lie within the range of their minimum and maximum values, which is an indication that the series represented by these two variables is evenly spread.

Table 4.2 Test for Multicollinearity

Pearson Correlation Statistics and Analysis

Variable	ROA	LIQ	OR	IFR	EXR

ROA	1.0000				
LIQ	0.5679	1.0000			
OR	-0.9332	-0.4561	1.0000		
IFR	-0.1049	0.0032	0.2204	1.0000	
EXR	-0.0284	0.0008	0.1302	0.6103	1.0000

Source: Researchers' compilation, 2019

The correlation matrix table shown above shows that ROA is positively correlated with liquidity risk, to the sum of 56%. This indicates that there is a direct relationship between the two variables. ROA is negatively correlated with operational risk by 93%. This shows that ROA has an inverse correlation with operational risk. In other words, it indicates that when operational risk increases, ROA decreases. Inflation risk and exchange rate risk each have negative correlations with ROA to the magnitude of 10.5% and 2.8% respectively.

Liquidity and operational risks have strong relationships with ROA, at 0.57 and -0.93 respectively, while inflation and exchange rate risks have small relationships with ROA at -0.11 and -0.028 respectively. However, given the correlational value of -0.93 between ROA and operational risk, there is a confirmation of the existence of multicolinearity, calling for more investigation using the variance inflation factor (VIF).

Consequently, the VIF indicates that there is no cause for concern as the VIFs for all the independent variables are consistently below 10.

Table 4.3: Variance Inflation Factor

Variable	**VIF**	**1/VIF**
IFR	1.66	0.601398
EXR	1.59	0.627449
OR	1.35	0.742721
LIQ	1.28	0.780642
Mean VIF	**1.47**	

Source: Researchers' compilation, 2019

In order to test that the variance of the residuals is constant, the Breusch-Pagan test is employed. The outcome of these tests suggests that we accept the null hypothesis that the residuals have the same variance and are therefore homoscedastic.

Table 4.4: Breusch-Pagan/ Cook-Weisberg Test for Heteroskedasticity

Ho:	Constant variance
Variables:	Fitted values of roa
Chi2(1)	= 0.01
Prob > chi2	= 0.9041

Source: Researchers' compilation, 2019

It is important to note that the aforementioned correlations are limited in their inferential abilities, as robust causality between the variables cannot be determined through this method only. Therefore, the GLS Random Effects are used to regress the variables after the application of the Hausman test which found this tool most appropriate.

Table 4.5: GLS Random Effects Regression

ROA	**Coef.**	**Std. Err.**	**z**	**P > |z|**	**[95% Conf.**	**Interval]**
LIQ	.0403005	.0231092	1.74	0.081	-.0049927	.0855937
OR	-.100673	.0072789	-13.83	0.000	-.1149393	-.0864066
IFR	.0016844	.0021151	0.80	0.426	-.0024612	.00583
EXR	.0001413	.0001333	1.06	0.289	-.0001201	.0004026
_Cons	-.0555392	.0368995	-1.51	0.132	-.1278608	.0167824

R-squared: Within = 0.8663 Wald chi2(10) = 244.08
Between = 0.9427 Overall = 0.9031
Observations = 40 Prob > chi2 = 0.0000

Source: Researchers' compilation, 2019

From the regression table above, liquidity risk increases ROA, albeit insignificantly; a 1% increase in liquidity will lead to a 4% increase in ROA. For Operational risk however, it has a significant negative effect on ROA; again, a 1% increase in OR lead to a 10% reduction in ROA. The two macro-economic factors- inflation risk and exchange rate risk have almost identical effects on ROA. They are both positive and insignificant at 0.17% and 0.014% respectively. The R-square of the regression model fits the above observed data to the sum of 87%.

4.2 Test of Hypotheses

Ho$_1$. There is no significant effect of liquidity risk on ROA of oil and gas companies in Nigeria.

The GLS regression shows that liquidity risk has a positive and non-significant effect on ROA (z: 1.74; P > |z|:0.081). The study therefore accepts the null hypothesis that liquidity risk has no significant effect on the ROA of oil and gas companies in Nigeria.

Ho$_2$. Operational risk has no significant effect on ROA of oil and gas companies in Nigeria.

The GLS regression shows that operating risk has a negative and significant effect on ROA (z: -13.83; P > |z|:0.000). The study therefore rejects the null hypothesis that liquidity risk has no significant effect on the ROA of oil and gas companies in Nigeria, and accepts the alternative hypothesis.

Ho$_3$. Inflation risk has no significant effect on ROA of oil and gas companies in Nigeria.

The GLS regression shows that inflation rate risk has a positive and non-significant effect on ROA (z: 0.80; P > |z|:0.426). The study therefore accepts the null hypothesis that inflation rate risk has no significant effect on the ROA of oil and gas companies in Nigeria.

Ho$_4$. Exchange rate risk has no significant effect on ROA of oil and gas companies in Nigeria.

The GLS regression shows that exchange rate risk has a positive and non-significant effect on ROA (z: 1.06; P > |z|: 0.289). The study therefore accepts the null hypothesis that exchange rate risk has no significant effect on the ROA of oil and gas companies in Nigeria.

4.3 Discussion of Findings

The study explored the interrelatedness and how significant firm specific and macroeconomic factors affect financial performance. Results for firm specific factors are mixed in this study; liquidity risk has a positive and insignificant effect on the ROA, while operational risk has a negative and significant effect on ROA. The policy implications of this is thata 1% increase in liquidity will lead to a 4% increase in ROA. The results on liquidity risk are in line with the studies of Dioha, et al, (2018) and Xu and Banchuenvijit (2014). However, using the same proxy for profitability, liquidity appeared to significantly affect profitability in other studies (Egbunike&Okerekeoti, 2018; Sarwar et al, 2018). The sector reviewed by the aforementioned authors are consumer goods and commercial banks respectively. This divergence needs to be investigated further as now, it presents a question of why liquidity would affect profitability significantly in one sector and insignificantly in another sector.

Operational risk in the study was found to significantly and negatively affect ROA and the policy implication of this is thata 1% increase in OR lead to a 10% reduction in ROA. This is consistent with the works of Samadi (2012) and Shafarin & Aisyah (2019). This effect is further explained by Planche, Jacobs & Vassallo (2016), who stated that currently, companies in the oil and gas sector are not sufficiently cutting necessary costs and when this is mixed with the volatility in oil prices, will present frequent occurrences of other factors that drive profitability downwards.

Results for macroeconomic factors were relatively consistent; Inflation rate risk and exchange rate risk had positive but non-significant effect on financial performance. The policy implications on these are that a 1% increase in IR and ER leads to an increase of ROA by 0.17% and 0.014% respectively. This is in line with the studies of Rostami & Mosavi (2016) and Shafarin & Aisyah (2019), however, Moyo & Tursoy (2020) established that there is a significant relationship between Inflation and profitability. These mixed results could be attributed to differences in the proxies used for profitability, for example, Moyo and Tursoy used the ROE (return on equity) to proxy profitability. Other divergent results could be attributed to differences in methodology (Nnado & Ugwu); or scope, in relation to sample size, sector and geographical location (Sarwar et al, 2018).

5.1 Conclusion and Recommendations

The study found that liquidity, inflation and exchange rate risks have positive and insignificant effects on profitability of selected quoted oil and gas companies in Nigeria. More importantly, it was established that operational risk has a negative and significant effect on profitability of selected quoted oil and gas companies in Nigeria.

The fact that many companies are currently operating in the middle of a pandemic driven oil price volatility should encourage these companies to take urgent steps to avert the future negative effects of operating risk on profitability. It might be negatively consequential if there is any delay to actions that need to be taken.

Based on the findings and conclusion of this study, the following recommendations are made:

i. Management of oil and gas companies need to work with operation consultants and risk analysts in other to establish and target cultural weaknesses that hide risks which will threaten profitability;
ii. Stakeholders in the oil and gas industry should begin to divert resources to research and develop alternative, renewable energy initiatives that will reduce vulnerability to oil price fluctuations; and
iii. Resources should be devoted to train staff on what operational risk indicators they should be aware of. This is especially vital when a new business process is being considered.

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APPENDIX

SN	COMPANY	YEAR	ROA	LIQ	OR	IFR	EXR
1	JAPAUL OIL & MARITIME SERVICES PLC	2014	-0.0682	0.8905593	-7071217	7.978297	158.5526
2	JAPAUL OIL & MARITIME SERVICES PLC	2015	-0.23715	0.5578055	-1785729	9.55	193.2792
3	JAPAUL OIL & MARITIME SERVICES PLC	2016	-0.73494	0.3119499	18306023	18.55	253.4923
4	JAPAUL OIL & MARITIME SERVICES PLC	2017	-0.47171	0.2451145	6517073	15.371613	305.7901
5	JAPAUL OIL & MARITIME SERVICES PLC	2018	-0.2743	0.1898604	1561008	11.4	306.0802
6	MOBIL OIL NIGERIA PLC	2014	0.129865	0.7502637	-72241655	7.978297	158.5526
7	MOBIL OIL NIGERIA PLC	2015	0.090119	1.0724667	-55538259	9.55	193.2792
8	MOBIL OIL NIGERIA PLC	2016	0.132157	1.1863253	-83832376	18.55	253.4923
9	MOBIL OIL NIGERIA PLC	2017	0.100452	1.3441345	-115631791	15.371613	305.7901
10	MOBIL OIL NIGERIA PLC	2018	0.132024	1.7686287	-100419180	11.4	306.0802
11	MRS Oil Nigeria PLC	2014	0.012903	1.1616542	-87798725	7.978297	158.5526
12	MRS Oil Nigeria PLC	2015	0.013987	1.1697805	-82287281	9.55	193.2792
13	MRS Oil Nigeria PLC	2016	0.018016	1.1467772	-102881999	18.55	253.4923
14	MRS Oil Nigeria PLC	2017	0.022271	1.1955417	-99343911	15.371613	305.7901
15	MRS Oil Nigeria PLC	2018	-0.0233	0.1139068	-83287134	11.4	306.0802
16	CONOIL (NATIONAL OIL) PLC	2014	0.009636	1.1629577	-117468528	7.978297	158.5526
17	CONOIL (NATIONAL OIL) PLC	2015	0.033256	1.2618732	-74099900	9.55	193.2792
18	CONOIL (NATIONAL OIL) PLC	2016	0.040638	1.2716469	-74492971	18.55	253.4923
19	CONOIL (NATIONAL OIL) PLC	2017	0.025113	1.3025725	-102322737	15.371613	305.7901
20	CONOIL (NATIONAL OIL) PLC	2018	0.029493	1.318593	-119017902	11.4	306.0802
21	ETERNAL OIL & GAS CO. PLC	2014	0.069455	1.3807737	-80465153	7.978297	158.5526
22	ETERNAL OIL & GAS CO. PLC	2015	0.044742	1.2612151	-90801434	9.55	193.2792
23	ETERNAL OIL & GAS CO. PLC	2016	0.046625	1.3689685	-104753149	18.55	253.4923
24	ETERNAL OIL & GAS CO. PLC	2017	0.041667	1.1807517	-169929522	15.371613	305.7901
25	ETERNAL OIL & GAS CO. PLC	2018	0.018989	1.0760266	-248627386	11.4	306.0802
26	FORTE OIL PLC	2014	0.032007	1.0035455	-159799788	7.978297	158.5526
27	FORTE OIL PLC	2015	0.047587	0.9568681	-114944060	9.55	193.2792
28	FORTE OIL PLC	2016	0.020535	0.9978994	13308909	18.55	253.4923
29	FORTE OIL PLC	2017	0.083039	1.1102819	-117527489	15.371613	305.7901
30	FORTE OIL PLC	2018	0.058955	1.8515467	-124474500	11.4	306.0802
31	OANDO PLC	2014	-0.20677	0.3782994	-147043949	7.978297	158.5526
32	OANDO PLC	2015	-0.03297	0.2947867	-87365306	9.55	193.2792
33	OANDO PLC	2016	0.003524	0.3478084	-346493788	18.55	253.4923
34	OANDO PLC	2017	0.019009	0.2673077	-419528717	15.371613	305.7901
35	OANDO PLC	2018	0.026786	0.2900529	-616186538	11.4	306.0802
36	TOTAL NIGERIA PLC	2014	0.046316	0.894784	-220551016	7.978297	158.5526
37	TOTAL NIGERIA PLC	2015	0.048379	0.877661	-188937257	9.55	193.2792
38	TOTAL NIGERIA PLC	2016	0.108065	0.9439307	-270389207	18.55	253.4923
39	TOTAL NIGERIA PLC	2017	0.074265	0.9389901	-267099839	15.371613	305.7901
40	TOTAL NIGERIA PLC	2018	0.060073	0.9367431	-283572463	11.4	306.0802

INTELLECTUAL CAPITAL AND FIRMS' PERFORMANCE MEASURES OFLISTED NON-FINANCIAL COMPANIES IN NIGERIA

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Abstract

The prolonged neglect of intellectual capital by management of firms has become a major challenge due to the paradigm shift towards knowledge economy where performance and competitive edge of firms are no longer a matter of machines and tools but of brains and harnessing those brains. It is in view of this that this study investigated the effect of intellectual capital on performance measures of listed non-financial companies in Nigeria between year 2007 and 2017. The study adopted ex-post facto research design and data were obtained from secondary sources through the audited annual reports of sampled firms and the fact books of Nigerian Stock Exchange. Data such as human capital efficiency, structural capital efficiency and capital employed efficiency were proxies for intellectual capital while return on equity and return on assets was proxies for financial performance. Sample sizes of fifty (50) out of a population of eighty (80) listed non-financial firms on Nigerian Stock Exchange as at December 2018 were purposively selected for the study. Data collected were analyzed using descriptive statistics and regression. The results of the study revealed that human capital efficiency, capital employed efficiency, firm size had significant positive effect on return on equity while human capital efficiency, structural capital efficiency, capital employed efficiency and leverage had a significant effect on return on assets. The study concluded that intellectual capital has positive significant effect on financial performance measures. The study recommended a policy framework for the management to increase intellectual capital utilization through investment in human and customer capital to enhance their financial performance and maintain competitive edge.

Keywords: Human capital, intellectual capital, performance, Non-financial firm.
Jel Classification: E22, L25, J41

I. **Introduction**

Modern organizations acquire and efficiently allocate resources in such a way that maximizes returns on investment and creates values for its owners. These resources according to the classicalists include; land, labour and capital. According to Trequattrini (2008), the resources which come in form of assets and finance invested in a firm greatly determine the amount of profit to be made by the business. However, in recent times, the use of information technology, innovation and knowledge termed intellectual capital (IC) have been taken into consideration to impact the productivity and performance of the firms meaning that the resources needed are not limited to tangible resources alone. The emerging economy places great value on the roles of information technology, innovation, structure and knowledge as a sustainable resource to acquire and maintain a competitive edge (Ramezan, 2011). Organizations now make highly intensive investment in their employees' development rather than directing their investments, attention and energy purely on tangible assets such as plants, equipment and machinery. This direct investment in employees' development is referred to as intellectual capital. The Organization for Economic Co-operation and Development (OECD, 2008) defines intellectual capital as the economic value of structural capital and human capital, distinguishing it as a subset of intangible assets. Intellectual capital is the knowledge used to transform information into a more valuable asset in order to yield an economic return using the talents of staff, the value of proprietary knowledge and processes, and the value of relationship with customers and suppliers (Stewart, 1998). Intellectual capital is viewed as assets relating to employee knowledge and expertise, customer confidence in the company and the efficiency of company business processes.

The efficiency of intellectual assets relies greatly on practices of the management. This is because apart from the oversight function being performed by the board of directors, they are holistically involved in the optimal utilization of all the available resources (physical, financial and intellectual assets) in creating value and sustaininga competitive edge. According to Horibe (2015), performance and competitive advantage are no longer primarily a matter of machines and tools but harnessing intelligence of brains. For this innate intelligence to be fully captured and use in creating wealth for the company, there is need for a workable system and conducive environment for the components of intellectual capital to thrive. Only when management of firms could provide a platform and system that will allow intellectual capital variables interaction that they will be able to generates and creates value for companies. This value generation is of utmost importance especially to the profit-maximizing companies, who seek better performance in the level of profitability, liquidity, efficiency, returnsand leverage.

However, the limitation associated with the estimation of the value of intellectual capital in years past has been a hurricane challenge because financial statements been prepared justify the discrepancy between market value and the book value of a company and therefore do not reflect an organization's value as a whole (Petty & Guthries, 2000 & Holmen, 2011).This challenge that is yet to be overcome has denied the management itself and other stakeholders with interest in the company relevant and timely information that will enable her take vital decision in regards to their human resource, structural and relational capital (Ewereoke, 2018; Yusuf, 2013). The failure of Nigerian firms to properly harness intellectual asset as a key determinants of growth and manage it efficiently has made many of our unskilled labour with intellectual capacity move to other countries of the world with better intellectual capital advantage (Ewereoke, 2019). And this in turn have adverse effect on the performance of firms domiciled in the country.

It is a known fact that an organization's reputation can be enhanced by employing knowledgeable and innovative people of which form the human capital of the firm (Chen, Cheng & Hwang, 2005). In some developed countries like Spain and Norway, gender quota in the employment process of firms have been legislated to achieve a certain level of female representation on the board but in developing countries of Africa, Nigeria inclusive, there is bias in gender quota of staff been employed by most companies with the thought that there are limitations to the contribution of the female gender. This notion has greatly impaired the overall performance of some firms because the needed human capital; structural and relational capital was not acquired nor efficiently managed. This is because the trend of gender diversity could in a way hinder the firm in relating with its network of suppliers or relationship with its customers due to the perceptions and views these stakeholder may hold about the company (Brannstrom & Giuliani, 2009).It will also severe their research and development network and goodwill which are crucial to their existence and overall performancewhich most firmssees as a mere bookkeeping device rather than an economic substance (Nnado & Ozouli, 2016).

Many studies have been conducted on the effect of intellectual capital on the firm's financial performance measures both in developed and developing economies. Such studies include Khairu, Ismail & Mohamed (2009); Murale and Fali (2010); Mehralian, Rajabzadeh, Sadeh and Rasekh (2012); Karchagani (2015) in Iran; Huihui and Jitian (2010) in China; Nixon, Augustine and Joseph (2010) in Uganda; Uwuigbe and Uadiale (2011); Ekwe (2012); Salman, Mansor and Babatunde (2012); Onyekwelu, Okoh and Iyidiobi (2017); Kurfi, Udin and Bahamman (2017); Okenwa, Ndubuisi and Chidoziem (2017) in Nigeria; Zehri, Abdelbaki and Bouabdellah (2012) in Tunisia; Basuki (2012); Nuryaman (2015); Gondomono and Hussein (2017); Komnenic and Pokrajcic(2012) in Serbia; Sumedrea (2013) in Roman; Tsai, Yu and Wen (2013) in Taiwan; Berzkalne and Zelgalve (2013) in Baltic; Al-Shubiri (2013) in Jordan; Kariuki (2014) in Kenya; Hasim, Osman and Alhabshi (2015) in Malaysia; Andreeva and Garanina (2017) in Russia; Ozkan, Cakan and Kayacan (2017); Nassar (2018) in Turkey; Araniyar and Chizea (2017) in South Africa; Habib (2018) in Mashhad; Filipe *et al.* (2018) in Portugal etc. However, these studies carried out so far especially in Nigeria fail to adequately explore the interaction among the concerned variables.

It was equally observed from reviews that the focus of many studies that examined the relationship between intellectual capital and performance is majorly the financial sector while the service sector suffers neglect. So, considering non-financial firms in this context plays a critical role in setting the economy in its developmental processes. This is because non-financial firms support largely economic growth. It is then a moderate attempt by the study to fill this gap in literature empirically by investigating the effect of intellectual capital as proxy by Human Capital Efficiency (HCE), Structural Capital Efficiency (SCE) and Capital Employed Efficiency on Returns on Equity (ROE), Returns on Assets (ROA) as financial performance measures in the quoted non-financial companies in Nigeria. The remainder of this paper is organized into four different sections as follows: Section two discusses the literature review; section three explains the methodology and section four deals with findings and discussion of results. The study is concluded in section five.

2.0 Literature Review

2.1 Intellectual capital and firms' performance

Intellectual capital refers to all resources that determine the value of competitiveness of an organization (Apiti, Ugwoke & Chiekezie, 2017). It is the knowledge-based assets which the organization focuses on to increase its efficiency and sustenance of good financial performance. Intellectual capital is the most significant organizational asset in the digital economy and an organization's success will be based on the strategic management of knowledge rather than the strategic allocation of physical and financial resources (Bontis, 1998). Intellectual capital is part of strategic management and used for value creation of an organization to sustain and retain its loyal customers, employees and investors. In literatures, it is further categorized into human, structural and customer capital. Human capital is the mixture of innate legacy, education, experience and attitude about life and business; structural capital in the form of managerial procedures is the serious connection which allow intellectual capital to be dignified organization level while customer or relational capital is the combination of assets used by business in relating with its past, present and potential customers, with its network of suppliers or research and development partners, in addition to the perceptions and views that they hold about the company (Brannstrom& Giuliani, 2009). Customer capital mainly represents the potential that the company has for intangible items outside of the organizations

Firms' performance is the capability of organizations to meet its stakeholder's needs and its own needs of survival and growth (Abualoush, Masa'deh, Bataineh, & Alrowwad, 2018). According to Apiti, Ugwoke and Chiekezie (2017), organizational performance is an outcome of firm economic activities which can emanate from three definite areas which are; product market performance; shareholder returns and lastly is the financial performance. In this study, the focus is on financial performance which is the profit generating ability of a firm over a given period of time. An important measure of firm performance is profitability. It is an indication of the efficiency with which the operations of the business are carried out which can be measured in various ways such as Return on Investment (ROI), Return on Assets (ROA), Profit after tax (PAT) and Return on Equity (ROE). Financial performance of firms is ultimately important to investors, stakeholders and the economy at large. Investors cherish their returns on investment and well-performing firms enjoy stakeholders' loyalty (Selvam, Gayathri &Vansanth, 2016). Return on assets is a financial measure that signifies the management efficiency in using the existing resources in order to increase the profitability level of the firm. It is also described as the earning power that provides denote how profitable the firm has been in the use of its assets effectively and efficiently (Apiti, Ugwoke & Chiekezie, 2017).

Organizations that contain knowledgeable human capital are likely to outperform those with low levels of knowledge based human capital. In the research work of Kharal *et.al.*,(2014), considering the effect of IC on the performance of 12 oil and gas companies in Pakistan from the year 2005 to 2013, the positive relationship between various forms of intellectual capital efficiency and firm performance measures was documented. More so, Kariuki (2014) examined the association among corporate reputation, IC, culture, and performance of 50 Nairobi Stock Exchange in Kenya for the years of 2009 to 2012 using a cross-sectional survey design. Findings showed a strong connection between IC and performance while corporate reputation impacted on the association between IC and performance and culture has no moderating effect. Also, Al-

Shubiri (2013) found a strong positive association between IC and productivity of companies and profitability respectively.

2.2 Theoretical Review

The Knowledge-Based theory underpins this study. The Knowledge-Based theory was propounded by Stalk in 1992. The theory assumes that the competitive ability of any firm is based on capabilities and competencies which are driven by knowledge. According to Marr and Schiuma (2004), organizational capabilities are based on knowledge and since knowledge is a resource that forms the foundation of company capabilities, the ownership of specific knowledge provides organization with specific capabilities. They noted that the possession of knowledge enables specific capabilities and hence, only the management of the knowledge will help an organization identify, maintain and refresh its competencies in the short and long run (Surdarsanam *et. al.,* 2013). This study can therefore be related to this theory as the knowledge acquired by firms are the intellectual capital and the firms can enhance their performance based on the knowledge by harnessing its Human Capital Efficiency (HCE), Structural Capital Efficiency (SCE) and Capital Employed Efficiency (CCE). The hypothesis of the study is formulated on the assumption of the theory that;

HO_1: *Intellectual capital does not have a significant effect on the financial performance of non-financial firms quoted on the Nigerian Stock Exchange*

2.3 Empirical Review

Duho and Agomor (2021) assess the nexus between intellectual capital and the performance of listed non-financial firms in West Africawhile controlling for some firm-specific and country-specific factors. The study used the Value Added Intellectual Coefficient (VAIC™) to measure intellectual capital performance while return on asset measures profitability. Panel-corrected standard error regression was used analyzing the data gathered spanning through 2007 to 2018. The findings indicate that structural capital efficiency is a major driver of profitability while human capital efficiency and capital employed efficiency is found not to have a significant impact on profitability among non-financial firms. It was submitted that intellectual capital has an inverted U-shaped nexus with performance. In the study of Muhammad, et al., (2020), VAICTM calculation technique is applied to investigate the significance of the IC on financial performance and investment decisions of non-financial sector of Pakistan. 396 companies of non-financial sector in Pakistan form the study population. The outcomes of the study express that the intellectual capital has meaningful association with financial performance and investment decisions.

Nnubia, Okolo and Emeka-Nwokeji(2019) investigate the effect of intellectual capital on performance of non-financial firms in Nigeria. A sample of 21 Nigerian non-financial firms listed on Nigerian Stock Exchange for a period of 10 years (from 2007-2016) Data collected were analysed using Ordinary Least Square Method. The results showed that for the Nigerian listed non-financial firms, the explanatory variables – capital employed efficiency, human capital efficiency and structural capital efficiency has positive and significant effect on measurement of performance. Elfiswandi *et al.* (2019) explored the influence of IC on the financial performance of 25 listed banking companies in Indonesia from the year 2008 to 2013 using an explanatory method (verification survey) and descriptive survey) while the data analysis method used is data panel regression. Findings showed SCE, HCE and CEE positively influenced performance while CEE slightly influenced Net Interest Margin. Contribution to the world of banking needs to observe the decisions of capital employed efficiency in improving human resources in upgrading bank performance.

In the same vein Josua *et al*. (2018) investigated the influence of intellectual capital on Indonesian manufacturing firms' financial performance with an emphasis on profitability, market value, and productivity based on the VAIC approach. Ten regression models was used in assessing all the relationships of the variables employed and it was found out that VAIC had a strong relationship with the performance of the firm but have a negative influence on the value of the sampled companies. Nassar (2018) examined the effect of IC on the performance of 27 quoted real estate companies in Turkey from the year 2004 to 2015 using VAIC techniques component of HCE, SCE, CEE as control of IC. The finding showed SCE played a crucial impact on value creation in real estate firms and possess a strong relationship with performance indicators before the crises and after the crises. The study concluded that Turkish businesses still have little value in intellectual capital. Also, Habib (2018) looked at the influence of IC on companies' performance in exporting companies in the Development Centre of Science and Technology Park of Mashhad. The study population was 460 managers of exporting sampled companies, out of which the study sample has been randomly selected among the top-level and middle-level managers of these companies. The study employed Smart PLS as a research technique. Findings showed no connection between structural capital and firm performance. Furthermore, innovation capacity positively influences the performance of companies.

The effect of IC on the output of quoted Nigerian consumers' industry companies from 2010 to 2014 was examined by Kurfi, Udin and Bahamman (2017) using Pulic VAIC techniques. The study employed regression analysis techniques to assess the hypotheses and the result showed a positive significant influence of IC on performance while both SCE and CEE influenced the performance of Consumer sector firms in Nigeria. Okenwa, Ndubuisi, and Chidoziem (2017) investigated the effect of IC on the financial performance of 15 quoted Nigerian banks from the year 2010 to 2015 using survey research design and VAIC techniques. The study employed multiple regression analysis techniques and findings showed a significant positive association between IC and financial performance of Nigerian banks. Irawanto, Gondomono, and Hussein (2017) studied the impacts of IC on profitability moderated by CG and IT techniques integration of 33 Indonesian Banking Companies from 2013 to 2014. Regression analysis techniques were employed. Findings revealed that HCE has a great impact on the profitability while IT techniques integration expressly proved to deteriorate the influence of VAIC on banking performance.

Nuryaman (2015) studied the impact of IC on the value of firms with 93 manufacturing companies in Indonesia during the year 2012 using VAIC methodology. Findings showed that IC positively impacted the value of the firm. Furthermore, Hasim, Osman, and Alhabshi (2015) investigated the connection between IC and organization performance of Malaysian firms from the years 2008 to 2014. A well-structured questionnaire was made to elicit facts from the respondents with non-probability convenience sampling. Multiple analysis techniques were employed for the study and findings showed IC has a landslide influence on the organization performance of Malaysian companies. But, Karchagani (2015) looked at the influence of IC and innovation on the performance of 294 Iranian Agricultural Insurance sectors during 2013 using correlation, multivariate regression analysis technique, and Structural Equation Model. Findings revealed IC and its components are mutually associated with both innovation and performance.

3.0 Methodology

The study adopted *ex-post facto* research design and data were obtained from secondary sources through the audited annual reports of sampled firms and the fact books of Nigerian Stock Exchange. Data such as human capital efficiency, structural capital efficiency and capital employed efficiency were proxies for intellectual capital while return on equity and return on assets was proxies for financial performance. Sample sizes of fifty (50) out of a population of eighty (80) listed non-financial firms on Nigerian Stock Exchange as at December 2018 were purposively selected for the study. Data collected were analyzed using descriptive statistics and panel regression analysis.

3.1 Model Specification

This study employed baseline model adapted from Ahangar (2011) and Kurfi*et al.* (2017) which was in line with the Knowledge-based Theory. The baseline model functional relationship betweenfinancial performancemeasures and intellectual capitalwas given in the model below:

$$P.I = f(IC) \tag{1}$$

Where $P.I$ represents performance indicator variables, IC represents Intellectual Capital. For the study, the performance indicator variable is Return on Asset (ROA) and Return on Equity (ROE) while VAIC represents intellectual capital vector. The intellectual capital is proxied by vector Value Added Intellectual Coefficient.

The performance indicator of ROA and ROE resulted into equation 2

$$ROA_{it} = \overrightarrow{\mathrm{f}\,(VAIC^{TM}\,)} \tag{2}$$

$$ROE_{it} = \overrightarrow{\mathrm{f}\,(VAIC^{TM}\,)} \tag{3}$$

The vector is decomposed into Human Capital Efficiency (HCE), Structural Capital Efficiency (SCE) and Capital Employed Efficiency (CEE).

The model is given as:

$$ROA_{it} = \beta_0 + \beta_1 HCE_{it} + \beta_2 SCE_{it} + \beta_3 CEE_{it} + \beta_4 AGE_{it} + \beta_5 LEV_{it} + \beta_6 FIRM\_SIZE_{it} + e_{it} \tag{4}$$

$$ROE_{it} = \beta_0 + \beta_1 HCE_{it} + \beta_2 SCE_{it} + \beta_3 CEE_{it} + \beta_4 AGE_{it} + \beta_5 LEV_{it} + \beta_6 FIRM\_SIZE_{it} + e_{it} \quad (5)$$

Where:
ROA =Return on Asset
ROA =Return on Equity
HCE =Human Capital Efficiency
SCE =Structural Capital Efficiency
CEE =Capital Employed Efficiency
AGE=the numbers of years the companies are in operation
LEV =Leverage is the ratio of total debt to equity
FIRM_SIZE= the natural logarithm of total asset

4.0. Results and Discussion
Descriptive Statistics of the Variables

This section reveals the analysis of the relationship between intellectual capital and financial performance measures of listednon-financial companies in Nigeria. The results of the analysis are shown in Table 1, 2 and 3.

Table 1 presents the descriptive analysis of the data. Return on Assets (ROA) had a mean value of 0.077, a median of 0.046 coupled with a maximum and minimum value of 7.856 and -3.505 respectively. Also, its standard deviation is 0.454 and skewness is 7.8677while the Kurtosis is 165.994. This means that the non-financial firms averagely report positive skewness across the sampled period. In the same vein, the mean and median of Return on Equity (ROE) are0.162and 0.111 respectively with a maximum and minimum value of 9.762 and -4.918. Also, its standard deviation is 0.762 and skewness is 3.771 while the Kurtosis is 72.735. The Capital Employed Efficiency (CEE) mean value is -0.021 while the median is 0.000 with a maximum and minimum value of 10.639 and -11.858 respectively. Also, its standard deviation is 1.137 and skewness is-0.320while the Kurtosis is 43.405.HumanCapital Efficiency (HCE) had a mean value of 0.686, a median of 0.193 coupled with a maximum and minimum value of 40.408 and -45.136 respectively. Also, its standard deviation is 5.601 and skewness is -0.622while the Kurtosis is 32.061. Structural Capital Efficiency (SCE) report mean value of 0.567, a median of 0.921together with a maximum and minimum value of 15.713 and -13.352 respectively. Also, its standard deviation is 1.743 and skewness is 0.061while the Kurtosis is 24.550. The Age of the firm was expected to be dispersed. AGE report means of 47 years and a median of 48 years over the sampled period. LEV reported one of the highest levels of dispersion in the sampled firms with a mean of 2.203 and a median of 1.305. It implied that some firms report extremely high debt to equity ratio.

Table 1: Descriptive Statistics of the variables

Variable	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Observations
ROA	0.077	0.046	7.856	-3.505	0.454	7.867	165.994	550

ROE	0.162	0.111	9.762	-4.918	0.706	3.771	72.735	550
CEE	-0.021	0.000	10.639	-11.858	1.137	-0.320	43.405	550
HCE	0.686	0.193	40.408	-45.136	5.601	-0.622	32.061	550
SCE	0.567	0.921	15.713	-13.352	1.743	0.061	24.550	550
AGE	47.146	48.000	94.000	2.000	20.316	0.100	2.703	550
FIRM_SIZE	16.526	16.539	23.926	7.853	1.961	0.067	4.413	550
LEV	2.203	1.305	71.572	-34.299	6.146	5.472	61.107	550

This table shows the descriptive statistics of the variables used for this study.
Source: Author's Computation (2020)

Correlation

The correlation matrix shows the relationship between the dependent and the independent variables. The result also shows the relationship that exists between the independent variables and further shows symptoms of multi-collinearity if any. The result obtained shows that there exists a relationship between the dependent variable and the independent variables which signifies that the independent variables can influence or affect the dependent variables. Table 2 demonstrates that the regressors are not multi-collinear.

Table 2 Correlation

Correlation Probability	ROA	ROE	CEE	HCE	SCE	AGE	FIRM_SIZE	LEV
ROA	1.0000							

ROE	0.0976*	1.0000						
	(0.0191)	-----						
CEE	0.4638*	0.2695	1.0000					
	(0.0000)	(0.0000)	-----					
HCE	-0.0587	-0.1484*	-0.1121*	1.0000				
	(0.1589)	(0.0004)	(0.0070)	-----				
SCE	0.0284	-0.0153	0.0458	-0.0367	1.0000			
	(0.4963)	(0.7123)	(0.2723)	(0.3792)	-----			
AGE	0.0407	0.0135	-0.0392	0.0314	-0.1115*	1.0000		
	(0.3283)	(0.7454)	(0.3471)	(0.4506)	(0.0074)	-----		
FIRM_SIZE	-0.1501*	0.0620	-0.0853*	0.0021	0.0183	0.0639	1.0000	
	(0.0003)	(0.1370)	(0.0406)	(0.9584)	(0.6597)	(0.1252)	-----	
LEV	-0.0251	0.0596	-0.3690*	0.0681	-0.0219	0.0673	0.0849*	1.0000
	(0.5473)	(0.1525)	(0.0000)	(0.1020)	(0.5984)	(0.1064)	(0.0416)	-----

The results of the analysis of the explicatory variables are shown in this table. The results indicated that the variables were not exhibiting serious correlation with one another. This informed the inclusion of all the explanatory variables in the model. P-value in parenthesis and * indicated level of significant at 5%.

Source: Author's Computation (2020)

Discussion of findings

Table 3 presents regression results of the effect of intellectual capital on financial performance measures of listed non-financial companies in Nigeria. The model was estimated using Fixed Effect and Random Effects assumption. 50 quoted non-financial companies from 2007 to 2017 were sampled. Return on Assets (ROA) and Return on Equity (ROE) were used as financial performance measures. Intellectual Capital variables were Human Capital Efficiency (HCE), Structural Capital Efficiency (SCE) and Capital Employed Efficiency (CEE) while Firm Age (AGE), Firm Size (FIRM_SIZE) and Firm Leverage (LEV) were control variables. However, in order to reduce the tendency of weak parameters, Hausman test for correlated random effects was conducted to provide the best model estimates for the data (see Table 3 for result) and consider if the variance in the estimates of the random and fixed effect models are significant to cause biasness of the model parameters. The Hausman test (Chi-Sq. statistics) rejects the null hypothesis that unobserved firm specific heterogeneity are uncorrelated with explanatory variables and so, the study employed the Fixed Effect Method (FEM) which is the most appropriate model to interpret the result of the analysis.

For the ROE as a dependent variable, Human Capital Efficiency (HCE) showed a coefficient value of 1.58 which implied a significant positive relationship with ROE ($t=3.1319$, $p<0.05$). This showed that the degree of returns to equity gained from non-financial companies in Nigeria is significantly affected by human capital efficiency. Also, it implied that firms can be more profitable through a robust human capital management system. However, it is associated with a statistically non-significant Structural Capital Efficiency (SCE).

Also, Capital Employed Efficiency (CEE) showed a coefficient value of 19.49 which implied a significant positive effect on ROE ($t=6.7011$, $p<0.05$). This showed that high numbers of Nigerian non-financial companies can utilize the CEE. This indicated that the high value of Capital Employed Efficiency (CEE) leads to increasing profitability in Nigerian non-financial firms. The age of the firm had a significant negative relationship with ROE ($t= -2.2755$, $p<0.05$).This indicated that the longevity of a firm does not necessarily implied profitability. Emerging firms do come with product innovation to have a good share of the market. They are vibrant with cost-effectiveness. They grew with the trend, while most of the old or aged companies in Nigeria relied on brand loyalty with a low level of innovation.

Firm size reported a coefficient value of 6.38 which implied a significant positive relationship with ROE ($t=2.2177$, $p<0.05$). This showed that firm size played a prominent role in the profitability of firms. A firm with a strong total asset tends to expand and work within the band of efficiency. This size of firms will determine the quality of human resources to be employed and financial resources to access. Highly skilled employee prefers to work in a big firm with a high level of reputation compares to a small firm.

Furthermore, for the Return on Assets (ROA) as a dependent variable, Capital Employed Efficiency (CEE) showed a coefficient value of 21.82 which implied a significant positive relationship with ROA ($t=13.5989$, $p<0.05$), the company is more profitable through the efficient utilization of their capital amidst the statistically insignificant effect of HumanCapital Efficiency (HCE)and Structural Capital Efficiency (SCE)on Return on Assets (ROA). The leverage ratio showed a coefficient value of 1.42 which implied a significant positive effect on ROA (t=4.7112, p<0.05). However, firm size showed a coefficient value of -9.75 which implied a significant negative effect on ROA (t=-6.1396, p<0.05).

The F-statistics test of the significance of the model indicates that the model was statistically significant at 5% level of significance. The R^2 coefficient was used in determining the coefficient of determination of the model, theR-squared (R^2) value of 27.1% indicated that about 27.1 percent of the source of variation in ROE was accounted for by the independent variable, while an F-statistics value of 3.26 with a p-value of less than 0.05 implies that the model is statistically different from zero. For the ROA, 41.0% of the source of variations was accounted for by the independent variable with an F-statistics value of 6.08 implies that the explanatory variables are jointly different from zero.

Table 3: Effect of Intellectual Capital on Performance Measures of Quoted Non-financial Companies in Nigeria

	Model 1		Model 2	
Method:	Fixed Effect	Random Effect	Fixed Effect	Random Effect
Dep. Var:	ROE	ROE	ROA	ROA
CEE	19.4955	21.5712	21.8275	21.9280
	[6.7011]**	[7.6797]**	[13.5989]**	[14.0921]**
HCE	1.5891	1.6078	0.0601	-0.0532
	[3.1319]**	[3.3154]**	[0.2150]	[-0.1979]
SCE	-1.2500	-1.1973	0.1100	0.3255
	[-0.7564]	[-0.7638]	[0.1207]	[0.3736]
AGE	-2.1545	0.0139	-0.0788	0.1129
	[-2.2755]*	[0.0846]	[-0.1510]	[1.1504]
FIRM_SIZE	6.3880	2.8433	-9.7568	-4.1187
	[2.2177]*	[1.7781]	[-6.1396]**	[-4.4416]**
LEV	0.9437	1.8278	1.4298	1.2885
	[1.7156]	[3.7613]**	[4.7112]**	[4.7367]**
C	12.5147	-32.3998	169.8753	67.7957
	[0.2499]	[-1.1915]	[6.1486]**	[4.2952]**
Observations:	550	550	550	550
R-squared:	0.2721	0.1168	0.4105	0.2807
F-statistic:	3.2685	12.5384	6.0898	37.0117
Prob(F-stat):	0.0000	0.0000	0.0000	0.0000
DW	2.125	1.8539	1.9313	1.7251

***, ** and *reveals that variable is significant at 1%, 5% and 10% respectively.
Source: Author’s Computation (2020)

Table 4 Result of Hausman test on the effect of intellectual capital on performance measures of listed non-financial company in Nigeria

Correlated Random Effects - Hausman Test(Model 1 and 2)			
Test Summary(Model 2)	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	35.512	6	0.0000
Test Summary (Model 1)	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	24.960	6	0.0000

Source: Author's Computation (2020)

5.0 Conclusion and Recommendations

The study having investigated the effect of intellectual capital on performance measures of listed non-financial companies in Nigeria during an eleven years period, the regression results revealed that human capital efficiency, capital employed efficiency, firm size had significant positive effect on return on equity while human capital efficiency, structural capital efficiency, capital employed efficiency and leverage had a significant effect on return on assets. Based on this, the study concludes that intellectual capital has positive and significant effect on financial performance measures. So, henceforth non-financial firms should give appropriate consideration and attention to intellectual resources since its efficiency improves financial performance.

Recommendations

1. The study advocate for more investment in quality intellectual capital formation as it ensures higher return and value creation.
2. There should be a policy framework from the end of regulators to increase the interest of firms' management in intellectual capital development and utilization to enhance their financial performance and maintain competitive edge.
3. Non-financial firms should manage efficiently their stakeholders relationship to boost their relational capital and in turn the financial performance of the organization

This study suggest a further area of research as the study limit its scope to only listed non-financial companies and the result cannot be used to generalize what happened in other sectors like financial institutions and service oriented firms. Also it only makes use of financial performance measures while non-financial performance measures that may explain the situations also were not included. All these can be inculcate in the further areas of studies.

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SUNSPOTS, BUBBLES AND THE NIGERIAN CAPITAL MARKET

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Abstract

This study empirically examines sunspots and bubbles of eleven (11) non-financial firms listed on the Nigerian Stock Exchange for a period of eight (8) years (2013 to 2020). The rationale for the study was based on the realization that market bubbles and sunspots do affect stock market performance. Hence, the study specifically the presence or otherwise of market bubbles in the Nigerian capital market. Employing the Augmented Dickey Fuller (ADF) test, the Phillips-Perron (PP) test statistic and the Johansen System Cointegration tests on two variables (stock prices and dividend payment), the results from the analysis indicate the absence of speculative market bubbles in the Nigerian capital market. This result further suggests that stock prices have not deviated from market fundamentals within the period of investigation. The study recommends that, since the finding of the study has confirmed the absence of market bubbles, it therefore suggests that probably the regulator of the Nigerian market has been very efficient in managing the activities of the market against all forms of malfeasance and market manipulations, hence, stock prices were able to followed market fundamentals. Thus, regulators should either sustain the current policy or improve on it so that the Nigerian capital market will continue to reflect its intrinsic values and normal returns to investors.

Keywords: Sunspots, Bubbles, Financial Markets and Institutions, and Econometric and Statistical Methods
JEL Classification:G12, N2, C1

1. Introduction

Sunspots and financial bubbles have become relevant factors in effective assets pricing as well as the determination of the level of capital market efficiency across the globe today.The capital market and the level of its efficiency is very crucial in the process of economic growth and development of any country because, it serves as the financial hub for the mobilization, allocation and re-allocation of resources and assets pricing among firms and other market participants (Osaze, 2007). An efficient capital market is assumed to respond instantaneously to every relevant information regarding economic and financial fundamentals about the assets or firms filtering into the market that enable market participants coordinate their decisions. Contrary to the EMH preposition by Fama(1970) that investment decisions are only influenced by economic and financial fundamentals, today it has been observed and demonstrated by several empirical studies like Shiller (1998), Bailey (2005), Awan, Rashid and Zia-ur-Rehman (2010) that sunspots (a non-fundamental factors)also have significant influence on investors' decisions in the financial market.Sunspots by its nature refers to those extrinsic random variables upon which participants coordinate their decisions. These extrinsic random variables have no direct effect on economic fundamentals, but rather affectthe equilibrium outcomes as a result of their significant influence on expectations (Grossman & Stiglitz, 1980). In a proper sunspot equilibrium, resources allocation to a large extent, is a function of sunspots activities.

Bubbles on the other hands, are sudden rise in the prices of shares or assets not being backed/supported by basic verifiable, known economic and financial fundamentals. Asekome and Agbonkhese(2015) argue that a non-fundamental factors such as calendar effect, style investment, noise trading, inside information, stock market manipulation and changes in the political environment, are commonly responsible for some of the observed behavioural anomalies in financial markets today. Even over confidence of some investors has also been identified as a possible cause of asset price bubbles (Shiller 1998) which in some cases lead to speculative bubbles and crash as witnessed in the 1987 U.S. Stock Market crash. Shiller (1987) also observed that in spite of negative signs noticed towards the bubble priming before the crash, some investors continued to over play on their confidence. By implication, investors' over confident in the financial market tend to ignore prior information living in a gambler's fallacy (Awan et al, 2010; Asekome &Agbonkhese, 2015).

This paper therefore is an attempt to empirically examine whether sunspots and speculative bubblesof assets pricingexist in the Nigerian Capital Market. The rest of the paper is thus structured such that section two contains the literature review, section three deals with methodology and model specification, section four addresses the analysis of data and presentation of results, while conclusion and policy recommendations are contained in section five.

2. Literature Review

2.1 Concept of Sunspots

In finance and economics, the term sunspots refer to an external unpredictable factor, that does not have direct effect on economic fundamentals like endowments, preferences, or technology.It is a financial concept that seeks to explain uncertainty in economic environment that is not caused by fluctuations in economic fundamentals, yet have enormous effect on equilibrium outcomes as a result of their significant influence investor's expectations (Investopedia, 2014).Grossman and Stiglitz (1980) argue that sunspot is the existence of a continuous state of equilibrium where stock prices are often driven by sunspot shocks and which is fully in agreement with rational expectations which are not randomized over several fundamental stability. They added that "the sunspot or sentiment shocks generate persistent fluctuations in the price of risky assets that look like a random walk in an efficient market driven by fundamentals".

The term was first coined by Cass and Shell (1983). It was founded on the belief that arbitrary fluctuations in investors' expectations will influence the economy, even if they have no relationship with fundamentals. Even though the idea have spark up many controversies, it has been widely used in the field of finance and economics. According to Pigou (1927), the varying expectations of businesses and nothing else, make up both the immediate and direct causes of industrial fluctuations. For this reason, sunspots have been recognized and employed in economic models to effectively capture those extrinsic variations in such areas likeasset pricing, financial crises, business cycles, economic growth, and monetary policy(Benhabib, Schmitt-Grohe & Uribe, 2001; Duffy & Fisher, 2005).

Although the origin of the word Sunspots is traceable to the novel work of Jevons (1878) in the field of astronomy where he tested/demonstrated thedegree of the effect of sunspot activity on price of corn or agricultural productivity. Today, the term as it is widely used in finance and economics, does not have any link with solar phenomena, instead, it is used purely to describe unpredictable factors that do not influence investors' preferences or allocations. Hence, contemporary theory suggests that such a non-fundamental variable could have serious implications on equilibrium outcomes if it influences consumers' expectations.

2.2 Concept of Bubbles and Stock Market Crash/Meltdown

Bubbles are soaring prices, a sudden, rapid and astronomical rise in the prices of assets or stocks in an overheated stock market, which are neither influenced nor supported by market fundamentals. According to Mackay (1884), "a stock market bubble is a sharp rise in price of a financial asset or a range of assets in a continuous process, with the initial rise generating expectations of further rises and thus attracting new buyers". Janszen (2008) opines that "a bubble is the high increase in prices of assets that results from a perverse self-reinforcing belief system, a fog that clouds the judgment of all, especially the most aware participants in the market: and that bubble 'is the result of that financial madness, seen only when the fog rolls away; thus, those who are reaping the temporary benefits of the bubble would rarely abandon the madness until it is all over (a crash)".

Stock market crash/meltdown represents a rapid decline in the stock prices, occasioned by panicselling, which may persist for months or years. Stock market crashes are usually triggered by confidence evaporation of investor after an unexpected event which are often exacerbated by fear, followed by a prolonged period of highinflationary trend, serious uncertainty in the economic and political spectrum coupled with heightened speculative activities. The consequence of this is that normal economic are brought to a halt, investors savings running to billions and trillions are suddenly wipe out, thereby creating widespread misery, especially for the weaker and vulnerable sections of the society.

According to Osaze (2011), a meltdown is a total and disastrous economic and financial failure with extremely high contagion effects akin to the melting down of a nuclear reactor. This leads to financial crises all around the world with varying effects on national economies. While Stock Market Crisis arises from a disastrous failure of governance rules and regulations giving room for financial malfeasance by operators and speculation by investors. The bubble eventually bursts when the stock market fundamentals do not support the soaring prices in the overheated market.

2.3 Bubble Mechanics

When there is a market bubble, stock prices usually shift from fundamental value; but when market bubbles are positive, demand are excessively high, vice versa. “A bubble represents a period of unsustainable growth, when the price of an asset increases ever more quickly, in a series of accelerating phases of corrections and rebounds (Sornette & Cauwels, 2014)”. That is to say, in the period of a bubble, “share price follows a faster-than-exponential power law growth process, often accompanied by log-periodic oscillations. This dynamic ends abruptly in a change of regime that may be a crash or a substantial correction. Because they leave such specific traces, bubbles may be recognized in advance: that is, before they burst (Sornette & Cauwels, 2014:8)”.

Usually, a bubble starts with a new opportunity or expectation that is often associated with an anticipated higher returns, hence, more investors hold on to it. This leads to a positive feedback mechanism where at some point, demand goes up as the price increases, while at other times, as price goes up demand also increases. This unusual increase movement shift prices away from equilibrium, where the equilibrium level broken and there is no longer any serious price determination at the intersection of supply and demand (Black, 1986; Shiller, 2006). During a bubble, there is now a complete change in market basic fundamentals in that the entire market is being driven by sentiments, a situation where stock prices are no longer a true reflection of the actual underlying value (Shiller, 2006).

2.4 Brief Overview and Features of Stock Market Bubbles and Crashes around the World

According to Asekome and Agbonkhese (2015), Stock market bubbles and financial crisis or melt downs date back to the speculative trading on tulip flower bulbs popularly known as Tulipmania from the late 1636 to February 1637. The Mississippi scheme in France and the South Sea bubbles in England from 1719-1920 left thousands of investors bankrupt (Mackays, 1841). They were said to have been caused by prospects for quick and high profits which attracted risk-taking investors and induced prices to rise astronomically but only to suddenly nose-dive when shareholders attempted to realize their capital gains by offloading parts of their holdings.

According to Asekomeand Agbonkhese(2015), other stock market crashes include “the Wall Street Crash of 1929, the New YorkStock market crash of 1987 and the stock market bubble of 1999-2000 popularly referred to as the dot com bubbles: there was also the American stock market bubble of 1920s that resulted in the great depression, the Dot-Com bubble of the late 1990s, the Taiwanese stocks bubble of 1987 and the Japanese stocks bubble of the 1980s, many of which were caused by speculative actions associated with emerging new technologies of the internet and e-commerce (Asekome &Agbonkhese, 2015:28)”. The 2007 global economic crisis and financial meltdown which started in the United State of America principally due to mismatch and over exposure of banks to mortgage industry and the capital market. Due to globalization and internationalization of financial markets, the crisis which initially started in the U.S later metamorphosed and spread across the countries of the world (Osaze& Ajao, 2009).

However, some experts have argued otherwise against the existence or validity of bubbles hypothesis. According to them, financial markets are most often in equilibrium and in such cases, excess price has always been found to be zero, basing their arguments on the Netherlands experience in the 17th century which they described as mere unusual deviation in the fundamental value (Garber, 1994). These arguments, according to Asekome and Agbonkhese (2015), seem to be weakened by the fact that mere unusual situations within normal distributions cannot be so sporadic in which case the stock market is not likely to witness a crash. Therefore, it can be argued that stock market bubbles seem to negate both the Random Walk Hypothesis (RWH) and thus the Efficient Market Hypothesis (EMH). This is because price movement rather than being in random are either on sharp upward when the bubble is priming or in sharp downward trend prior to the occurrence of a crash. According to Kindleberger (1991), "high prices that do not crash are not regarded as a bubble; a major characteristic of bubble therefore is crash, and other occurrences are mere depressions (Asekome&Agbonkhese, 2015)".

2.5 The Nigeria Experience (2007-2008)

The Nigerian Capital Market was not exempted as it also had her own share from the global financial crisis which was a consequence of the market bubble that originated in the United States of America in 2007. Both financial fundamentals and non-fundamental variables accounted for the Nigerian stock market bubbles.

Following the CBN order for banks recapitalization in 2004 to the tune of N25 billion, most banks went to the capital market to mop up cash for the requirement. It was also a period of rapid increase in the prices of crude oil occasioned by the Middle East war in Iraq leading to high foreign exchange earnings with attendant nationwide liquidity in the economy. The injection of huge cash into the economy as a result of the pre-election periods of 2006-2007, leading to increase in government expenditure, access to liquidity for banks, individuals, corporate bodies and the public at large. The period also witnessed quantum of new issues, floatation, attractive corporate, profitability, steady growth in dividends payments, several script issues, successful political transition of 2007, coupled with the stronger banks(at least in terms of liquidity), that emerged after the consolidation between 200 and 2007, rising crude oil prices at the international markets, accumulation of huge external reserves, all combined to boost the Nigerian economy both at home and abroad. These increase investors' confidence and overall perceptions about the Nigerian Capital Market. As if that was not enough, the sudden rise of market capitalization from N5.12 trillion in 2006 to N12.640 trillion as at march, 2008 coupled with the increase of All Share Index from 33,358 to 66, 371(CBN, 2013).

Acoding to Osaze and Ajao (2009), Asekome and Agbonkhese(2015), the signs of bubbles were gradually noticed in the Nigerian stock market between 2007 and 2008. The banking sector that successfully recapitalized at the end of year 2005 was strengthened with excess liquidity but were unwilling to lend to long term projects in a country where most people believe in short term investments and quick turnaround of capital to make huge profits. Several banks resorted to the capital market to raise funds most of them giving loans to investors to purchase their stock. Evidence from the Nigerian All Share Index (ASI), shows that the index which had risen through 57,990in December 2007 to 58,580 at the beginning of 2008 with a market capitalization of N10.284 trillion raised to66,371 with market capitalization of N12.640 trillion on March 5, 2008 (Aluko, 2008). Suddenly the market was over flooded with stocks and became saturated. The impact of the global financial crisis that began in the U.S was now being felt in Nigeria as there was massive withdrawal by foreign investors to off load their securities/portfolio investment for cash repatriation.

As if that was not enough, prices of crude oil suddenly begin to crash from about $150 to less than $50 per barrel as a result of the global financial meltdown. Prices of stocks in the market started to decline to the extent the naira could not withstand the trend and thus bowed to the global pressure to depreciate quickly against the major foreign currencies. Banks became uncomfortable as stocks used as security for stock margin loans fell below expectation. The urge for the banks to quickly sell to reduce their investment losses further depressed the market resulting in investor's apathy towards the market. This led to a tight liquidity crunch and then credit to the private sector declined drastically, the all share index also declined steadily from 2008 to around 19,000 and market capitalization declining to N4.5 trillion in march 2009, leading to a total loss of over N8 trillion less than a year. The ultimate result was a market bubble (the collapse of the Nigeria stock market) coupled with the crystallization of a huge portfolio of non-performing and toxic financial assets that were mainlycreated through stock market margin loans (Aluko, 2008; CBN, 2013; Asekome&Agbonkhese,2015).

2.6 Some Features of Non-Fundamental Factors (Sunspots) in the Stock Markets

2.6.1 Noise Trading

A noise trader is an investor in the stock market who buys and sells financial assets without using or relying on market fundamentals. These investors generally have poor timing, follow trends, and over-react to good and bad news (Investopedia, 2016). In real life situation, many investors are considered to be noise traders, as very few actually make investment decisions by mainly using fundamental analysis. However, technical analysis is regarded as part of noise trading because the data is unrelated to firm's fundamentals. Hence, the noise trader is the major cause of investor sentiment which are usually unpredictable and inhibits arbitrages and renders it ineffective in the market.

2.6.2 Herd behaviour/Bandwagon effect

This is the tendency for individuals to mimic the actions whether rational or irrational of a larger group, which Ezonomics (2013) adduced to social pressure of conformity. Experience has shown the powerful nature of herding because some sociable persons who naturally want to be accepted by a group, instead of being seen as an outcast, would simply follow the group regarding it as an ideal way of becoming one of them. Again, it could also be the common believe that large group could not be wrong, even where they know that some of their irrational behaviours are wrong or not correct, hence, they still follow the herd behaviour with the hope that the group knows something they did not know. This is usually true especially in a situation has little or no experience at all (Ezonomics, 2013). A clear example of herding was the Dotcom herd behavour in the late 1990s in U.S, where venture capitalists and private investors invested huge sums of money in internet-related ventures, even when the company did not possessed the basic fundamentals couple with sound financial models. What actually compared them into such ventures was the reassurance they got from other investors who did same (Ezonomics, 2013).

2.6.3 Calendar effect

A calendar effect is a theory in financial markets that is predicated on the fact that stock prices perform differently at different times of the year. According to Wikipedia (2016), "a calendar effect is any market anomaly or economic effect which appears to be related to the calendar; and such effects include the apparently different behaviour of stock markets on different days of the week, different times of the month, and different times of year (seasonal tendencies)".

Calendar effects are of different types, which may take the following forms; Monday effect, October effect, January effect, Friday effect, Weekend effect, turn of the week effect, Holidays effect among others. The general believe is that, 'these supposedly effects' have their respective influence on stock prices as well as returns on investment. Empirical studies on calendar effects have shown that stock market returns/performance seems to be higher in certain days or month of the year, and while it is not in other calendar days (Borges, 2006; Financial Dictionary, 2015).

2.6.4 Insider information

According to Investopedia (2015), insider information in financial markets is a non-public fact about the plans of a quoted company that is only privy to those within the company such that if they used such privileged information to trade in shares, it can enable them to make superior gains over others outside the company who are not privy to those information. Hence, any person that use such privileged internal information to buy and sell at the stock exchange, is said to be guilty of insider trading; because in the eyes of the law, it is an illegal material information that has not been made public and which have been used to trade thereby given such persons unfair advantage over others.

2.6.5 Stock market manipulation

Stock market manipulation is a willful plan to obstruct and undermine market integrity with respect to free and fair trading activities in order to cause artificial, false and misleading share prices. Market manipulation is strictly illegal and not allowed in the Nigerian Stock Market and in most other markets in the world. It is seriously prohibited in the United States under Section 9(a)(2) of the Securities Exchange Act of 1934, in Australia under Section 1041A of the Corporations Act 2001, and in Israel under Section 54(a) of the securities act of 1968. According to the Act, "market manipulation as transactions which create an artificial price or maintain an artificial price for a trade able security: market manipulation is also prohibited for wholesale electricity markets under Section 222 of the Federal Power Act and wholesalenatural gas markets under Section 4A of the Natural Gas Act (Investopedia, 2015)".

3 Methodology

3.1 Research Design

The study uses the longitudinal survey (ex-post facto) research approach which entails the use of historical data to gain knowledge about some phenomenon over a period of time, and in which the researcher cannot manipulate the outcome of the data because they have already occurred.

3.2 Population and Sample Size

The population of the study is the 113 non-financial firms listed in Nigeria as at 31 December 2020. Out of this, a sample of eleven (11) non-financial firms listed on the Nigerian Stock Exchange for a period of eight (8) years (2013 to 2020) were randomly selected on the basis of strong assets base, and must have remained in the stock exchange for the past 8 years, coupled with the ability to have fulfilled the statutory obligation of declaring audited financial statements for the years ended 31 December 2020.

3.3 Method of Data Analysis

Two basic methods are employed in the empirical analysis of this study. These are unit root test and cointegration test. First, we test for the existences or otherwise of a market bubble by using unit root test and the cointegration test. These methods were effectively used by Diba and Grossman (1988), Aigbovo and Ezuem (2018). They highlighted the importance of unit root tests for detecting market bubbles. Diba and Grossman (1988) and Aigbovo and Ezuem (2018) tested for the absence of a bubble by employing the unit root tests to share price and dividend series in levels and first difference forms. Theoretically, if the prices actually reflect the value of the expected future flow of dividends, dividends and stock prices should be cointegration in the long run even though they both follow a random walk. Shiller (2002) added that, if dividend and stock prices fail to cointegrate, then there is evidence of a bubble. If a cointegration exist between the stock price and dividends, it indicates the absence of market bubbles meaning that there was no serious deviation from fundamentals.

3.4 Sources of Data

The data for this study is a cross-sectional data of eleven (11) non-financial firms listed on the Nigerian Stock Exchange covering the period 2013 to 2020 (8 years). The data were sourced from the respective firms' audited financial statement as at December 31st 2020. The sampled firms include Aluminium Extrusion Industry, 11 Plc, B.O.C Gases Nig., Berger Paints Nig., Beta Glass Company, Cadbury Nig., Cement Company of Northern Nigeria, Chemical & Allied Product, Conoil, Cutix and Dangote Flour Mills.

4. Data Analysis and Presentation of Results

The objective of this study is to empirically estimate a model that helps explain the presence or otherwise of speculative market bubbles in the Nigerian capital market visa vic sunspots. In doing this, the unit root tests within the context of ADF, PP tests and the cointegration test are employed. These methods were also employed by Boubaker, et al., (2002), Diba and Grossman (1987), Aigbovo and Ezuem (2018) to examine speculative bubbles in the financial market. According to Engle and Granger (1987), "to check whether or not two or more variables are cointegrated, it is necessary to first verify the order of integration of each variable by performing unit root tests: two of the most commonly used techniques for unit root testing are the Augmented Dickey Fuller (ADF) (1981) test and the Phillips-Perron (1988) Test Statistic (PP); andin both cases, the null hypothesis of a unit root is tested against a stationary alternative". Thus, following this procedure, the processes of the cointegration testis also rigorously pursued.

4.1 Unit Root Testing

Stationarity test is useful because it provides an easy framework for testing the presence or otherwise of price bubbles by checking the stationarity property status of stock price and dividend series(Gordon, 1995; Boubaker, et al., 2002; Aigbovo&Ezuem, 2018). The theoretical expectation is that,if unit root tests for variables of interest are stationary both at level and at first difference, then speculative bubbles is absent in the market within the period. However, if price bubbles are confirmed in the market, prices would beexcessively higher than dividend (Boubaker et al., 2007).

Thus, "table 4.1 and table 4.2 present results of Augmented Dickey Fuller (ADF) test and the Phillips-Perron (PP) test statistic in levels without taking into consideration the trend in variables as well as in first difference. In the results, the ADF and PP tests statistics for stock prices and dividend payments variables are shown in the third column, while the 95 percent critical ADF value is shown in the fourth column. The result indicates that all the variables have ADF and PP values that are higher than the 95 percent critical ADF value of -2.906923 (in absolute values)". The implication of this is that these time series are both stationary in levels and at first difference. Hence, speculative market bubbles do not exist and cannot be confirmed in the Nigerian Capital Market within the investigating period. This is an indication that stock prices did not deviate from market fundamentals overtime.

Table 4.1 Unit Root Test for Variables in Levels

	Variable	ADF Test Statistic	95% Critical ADF Value	Remark
Augmented Dickey-Fuller Test	**DIVP**	-3.748867	-2.906923	Stationary
	SP	-3.321800	-2.906923	Stationary
Phillips-Perron test statistic	**DIVP**	-3.626240	-2.906923	Stationary
	SP	-3.274295	-2.906923	Stationary

Source: Author's Computation 2020.

Table 4.2 Unit Root Test for Variables at First Difference

	Variable	ADF Test Statistic	95% Critical ADF Value	Remark
Augmented Dickey-Fuller Test	**DIVP**	-11.23782	-2.907660	Stationary
	SP	-9.388644	-2.907660	Stationary
Phillips-Perron test statistic	**DIVP**	-11.37312	-2.907660	Stationary

	SP	-9.347889	-2.907660	Stationary

Source: Author's Computation 2020.

4.2 Cointegration Test

Now, haven established the results from the ADF and PP tests statistics for stock prices and dividend payment variables, further analysis is carried out using the cointegration test. According to Shiller (2002), if dividend and stock prices fail to cointegrate, then there is evidence of a speculative market bubble. If however a cointegration exists between the two hypothesized variables, it is an indication of the absence of speculative bubbles. Although this method has been extensively used by several experts (Diba& Grossman, 1988; Shiller (2002; Boubaker, et al., 2002; Aigbovo&Ezuem, 2018).Evans (1991) however noted some deficiencies with the tests,in that, it only detect permanent bubbles and not bubbles that collapse and eventually restart.

Following Dibaand Grossman (1988), Shiller (2002),Aigbovo and Ezuem (2018), we further test the presence or otherwise of speculative market bubbles in the Nigerian Capital Market using the Johansen System Cointegration Tests. The existence of cointegration implies that the two cointegrated time series variables (stock prices and dividend payments) must be moving together at the same time towards the same direction; and it is a vital requirement for cointegration (Engle & Granger, 1987). The results from the multivariate cointegration test are presented in Table 4.3 below. As can be seen from Table 4.3, both the trace test and the eigenvalue test statistics strongly indicate significant cointegrating vector between stock prices and dividend payments variables. This is a further confirmation of the absence of speculative market bubbles and that stock prices do not seriously deviated from market fundamental in the Nigerian Capital Market within the period of investigation. This finding is seen to be in agreement with those of Dibaand Grossman (1988), Shiller (2002) and Aigbovo and Ezuem (2018), who unanimously submitted the absence of rational bubbles in the stock market.

Table 4.3: Johansen Multivariate Cointegration Tests Results.

Trace Test				***Maximum Eigenvalue Test***			
Null Hypothesis	**Test Statistic**	**Critical Value**	**Prob.**	**Null Hypothesis**	**Test Statistic**	**Critical Value**	**Prob.**
r = 0*	53.89219	15.49471	0.0000	r = 0*	49.42928	14.26460	0.0000
r ≤ 1	4.462904	3.841466	0.0346	r ≤ 1	4.462904	3.841466	0.0346

Source: Author's computations 2020.

5. Conclusion and Recommendations

The study has empirically examined sunspots and bubbles of eleven (11) non-financial firms listed on the Nigerian Stock Exchange for a period of eight (8) years (2013 to 2020). The rationale for the study was based on the realization that market bubbles and sunspots do affect stock market performance. Hence, the study specifically the presence or otherwise of market bubbles in the Nigerian capital market. To this end, the Augmented Dickey Fuller (ADF) test, the Phillips-Perron (PP) test statistic and the Johansen System Cointegration tests were employed for the empirical analysis. The results from the analysis clearly indicate the absence of speculative market bubbles in the Nigerian capital market; rather, what obtains is that stock prices have not deviated from market fundamentals within the period of investigation. The study concludes that, investment decisions in the Nigerian Stock Market are only influenced by economic and financial fundamentals, and not Sunspots or Bubbles.

In view of the findings of this study, the following recommendations are made for policy direction:
First, since the finding of the study has confirmed the absence of market bubbles, it therefore suggests that probably the regulator of the Nigerian market has been very efficient in managing the activities of the market against all forms of malfeasance and market manipulations, hence, stock prices were able to followed market fundamentals. Thus, regulators should either sustain the current policy or improve on it so that the Nigerian capital market will continue to reflect its intrinsic values and normal returns to investors.
Finally, the result of this study is an eye opener not to undermine the possibility of resurgent of bubbles coupled with the effect of sunspots in the Nigerian capital market. An important challenge to the regulators is that, they should constantly incorporate models of behavioural distortions in stock prices so that they will be able to effectively monitor and timely respond to bubbles that may eventually result stock market crash.

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FACTORS AFFECTING INTERNATIONAL PUBLIC SECTOR ACCOUNTING STANDARDS (IPSAS) IMPLEMENTATION IN NIGERIA

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Abstract

In an attempt to join the on-going vehicle of global standards and to enjoy the numerous benefits associated with it, the Nigerian government ratified the adoption of International Public Sector Accounting Standards (IPSAS) for public entities. Nevertheless, some government agencies deliberately failed to implement IPSAS effectively; therefore, IPSAS implementation continues to suffer delays and excessive setbacks. Hence, this article seeks to investigate the extent of IPSAS implementation in South West, Nigeria and also examine the salient factors affecting effective IPSAS implementation. Purposive Sampling Technique was used to select One hundred and eighty (180) Accountants and sixty (60) Auditors for the research. Descriptive Statistics and Factor analysis were used to analyse the results. Decisively, discoveries from this work revealed that the extent of IPSAS implementation in South West Nigeria wasfair; though the selected states adopted accrual basis of accounting however, computers are grossly inadequate and majority of the accounting staff are not regularly trained due to inadequate fund therefore, they are yet to understand the nitty-gritty of IPSAS.Findings further revealed that five factors (implementation cost, staff capacity& Training, technology, political factor and stakeholders support) out of the ten factors identified significantly affected effective IPSAS implementation in South West, Nigeria. This study recommended that government should provide adequate computers, upgrade the software and train accounting staff regularly in order to effectively implement IPSAS. Also, those charged with IPSAS implementation in Nigeria should pay adequate attention to these prominent factors well in advance and make proactive and insightful decisions in addressing them.

Keywords: public sector, implementation, financial statements, adoption, Nigeria
JEL Classification: M40, M41, M48

1.0 Introduction

Owing to the global concern for improved public financial management that provides more accountability, credibility and transparency, International Federation of Accountants (IFAC) established the application of International Public Sector Accounting Standards (IPSAS) for public sector entities around the globe. IPSAS are set of accounting standards published by the International Public Sector Accounting Standards Board (IPSASB) to be utilized by public sector entities globally in the preparation of financial statements. IPSAS are qualitative worldwide accrual-based accounting standards which promotes accountability and credibility (IFAC, 2017). The presentation of IPSAS constituted an integral part of public sector reforms and is a center piece of the worldwide transformation in government accounting. It is an internationally-accepted, high-quality standard for accounting that support global economic growth and financial market stability (Dancey, 2019)

IPSAS ensures high standards which accelerate the preparation of credible and comprehensible financial statements therefore improving operational performance, accountability and efficient allocation of resources (Ademola, Adegoke&Oyeleye, 2017). IPSAS entails providing stakeholders with unambiguous and comprehensive information about the financial implication of the economic, political and social activities of government (Ademola, Ben-Caleb, Madugba, Adegboyegun & Eluyela 2020).Furthermore, IPSAS seeks to align governments reporting formats with best accounting practices through the application of credible and independent accounting standards (Harun, 2007; Nkwagu, Uguru & Nkwede, 2016; Ademola *et al*., 2020).

IPSAS has come to be accepted as the flagship accounting and reporting standards for the public sector. All over the world, IPSAS acceptance rate is increasing by the day. In 2015, the European Union adopted European Public Sector Accounting Standards (EPSAS) based on IPSAS. Additionally, Australia and New Zealand adopted IPSAS-type standards. Twenty-five (73%) of the 34 OECD countries adopted accrual accounting for their public financial management, as to only a quarter of these countries in 2003 (IFAC, 2017).

Africa is at the cutting edge of IPSAS adoption, with many countries proposing to adopt the standards as component of financial management reform programmes. Though significant numbers of the African countries are still in the course of adopting IPSAS, Nigeria, Tanzania and Ghana have fully adopted IPSAS (IFAC, 2019) yet OECD countries are tardy with IPSAS implementation (IFAC, 2017). While adoption of IPSAS by the Nigerian authorities has been commendable, its implementation has posed a more serious challenge.

IPSAS cash basis was expected to be implemented in public sector financial reporting by 2012 being the year set as the deadline for the issuance of first published IPSAS-compliant financial statements, but this did not materialize (Ofoegbu, 2014; Izedomi&Ibadin, 2013). The Nigerian government promised to embark on cash IPSAS by 2014 and accrual IPSASs by 2016 yet they failed to meet the deadlines (Premium Times, 2016). Furthermore, the three levels of government in Nigeria (Federal, State and Local Council) were expected to begin the implementation of accrual IPSASs by 2016 but prior studies such Ogbuagu&Onuora (2019) and Aduwo (2019) have highlighted partial or non-application of IPSAS by MDAs in preparation and preparation of financial reports despite IPSAS adoption since 2010 in Nigeria.

In view of the foregoing, this study will address the following questions:

i. What is the extent of IPSAS implementation in South West, Nigeria?
ii. What are the factors affecting effective IPSAS implementation in South West Nigeria?

1.1 Statement of the Problem

Considering the enormous benefits associated with the adoption and implementation of IPSAS allover the world, the ineptness on the part of Nigeria government to effectively implement IPSAS raises some questions in the minds of scholars and one begin to ask that if Nigerian government could go a long way to adopting IPSAS fully, then what factors could be responsible for effectiveIPSAS implementation in Nigeria. This question remains unanswered.

Moreover, many scholars have researched into IPSAS in developed and developing countries. However, they paid much attention to the benefits and challenges of IPSAS adoption in Africa (Ijeoma and Oghoghomeh, 2014; Christiaens, Vanhee, Manes-Rossi, Aversano &Cauwenberge, 2014, Ademola et al., 2017) when benefits can only accrue if IPSAS are effectively implemented. Howbeit, studies on IPSAS implementation are very scarce; therefore this research strives to fill the knowledge gap by examining the fundamental factors pivotal to IPSAS implementation in Nigeria in orderto ensure that IPSAS is implemented efficiently and effectively and to realize the potential benefits of fully complying with IPSAS, ultimately eliciting economic development.

2.0 Literature Review

2.1 Concept of IPSAS

IPSAS is an acronym for International Public Sector Accounting Standards. IPSAS are global accounting standards used as guidelines for the preparation and presentation of financial statements in the public sector (Adoagye, 2012). IPSAS are issued by the International Public Sector Accounting Standard Board (IPSASB), a committee of International Federation of Accountants (IFAC) responsible for developing and issuing IPSAS.

The major objective of IPSAS is to improve the quality of general purpose financial reporting by public sector which would provide better means of assessing resources allocation by government and also enhance transparency and accountability (FRCN, 2011). Full and effective implementation of IPSAS would serve as a basis for the creation of a harmonized budgetary system for all levels and tiers of government and also boost Nigeria's eligibility to access economic benefits from donor agencies such as World Bank.

2.2 Empirical Studies on IPSAS Implementation in Nigeria

Transitioning to IPSAS from local or national generally accepted accounting practices is challenging and requires considerable time and effort. This is arguably attributable to the apparent complexities involved in the transition process, especially regarding accrual basis IPSAS which require the recognition and measurement of government assets and liabilities such as infrastructure, heritage assets, loans, pensions, and employee benefits to mention a few.

Hamisi (2012) highlighted several factors affecting IPSAS implementation in Kenya amongst which are international supports, change management, implementation cost and budgeting.

Tickell (2010) opined that IPSAS implementation is dependent on several factors such as improved skill level of existing accounting personnel, labour turnover rate, investment in technology and type of capital equipment used in reporting public sector reporting information.

Despite the obvious need for training, IPSAS training is viewed as a costly project which many governments are either unable or unwilling to undertake especially where there are so many competitive developmental needs. The expensive cost of training coupled with high labour turnover rate in government makes financing of IPSAS unattractive.

In Nigeria, poor conditions of service makes it burdensome to attract qualified personnel needed for IPSAS implementation and it is also not easy retaining the services of staff trained internally (Akhidime, 2010; Akhidime & Ekiomado, 2014; Ijeoma & Oghoghomeh, 2014). This suggests that government policies must not only be targeted towards attracting or training IPSAS experts but also aimed at improving conditions that will bring about staff retention within the public sector institutions. It has also been suggested that successful IPSAS implementation largely depends on a reliable government financial management information system (Atuilik, Adafula, &Asare, 2016; Omolehinwa & Naiyeju, 2015).

2.3 Theoretical framework

2.3.1 New Public Financial Management Theory

The increasing interest in public sector accountability has also led to a management theory called New Public Management (NPM). NPM is a term which originated in the early 1980s to signify a transformation to a new public management style. This theory requires a change in management practices of the public sector whereby they focus more on results instead of processes (Phetphrairin& Judy, 2011).

Introducing private sector methodsinto the public sector enhances the effectiveness of the public sector, thus making governments more financially accountable.The belief behind this movement is the assumption that private sector management styles are more superior compared to the public sector directorial processes (Wolfgang &Krispenz, 2007).As a result, conventional cash accounting is considered unsuitable to achieve a transparent and accountable management.

3.0 Methodology

This research was carried out in South West Nigeria especially Lagos, Ogun,Oyo and Osun States.The population of the study consists of all the professional accountants and auditors from the Ministries, Departments and Agencies (MDAs) of the selected states

Purposive Sampling Technique was used to select two hundred and forty (240) respondents comprising one hundred and eighty (180) Accountants and sixty (60) auditorswith five (5) years experience. The respondents are accounting practitioners in charge of IPSAS adoption, thus symbolizing the features of Public sector in South West, Nigeria.Data were generated from primary sources through well- structured questionnaires and descriptive statistics and factor analysis were employed for data analysis.

3.1 Factor Analysis model

$\mathbf{X = (X_1 \ldots X_p)}$ is a random vector with mean vector μ and covariance matrix Σ.

The Factor Analysis model assumes that

$$\mathbf{X = \mu + LF + \Sigma}$$

where $\mathbf{L = (ljk)\ p\times m}$denotes the matrix of factor loadings

$\mathbf{F = (F_1 \ldots F_m)}$denotes the vector of latent factor scores

$\mathbf{\Sigma = (\Sigma_1 \ldots \Sigma_p)}$denotes the vector of latent error terms

3.2 Instrument Reliability

Table I: Reliability test

Reliability Test	
Cronbach's Alpha	**Number of Items**
0.72	10

Source: Author's computation, 2020

Reliability test conducted in Table I recorded a Cronbach's alpha of .720 which is above the acceptable criterion of 0.70. This shows that all the variables are consistent and the instrument is reliable.

4.0 Empirical Results and Discussion

Table II: Respondents Demographic Information

Items	Profile	Frequency	Percentage	Cumulative percentage
Age	21-30 31-40 41-50 51-60 61 and above	35 80 77 26 22	14.58 33.33 32.08 10.84 9.17	14.58 47.91 79.99 90.83 100
Gender	Male Female	180 60	75 25	75 100
Educational qualification	PhD Msc/M.Tech/MBA Bsc/B.Tech/BA/HND OND HOLDER Sec. Sch.Cert.Holder	8 35 155 37 5	3.33 14.58 64.58 15.43 2.08	3.33 17.91 82.49 97.92 100
Professional Qualification	ACA ACCA ANAN ATSWA	75 5 120 40	31.25 2.09 50.00 16.66	31.25 33.34 83.34 100
Years of service	5-9 10-14 15-19 20-24 25 and above30	60 65 50 35 30	25.00 27.08 20.84 14.58 12.50	25.00 52.08 72.92 87.50 100

Source: Field survey, 2020

The descriptive statistics in Table 2 showed the demographic information of the respondents. More than 70 percent of the respondents are still in their active age, this indicates that they are valuable and can fully participate in IPSAS implementation because younger employees are more vibrant and resourceful.

Moreover, 82 percent of the respondents have sound educational background with at least a first degree or its equivalent. It implied that they are fully informed and possess exceptional quality that is required for successful and productive IPSAS implementation.

Also, all the respondents are members of professional associations which revealed that they are stakeholders in achieving IPSAS implementation framework. This will definitely make IPSAS implementation easier and faster. Furthermore, more than half of the respondents have more than 5 years experience in government service which showed that they are not mediocre in their field rather they are experienced and well versed in public sector accounting.

4.1 Extent of the Implementation of IPSAS in South West, Nigeria

In measuring the extent of the implementation of IPSAS, the respondents were interviewed based on the stipulated guidelines for effective implementation of IPSAS. The key indices used are: the use of accrual basis of accounting, availability of computers and internet resources, extent of training of the personnel, the comprehensiveness of the financial statements, etc

Table III: The Extent of the Implementation of IPSAS in South West, Nigeria

States	Year of Implementation	Extent of Training	Availability of computers and Internet facilities	Basis of accounting	Commitment	Comprehensiveness of financial statement
Lagos	2014	Regular	*computers are reasonably enough * only 20% of the staff don't have computers *No appropriate broadband *No steady power supply	Accrual Basis	Highly Committed	Comprehensive
Ogun	2014	Fairly Regular	*computers are barely adequate * About 40% of the staff don't have computers *No appropriate broadband *No steady power supply	Accrual Basis	Committed	Comprehensive
Oyo	2014	No further training after the one organized by Federal government	*computers are grossly inadequate * About 65% of the staff don't have computers *No appropriate broadband *No steady power supply	Accrual Basis	Fairly Committed	Comprehensive
Osun	2014	No further training after the one organized by Federal government	*computers are grossly inadequate * About 70% of the staff don't have computers *No appropriate broadband *No steady power	Accrual basis	Fairly Committed	Comprehensive

			supply			

Source: Field Survey, 2020

A summary of the interviews on the extent of the implementation of IPSAS was represented In Table 3. Findings showed that only Lagos state is highly committed to effective IPSAS implementation. The state conducts frequent training for its staff on IPSAS implementation, adopts accrual basis of accounting and prepares comprehensive financial statements.It is worthy of note that comprehensiveness of financial statements rests on the usage of accrual basis of accounting. Without accrual basis, the contents of comprehensive financial statement such as compliance with regulations, disclosure of assets and liabilities, etc. cannot be considered.

Though, all the states adopted accrual basis of accounting however, results showed that most of the accounting staff are not regularly trained due to inadequate fund. For IPSAS to be effectively implemented the staff should be trained on it, and those who had the first training should be retrained. Apart from the training on IPSAS, they raised the issue that most of their staff lacks the necessary ICT skills for the operation of IPSAS. Therefore, there is need for the training and retraining of the staff on ICT skills.

Findings further showed that computers are grossly inadequate among the states. For instance, in an office of 10 persons, there were only two functional computers. There was no internet service in the ministries. Without computers, the issue of staff possessing ICT skills is preposterous.
Moreover, majority of the respondents asserted that there is no steady power supply and that they are yet to understand the nitty-gritty of IPSAS. Conclusively, the extent of IPSAS implementation is fair, meaning that IPSAS needs to be effectively implemented in South West, Nigeria.

Table IV: Respondents' perception of the factors affecting effective IPSAS implementation in Nigeria

S/N	Variables	Observation	Minimum	Maximum	Mean	Standard Deviation
1.	Implementation cost	240	1.00	5.00	4.537512	.5241553
2.	Staff Capacity& Training	240	1.00	5.00	4.370833	.6337635
3.	Technology	240	1.00	5.00	3.895833	.4629162
4.	Political Factor	240	1.00	5.00	3.729167	.3537764
5.	Stakeholders support	240	1.00	5.00	3.487542	.6760654
6.	International support	240	1.00	5.00	3.116667	1.072153
7.	Legal factor	240	1.00	5.00	3.054167	1.015149
8.	Approach to implementation.	240	1.00	5.00	2.987524	1.036898
9.	Change management	240	1.00	5.00	2.937518	1.026964
10.	Comm. & Coordination	240	1.00	5.00	2.866667	.9718492

Source: Field survey, 2020

In Table 4, the study employed mean and standard deviation statistics in analysing the factors affecting effective IPSAS Implementation. All the scores are above average and not far from the maximum obtainable. This indicates that all the factors affect IPSAS implementation one way or the other, however the effect varies.

Items 1 to 5 shows the mean score of 4.537, 4.370, 3.895, 3.729 and 3.487 for implementation cost, staff capacity and training, technology, political factor and stakeholders support respectively. These are the highest mean recorded among all the criteria tested and with a less than 1 standard deviation which showed thatthe respondents are in agreement that the aforementioned factors affect effective IPSAS implementation significantly in Nigeria.

However, result of the study showed that communication and coordination with score of 2.8667 was the least significant factor

Table V: KMO Test

Kaiser-Meyer- Olkin Measure of Sampling Adequacy.	.712

Source: Author's computation, 2020

In order to measure the sampling adequacy, KMO test was conducted and the result in Table 5showed a value of 0.712 which implied that the samples were adequate and suitable.

Table VI: Extraction Method: Principal Component Analysis

Number of obs = 240
Retained factors = 5

Factors	Eigen value	Difference	Proportion	Cumulative	Uniqueness
Implementation cost	1.34586	0.08739	0.1346	0.1346	0.3230
Staff Capacity& Training	1.25847	0.10120	0.1258	0.2604	0.3119
Technology	1.15728	0.03660	0.1157	0.3762	0.2660
Political Factor	1.12068	0.09669	0.1121	0.4882	0.3786
Stakeholders support	1.02399	0.04072	0.1024	0.5906	0.3491
International support	0.98327	0.07621	0.0983	0.6890	0.4001
Legal factor	0.90707	0.10117	0.0907	0.7797	0.4361
Approach to implementation.	0.80590	0.08269	0.0806	0.8603	0.4895
Change management	0.72321	0.04894	0.0723	0.9326	0.5090
Comm. & Coordination	0.67427	0.01342	0.0674	1.0000	0.6357

Source: Author's Computation, 2020

The results of the principal component analysis displayed in Table 6 consist of the extracted factors, eigen values, proportion and uniqueness. In this analysis, 10 factors were tested however; the first 5 factors(implementation cost, staff capacity& Training, technology, political factor and stakeholders support) were considered significant using eigenvalue greater than one rule.

Implementation cost ranked highest as the most important factor affecting effective IPSAS implementation in Nigeria. IPSAS involves huge financial outlay and the costs associated with its implementation can't be estimated easily(UNCTAD, 2008). First, the cost of converting from

cash based accounting system to accrual based accounting system is high. Also, considerable amount of money is involved in putting into place the new standards, associated IT systems, consultancy costs, purchase of hardware, software and accounting packages and appropriate training and education for users.
This result buttressed the submission of James (2011) and Prewitt (2013) that the cost associated with training accounting practitioners significantly influence IPSAS implementation in developing countries. Also, this result confirms the outcome of the survey conducted by UNCTAD (2008) that the exorbitant cost of new accounting packages, materials, seminars and workshops for certified accountants makes IPSAS implementation difficult.

Staff capacity and training ranked next as a significant factor affecting implementation of IPSAS in Nigeria. For IPSAS to be implemented successfully there is urgent need for recruitment of qualified accountants and thorough training of accounting staff in public sector organizations.

Without this, IPSAS implementation may not be sustainable because staff training has a positive and direct association with IPSAS implementation (Tanjeh, 2014). Therefore staff should be furnished with the requisite skills and experience to pass through the implementation process. This finding is confirmed by UNCTAD (2008) that inadequate resourceful and certified trained persons make IPSAS implementation complicated. It is also in conformity with the report of Alesani *et al.* (2010) who discovered that Staff qualification and preparation influences government accounting reforms.

Technological factor is another significant factor affecting IPSAS implementation. Successful IPSAS implementation hinges on good technological innovation. Staff will be highly motivated to do their jobs because tasks would be completed faster and easily. Database management, record keeping and update of reporting systems may be difficult if this factor is not taken into consideration. Moreover, it facilitates comparison of financial information in and outside the country. The findings concurred with Ouda (2004) who asserted that technological factor is very essential to IPSAS implementation.

The political system has a strong influence on IPSAS implementation. This is because public sector accounting is solidly rooted in the political, economic, legal and social environments. Without political support, IPSAS implementation becomes a mirage. Generally, this support is achieved by creating conducive economic, social and political environment for formulation and utilization of contemporary ideas.

IPSAS implementation requires political will and 'champions' to generate results. This will greatly increase the chances of implementing IPSAS as most public sector reforms are influenced by specific national traditions and political cultures in Nigeria. For instance, some government agencies in Nigeria deliberately failed to implement IPSAS (Premium Times, 2016).This has constituted a major obstacle to IPSAS implementation. Without political support, IPSAS implementation may not see the light of the day because politico-institutional factors are strong and dominant forces that cannot be underestimated (Nurunnabi 2012)

Conclusively, for IPSAS to be implemented efficiently, support of various stakeholders across the country is highly desirable. This calls for the participation and enlightenment of relevant political office holders, auditors and accountants in various Ministries, Departments and Agencies. Moreover, the Executive Arm of Government, alongside the Public Accounts Committee needs to be actively involved and fully in support of the process, the change will not produce desired results if it is enforced (ACCA, 2018).

5.0 Conclusion and Recommendation

It is very clear that IPSAS has been adopted and is being implemented in the public sector accounting in Nigeria. However, the extent of IPSAS implementation in Nigeria needs to be critically examined. Therefore, this study investigated the extent of IPSAS implementation in South West, Nigeria and also examined the salient factors affecting effective IPSAS implementation.

Findings revealed that the extent of IPSAS implementation in South West Nigeria is fair; though, all the selected states adopted accrual basis of accounting however, results showed that most of the accounting staff are not regularly trained due to inadequate fund. Majority of the respondents asserted that there is no steady power supply and that they are yet to understand the nitty-gritty of IPSAS, this is because computers are grossly inadequate.

Additionally, five factors (implementation cost, staff capacity& Training, technology, political factor and stakeholders support) out of the ten factors identified significantly affected effective IPSAS implementation in Nigeria. This study recommended that government should provide adequate computers, upgrade the software, train accounting staff regularly and embark on online government in order to effectively implement IPSAS. Also, those charged with IPSAS implementation in Nigeria should pay adequate attention to these prominent factors well in advance and make proactive and insightful decisions in addressing them.

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HUBRIS HYPOTHESIS, MANAGERIAL IRRATIONALITY AND DIVIDEND POLICY OF NON-FINANCIAL FIRMS IN NIGERIA

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Abstract
The study investigates Hubris hypothesis, managerial irrationality and dividend policy of 15 non-financial firms in Nigeria for a period of two years (2017 to 2018). It is argue that senior executives have been found more inclined to commit such errors in dividend policy decisions. In view of this argument, we employed both correlation matrix and ordinary least square method to test this relationship in the Nigerian context. The empirical finding generally indicate that managerial overconfidence significantly influence dividend policy decision in Nigeria. Thus, Hubris hypothesis of managerial irrationality holds in the Nigerian case.Growth, Duality and ownership concentration were also found to have significant negative impact on overconfidence of corporate managers in relation to dividend distribution. The significant nature of DUALITY shows that when a chief executive officer is also the chairman of the company, the company tends to issue less dividend, and when the company has more cash reserve, it is more likely to pay fewer dividends to its shareholders.The study recommends that, in order to effectively guide against the negative effect of managerial overconfidence in relation to dividend policy decisions, corporate managers should be aware of their confidence level in order not to be bias when making decisions for the firm.
Keywords: Hubris Hypothesis, Managerial Irrationality, Dividend Policy and Econometric Method.

JEL Classification: G02, G0, G35,C1.

1. Introduction

Hubris hypothesis being as an integral aspect of behavioural finance has evolved in the last few decades. It focuses on how irrational behaviour may lead to overbidding/overconfidence in corporate mergers and acquisitions (M & A). Therefore, “if bidders don’t sufficiently bias bids downward to account for the winner’s course, they overvalue targets”. According to Bodt, Jean-Gabriel and Roll (2014), “hubris hypothesis of managerial irrationality provides a potential explanation for the observed negative acquirer cumulative abnormal returns (CAR) reported associated with mergers and acquisitions announcements and dividend policy decisions”. It effectively combines bidding competition and valuation error with dividend policy decision error by management. For instance, “in a takeover contest, winners are usually the highest bidders due to the fact that bids increase with assessments of value”.

Thus, dividend payment to shareholders or re-investing earnings for further growth is one of the three main financial decisions that corporate managers must take at all times (Miller &Modigliani, 1961). But there are divergent views as to how dividend policy decision affect firm's performance. For instance, "while Miller and Modigliani (1961) argued for irrelevance theorem of dividend, DeAngelo and DeAngelo (2009) contended that pay-out policy matters". Further, "studies on how dividend policy matters to a company have mostly focused on firm characteristics, such as firm size, growth, age, leverage (Denis & Osobov, 2008); however, one noticeable weakness of such studies lies in the rationality assumption, which has been challenged recently by scholars (Cordeiro, 2009; Simon, 1987)".

It has been argued that "humans are subject to irrationality and best described as bounded-rational (Ariely, 2008; Simon, 1978); but such bounded rationality is often reflected in people committing cognitive biases when making decisions (Hammond et al., 2006)". Managers are therefore usually prone to these errors which often have serious consequences on the overall direction and performance of the firm (Businetz & Barney, 1997; Cooper et al., 1998). It is in the light of these that this paper seeks to empirically test the Hubris hypothesis and model of managerial irrationality in relation to firm's dividend policy in Nigeria by relaxing the rationality assumption. Thus, "we assume cognitive biases are prevalent among managers in Nigerian listed firms and such biases as overconfidence have a great impact on their decision making".
Therefore, the main objective of this study is to examine "whether dividend payments or earnings reinvestment is not only related to firm characteristics, but also dependent upon senior managers' cognition". To the best of our knowledge, the way and manner in which managers' cognitive biases influence firms' financial decisions has not been well researched in the Nigerian context. The rest of the paper is structured such that section two covers the literature review and empirical evidences, section three deals with the methodology and model specification, section four addresses data analysis and results and while section five is on conclusion and policy recommendations.

2. Literature Review

2.1 Concept of Hubris and Hubris Hypothesis

According to Merriam-Webster Dictionary, "hubris is often perceived as a characteristic of an individual rather than a group, and is derived from the ancient Greek describing a personality quality of extreme or foolish pride or dangerous overconfidence. In other words, "it typically describes behaviour that defies the norms or challenges the gods, and which in turn brings about the downfall, or nemesis of the perpetrator of hubris; and it often indicates a loss of contact with reality and an overestimation of one's own competence, accomplishments or capabilities (Lewis, 2001)".According to Moolah (2009), hubris hypothesis refers to overbearing pride or presumption, excessive pride or self-confidence usually associated with individual. It explains the tendency for bidding firms to pay so much especially when corporate managers are over confidence/optimistic. "It helps to explain why sometimes bids are made by firms even when a valuation above the current market price is essentially a valuation error. Bidding firms are said to be infected by hubris simply because they tend to pay too much for their targets (Moolah, 2009)".

2.2 Manager overconfidence and financial decisions

The term overconfidence is often interchangeably used with Hubris hypothesis and optimist in several studies like those of Roll (1986) and Li and Tang (2010). Ideally, "overconfidence happens when the individual's certainty about his or her own predictions exceeds the accuracy of those predictions (Li & Tang, 2010); but when people's predictions often deviate from reality, they are over-confident". It can happen to anyone; however, Businetz and Barney (1997) and Hammond et al., (2006) argued that senior managers who are already in the pinnacle of success within the organization often fall victims because often believe in every decision they take based on past experiences. For this reason, they always assume that their chances of success in any event will always be higher than others (Audia et., 2000). Therefore, "people who are overconfidence, according to Chen, Zheng and Wu, (2011), arealways regarded as capable; and they are more likely to be promoted to the corporate suite"

Since managers are very powerful in terms of decision making in the organization, their actions can make or mar the organization if care is not taken (Finkelstein and Hambrick, 1990). For this reason, several studies have been carried out in this regard in order to assess the consequences of managers' decision making behaviour on the performance of the firm (Anand et al., 2002; Priem, 1994).Chen, Zheng and Wu (2011) argued that "there are also studies connecting senior manager overconfidence with financial decisions, which can be mainly classified into three categories as follows":

(i) Cooper et al. (1998) stated that, the way and manner managers' overconfidence influences investment determines the extent to which they will invest in that circumstances.
(ii) Overconfidence and financing as advocated by Landier and Thesmar (2009) who concluded that "overconfidence leads to short-term debt financing because they reason they would succeed, and even if they fail, investors will cover them."
(iii) On the issue of hubris hypothesis and value of the firm, Gervais et al. (2003) argued that managers are often influence by it, thereby reducing the overall wealth of the shareholders and firm value. However, Chen, Zheng and Wu(2011) advocated for a moderate confidence which has the tendency of aligning shareholders' interest and those of the managers.

2.3 The Empirical Literature

Berkovitch and Narayanan (1993) study on 330 target firms and total gains to discriminate synergy, agency and hubris motives for undertaking M&As for the period 1963 to 1988. The results obtained generally showed that hubris hypothesis strongly affect the dividend policy of firms. In the same vein, Muller and Sirower (2003) also test for the presence of hubris in relation to managerial decision on dividend policy of about 168 firms demonstrated a significant positive relationship between corporate managerial discretion and dividend policy.

In response to several recent empirical findings on declining trend in the cumulative abnormal return (CAR) of acquirers during an M&A program, Aktas, Bodt and Roll (2007) investigate whether it implies that acquiring CEOs are infected by hubris, without taking note of previous mistakes. Their empirical findings indicate a positive relationship between CAR hubris hypothesis. Vagenas-Nanos (2010) investigates the relationship between hubris hypothesis and shareholders' wealth in UK firms. The results from the analysis demonstrated that hubris hypothesis hinders high returns on investment as well as having destructive effect on shareholder wealth.

In another related study, Chen, Zheng and Wu (2011) examined the impact of Hubris hypothesis on dividend policy of a sample of 745 companies in China. The empirical results showed while state ownership and political connection weaken manager's overconfidence, a significant negative relationship exists between hubris hypothesis and firm's dividend policy decisions. Balsyte and Moeller (2012) employed the multi-factor behavioural model on hubris hypothesis in mergers and acquisitions (M&A). The empirical analysis revealed that senior managers have the tendency of displaying hubris hypothesis in the process of evaluating M&As transactions.

The study of Rasheed, Sadaqat and Chughtai (2012) employed the regression analysis on hubris hypothesis and dividend policy decisions of 62 listed firms in Pakistan for the period 2009 to 2011. The result showed that the absence of managerial overconfidence (hubris) with respect to dividend policy decisions. Waal (2013) examines the effects of hubris and size on merger performance using the Univariate and the OLS techniques. The empirical finding indicates that hubris hypothesis significantly and positively influence mergers performance.

Bodt, Jean-Gabriel and Roll (2014) employed the order condition and the information content of an acquirer's expected to test mergers and acquisitions bidden transactions. The empirical findings revealed presence of overbidding which was probably caused by leverage and CEO power.

Soongswang (2016) examines the motives behind takeovers activities in Thailand under synergy, agency costs and hubris hypothesis. He employed a long window returns for a period of 12 months before and after the announcement by means of a number of metrics. He also used the adjusted market models to estimate the returns for the bid period, and applying the CAR for the bidding firm's returns, including a parametric test statistics, the empirical results indicate that total gains of the two set of firms are positive that the synergy was the main motive behind the takeovers. When the methods of Bradley, Dasai and Kim and Asquith were employed, including that of Roll with respect to Hubris, the results also reveal that hubris was the potential rationale for the Thailand takeover bids.

3. Methodology

Two main methods are used in the empirical analysis of this study. These are the correlation coefficient and the ordinary least square (OLS) econometric technique. The correlation coefficient help to provide the background characterization of the relationship among the hypothesized variables in the model. The OLS helps to explain the effects of managerial overconfidence (Hubris hypothesis) on dividend policy of 15 non-financial firms in Nigeria. The methodology was also used by Chen, Zheng and Wu (2011) in China to examine senior manager overconfidence, managerial discretion and dividend policy.

The theoretical model specified in this study is partly derived from the work of Chen, Zheng and Wu (2011) who employed three sets of models to analyse how senior managers overconfident affect dividend policy of Chinese firms.

3.1 Model Specification

Hence, our functional form of the model is specified as follows:

DIVP= f(MOC, Duality, StateOwn, OwnCon, LEV, Size, CF)……………………………1

The econometric form of the model is specified thus:

DIV= $\beta 0$ +$\beta 1$ MOC +$\beta 2$ Duality +$\beta 3$ GROW +$\beta 4$ OwnCon + $\beta 5$ LEV + $\beta 6$ TASS + $\beta 7$ CF + ε...2

Where:

MOC = Managerial Overconfidence; DUAL = Chairman-CEO Duality; GROW = Growth; OwnCon = ownership concentration; LEV = Leverage; TASS = Total Assets; CF = Cash flow

3.2 Operationalization of Variables

(i). **"**Managerial Overconfidence = by calculating the difference between the forecast profit and the actual company performance (Lin et al, 2005) used similar measurements;

ii). Chairman-CEO Duality (Duality) = When the CEO of a company also serves as the chairman, we assigned a value of 1; otherwise, the value is 0;

iii). Cash Flow (CF) = Total cash flow and its equivalent;

iv). Industry growth (Growth) = by averaging the sales over a five years period in the industry".

v). Ownership Concentration = It was dummy, i.e, where the ownership concentration is high, its assigned 1 otherwise 0

vi). Firm leverage (LEV) = measured as the level of debt employed by the firms

vii) Total Assets = Also measured as size of the firms

3.3 Source of Data

The data were sourced from Cash craft Asset Management Website and the respective companies' financial statement and annual reports respectively. The data covered a period of two years (2017 to 2018) for 15 quoted firms on the floor of the Nigerian Stock Exchange. The choice of these period was based on the availability of complete data for the study.

4. Data Analysis and Results

4.1 Correlation Analysis

In order to observe the pattern of relationship among the variables in the model, the correlation matrix for the data is computed. Moreover, the result from the analysis guides us in the use of the variables in the estimation since highly correlated independent variables will cause multicollinearity problem in the model. Indeed, when independent variables are collinear to a very high degree, then there is often the problem of multicollinearity present in the resultant model in which case the OLS estimator would lose some of its properties.

The result of the correlation tests is presented in table 4.1 below. In the result, managerial overconfidence (MOC), leverage (LEV), growth (GROW), total assets (TASS), cash flow (CF) and ownership concentration (OWNCON) have weak negative correlation with dividend policy (DIVP). Their respective values are -0.211257, -0.108214, -0.009974, -0.020832, -0.083236 and -0.161457. Managerial duality (DUAL) is seen to have a moderate positive correlation with

DIVP with a value of 0.383281. On the other hands, LEV and TASS have strong positive correlation with MOC; while TASS and LEV are highly positively correlated.

Table 4.1: Correlation Matrix

	DIVIP	MOC	LEV	GROW	TASS	DUAL	CF	OWNCON
DIVP	1							
MOC	-0.211257	1						
LEV	-0.108214	0.720082	1					
GROW	-0.009974	0.165048	-0.003632	1				
TASS	-0.083236	0.870088	0.838067	0.052642	1			
DUAL	0.383281	0.270372	-0.031501	-0.084856	0.264039	1		
CF	-0.020832	-0.234702	-0.131331	0.038007	-0.163195	-0.308946	1	
OWNCON	-0.161457	-0.174021	-0.208520	0.259532	-0.098246	0.256495	-0.082648	1

Source: Author's computation 2019.

However, a cursory glance at the results above indicate that there is nothing to worry about as the results so obtained will not in any way cause any problem of multicollinearity amongst the independent variables used in the model.

4.2 Regression Analysis

The result of the estimated OLS regression for the model is reported in table 4.2 below. In the result, the goodness of fit statistics is impressive. The R-squared value of 0.54 is high and it reveals that over 54 percent of the systematic variations in dividend policy (DIVP) are captured by the estimated model. The adjusted R-squared value of 0.41 percent is also very moderate and it shows the predictive power of the model. The overall significance of the model is determined by observing the F-statistic value. In the model, the F-value of 3.9186 is sufficiently high and easily passes the significance test at the 1 percent level. Hence, we cannot reject the hypothesis of a significant linear relationship between dividend policy (DIVP) and managerial overconfidence and the other independent variables combined. It indicates that hubris hypothesis and all the independent variables combine effectively to influence firms' dividend policy (DIVP)in Nigeria in the period under investigation.

Table 4.2: Hubris Hypothesis, Managerial Irrationality and Dividend Policy in Nigeria (OLS)

Variables	Coefficient	T-Ratios	Prob.
Constant	70352.64	1.807019	0.0839
MOC	-1.84E-06	-3.314577	0.0030*
LEV	0.000761	1.065090	0.2979
GROWTH	31804.53	2.213787	0.0370**
TASSET	0.000600	0.728509	0.4737
DUALITY	214400.7	4.163855	0.0004*
CF	2.45E-08	0.004927	0.9961

OWNCON	-31654.60	-3.262132	0.0034*
$R^2 = 0.54$		$\bar{R}^2 = 0.41$	
F = 3.9186		DW Statistic = 1.5	

Source: Author's computation 2019. ** sig. at 5%; * sig. at 1% level of significance.

The relevance of each of the explanatory variables in relation to dividend policy payment is determined by observing the coefficients of the variables in terms of their signs and significance. A close examination of the coefficients reveals that all the coefficients possess the expected signs which are in line with the *a-priory* determination in the model, except those of MOC and OWNCON do not possess the expected a-priory sign rather, they were found to be negative.

The main role of the variables in the model is examined through the t-test of significance. The t-test of significance for the coefficients shows that management overconfidence (as a measure of hubris hypothesis, has significant negative relationship with dividend policy (DIVP). It was found to be significant at the 1% level. This implies that, hubris hypothesis as measured by management overconfidence is a significant factor in the determination the pattern of dividend payment in Nigeria, and this impact have been negative over time. This finding agrees with those of Berkovitch and Narayanan (1993), Muller and Sirower (2003), Aktas, Bodt and Roll (2007) and Chen, Zheng and Wu (2011) in China who finds a negative relationship between senior manager over confidence and dividend policy. The study however disagree with those of Vagenas-Nanos (2010) in UK and Rasheed, Sadaqat and Chughtai (2012) in Pakistan, that managers infected by hubris failed to generate superior returns than those generated by rational bidders.

The coefficients of GROWTH, DUALITY and OWNCON also passed the significant test at the 5% and 1% levels. Meaning that these variables significantly influence overconfidence of corporate managers in relation to dividend distribution. In particular, the significant nature of the DUALITY show that when a chief executive officer occupies dual role in the company, low dividend are issued, and when more cash are available, it probably pay fewer dividends. This finding is also consistent with those of Chen, Zheng and Wu (2011). The other hypothesized variables coefficients such as LEV,TASSET and CF failed the 5% significance level, meaning that these three main control variables in the model have no significant relationship with management dividend decisions.

The overall results obtained from the model estimation are effectively acceptable because the D.W. statistic value of 1.5 is sufficiently close to 2 and implies the absence of autocorrelation in the model.

4. Conclusion

The study has empirically investigated Hubris hypothesis, managerial irrationality and dividend policy of 15 non-financial firms in Nigeria for a period of two years (2017 to 2018). The correlation matrix and ordinary least square methods were employed to test this relationship in the Nigerian context. The empirical finding generally indicates that managerial overconfidence significantly influence dividend policy decision in Nigeria. Thus, Hubris hypothesis of

managerial irrationality holds in the Nigeria case. Growth, Duality and ownership concentration were also found to significantly influence overconfidence of corporate managers in relation to dividend distribution. The significant nature of DUALITY show that “when a chief executive officer is also the chairman of the company, the company tends to issue less dividend, and when the company has more cash reserve, it is more likely to pay fewer dividends to its shareholders”.
Since the major finding in this study indicates a significant negative relationship between managerial overconfidence and dividend policy decision, therefore, corporate managers should be aware of their confidence level in order not to be bias when making decisions for the firm. Senior managers should be properly checked and interviewed before employment. Also psychological test should be conducted for senior managers before employment to ascertain their level of confidence.

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EFFECT OF TREASURY SINGLE ACCOUNT ADOPTION ON FINANCIAL CONTROL IN SELECTED SOUTH WESTERN STATES OF NIGERIA

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Abstract

Treasury Single Account (TSA) turned into an arrangement of Nigerian government to hinder financial leakages, advance transparency and forestall mismanagement of government's revenue, binds together all government accounts, empowering it to forestall revenue misfortune and mismanagement by revenue-producing agencies. This study evaluated the impact of treasury single account adoption (TSA) on financial control (FC) in the public sector of Nigeria from 2009 to 2019. The study used survey design method. Purposive sampling technique was employed to select 263 senior staff of the six south western state ministry of finance. Multiple regression and ANOVA were used to test for difference in factors that determined TSA adoption by state government in Nigeria and the influence of TSA variables on FC. Findings revealed that 88.4 percent of variation in TSA adoption status was accounted for by TSA variables supported by R^2 = 0.781 at 5% level. F-ratio = 167.371, p-value = 0.000 < 0.05 suggested that there is significant difference in factors determining TSA adoption. Also, 76.9 percent of variation in the dependent variable was accounted for by independent variables supported by R^2 = 0.592 at 5% level. Furthermore, F-ratio = 85.611, p-value = 0.001 < 0.05 suggested that there is significant in influence of TSA adoption variables on financial control (FC). That Treasury Single Account adoption influences financial control of the sampled south western states in Nigeria. It is recommended that government should prioritise formulation of policies that encourage and enhances TSA adoption in all sectors of the economy.

Keywords: Treasury Single Adoption, Financial Control

1. Introduction

The installment of governments revenue into numerous financial balances worked by Ministries, Departments and Agencies (MDAs) in business banks, as obtainable before Treasury Single Account (TSA), has been portrayed to be obviously against the Nigerian Constitution. For instance, Section 80(1) of the 1999 Constitution as amended states "All revenues, or other monies raised or got by the Federation (not being revenues or other moneys payable under this Constitution or any Act of the National Assembly into some other public asset of the Federation established for a particular reason) will be paid into and structure one Consolidated Revenue Fund of the Federation" (Yusuf & Chiejina, 2015). Preceding the implementation of TSA, when, Ministries, Departments and Agencies of government worked various accounts with deposit money banks for various operational exchange heads of revenue generating MDAs for the most part, gathered revenues through these accounts and transmitted them occasionally according to

surviving financial guidelines. Some had endorsed rates of such accumulated revenues retained and used to meet their operational and overhead expenses. Notwithstanding, the government saw the course of action as allowing for looting of government revenue by heads of MDAs, thereby paving ways for high pace of defilement in the country. In other to guarantee accountability and transparency, and fitting clear leakages, government introduced TSA as a public treasury management instrument. In the perception of Igbekoyi and Agbaje (2017), researchers consented to the way that TSA adoption sway emphatically on revenue age in the created world like United Kingdom, Mexico and so on. The degree of this in developing nations like Nigeria is an issue for empirical investigation from the point of view of Nigeria. In Nigeria TSA is seen as one of the excellent measures received by the government in battle against frail financial control saw in the literature of public sector accounting and finance. Notwithstanding, there is need to distinguish unconventional factors influencing TSA adoption within locales or state. The current study has gotten basic to give empirical proof on TSA adoption and financial control in the public sector concerning Nigeria considering south west states government Nigeria.
The study examined the impact of treasury single account adoption on financial control in the public sector. In particular, it examined the difference in the factors determining treasury single account adoption by state governments in south-west Nigeria and examined influence of treasury single account on financial control. It hypothesized that, there is no difference in the factors determining treasury single account adoption by state government in Nigeria and treasury single account adoption does not influence financial control of state government. The study significance came as authors in accounting and finance have for the most part centered on central government's ministries, departments and agencies with either the wellspring of information essential or auxiliary, not many researchers did their study on state government and its parastatals. Nonetheless, where the study is on state government, just a single state is thought of. This research investigated TSA and financial control using both essential and optional information, taking Ogun and Ekiti states for the study.

This study investigated TSA adoption on financial control in south western region Nigeria. The study contributed to the literature of public sector Accounting and Finance in the area of factor determining adoption of TSA, the influence of TSA adoption on financial control in Nigeria. The study provided guide to policy framework on TSA in Nigeria among south west states in Nigeria, benefited public sector accountants and auditors on factors of government adoption and implementation of TSA, analysts and researchers for further areas of research on the relationship between TSA and Financial Control in the public sector. This study covers the ministry of finance from the two states and served as source for data of the work. The study covered a period of ten years from 2009 to 2019.

2. Literature Review

2.1 Conceptual Review

Treasury Single Account and Financial Control: Treasury Single Account (TSA), Accountability and Transparency in the Public Sector:The essential objective of a TSA is to guarantee viable total control over government cash adjusts. The consolidation of cash resources through a TSA plan works with government cash management by minimizing borrowing costs.

Without a TSA, inactive adjusts are maintained in a few bank accounts. Successful total control of cash is likewise a vital component in monetary and budget management. The adoption of TSA in the public sector minimizes transaction costs during budget execution, notably by controlling the postponement in the settlement of government revenues (both duty and non-charge) by collecting banks, and making quick installments of government costs, facilitating reconciliation among banking and accounting information, efficient control and monitoring of assets dispensed to different government agencies and facilitating better coordination with the monetary arrangement implementation. Other areas where adoption of TSA advances accountability and transparency includes the following: Complete and Timely Information on Government Cash Resources, Improve Appropriation Control, Improve Operational Control during Budget Execution, Enable Efficient Cash Management and Reduces Bank Fees and Transaction Costs, Lower Liquidity Reserve Need. The Origin of Treasury Single Account (TSA) in Nigeria Treasure Single Account is not another concept; it has been embraced for quite a long time in created nations like the United States, UK, France and developing economies of India and Indonesia. In Nigeria, the strategy was first suggested by the Federal Government's Economic Reform and Governance Program in 2004, yet anyway unloaded in 2005, following intense pressing factor from the banking industry. TSA is essential for the Public Financial Management changes which fall under the National Strategy for Public Service Reforms towards Vision 20:2020. The public financial management changes were intended to deliver obstacles to successful and efficient cash management. It is all around the world suggested that no other government office ought to work bank accounts outside the oversight of the treasury. Institutional constructions and transaction processing game plans determine how a TSA is gotten to and worked. The treasury, as the boss financial specialist of the government, ought to deal with the government's cash (and debt) positions to guarantee that adequate assets are accessible to meet financial obligations, inactive cash is efficiently invested, and debt is ideally issued according to the proper resolutions. Sometimes, debt management including issuance of debt is done by a Debt Management Office (DMO). Judging by the provisions of the Financial Regulations (FR) and the 1999 Constitution of the Federal Republic of Nigeria, a few Ministries/Extra-ministerial Offices, Agencies and other arms of government gather revenue (like Value Added Tax (VAT), Withholding Tax (WHT), fees, fines and interest) are required to dispatch same into the Consolidated Revenue Fund (CRF).

Accountability: Adegite (2010) define accountability as the obligation to demonstrate that work has been conducted in understanding with concurred rules and standards and the officer reports reasonably and precisely on execution results vis-à-vis mandated jobs and or/designs. It implies doing things straightforwardly in line with fair treatment and the provision of input. Okoh and Ohwoyibo (2010) opine that accountability mirrors the need for government and its agencies to serve the public viably in understanding with the rules that everyone must follow. Appah (2010) point out that the number and monetary estimation of public sector exercises has increased considerably and this increase in exercises has carried with it an increased demand for accountability of public officers who deal with these exercises of the public.

Transparency: Transparency has been utilized in different disciplines and branches of knowledge. Comparative with political administration, Kopis (1998) defines it as a disposition of transparency towards the public everywhere, about government construction and functions, strategy intentions, public sector account and projections prepared admittance to solid, exhaustive, timely understandable information on government exercises so the electorate and financial market can really get to government financial position and the genuine expense and advantages of government exercises. Considering this point of view, obviously accountability and transparency is a genuine vote based system unequivocally addresses a general, identical concept of shared responsibility, trustworthiness, and open communication between the government and the administered. The two participating sides - government and the represented commonly needs one another. The government in request to legitimize its popularity based authenticity needs the trust of the public to be casted a ballot and kept in power.

Financial control in public sector: Government assumes a leading part in the advancement of any nation. It is important to give an appropriate framework to the accomplishment of this noble job. The job can be accomplished through the device of administration and public administration. The field of public administration alludes to the way wherein focal or Federal, provincial or state, and neighbourhood institutions with their procedural, legitimate, administrative, financial, HR and asset aspects are coordinated, institutionalized and made do regarding administrative, revenue extraction, spending and obtainment functions, and the provision of such administrations as protection, social administrations, and economic infrastructure Mhome (2003).

2.2 Theoretical Review

Various theories of financial accounting were acquired to shape sound foundation to prove treasury single account adoption and implementation as financial control apparatus in the public sector. Models include stakeholder theory: It assumed that adaptation of Treasury Single Account by the government is because of the pressing factor from stakeholders/residents lion's share against corruption. It proposed that the government will responds to the concerns and expectations of amazing stakeholders/residents and a portion of the responses will be in the type of key opinions. Stakeholder's theory gives rich insights into the factors that spur government in relation to the adaptation and formulation of TSA.

2.3. Empirical Review

Ekubiat and Edet (2016) did a research on the adoption of treasury Single Account (TSA) by State Governments of Nigeria. Distinct cross-sectional review configuration was received for the study. The population for the study consisted of 200 Professional Accountants in Akwa Ibom State. Taro Yamane's statistical recipe was utilized to choose sample size of 133.

Information obtained from questionnaire administration were investigated using spellbinding statistics and t-test statistics. Finding uncovered that TSA adoption and full implementation by the state governments will be of most noteworthy advantage as appeared in the weighted methods scores of 4.20 and tcal of 24.87. It was concluded that there will be difficulties in a short-run however the advantages at a long-run will definitely out-weight the difficulties. Igbekoyi and Agbaje (2017) assessed the implication of treasury single account adoption on public sector accountability and transparency. The study caught 570 ministries, departments and agencies (MDAs) in the public help with sample size of ten (10) MDAs involved in revenue generation chose using purposive sampling technique. Engaging and Inferential analysis were utilized in the study. Result showed that TSA has huge positive effect on financial leakages, transparency and control financial misappropriation. Adebisi and Okike (2018), examine the Adoption of the Treasury Single Account (TSA) and Its Effect on Revenue Leakages of Nigerian States. The study embraced essential information, regression analysis with the guide of SPSS 22. The aftereffect of the study uncovered that the TSA adoption is a viable apparatus for curbing revenue spillage in Nigerian states. Ahmed (2016) assessed the Treasury Single Account as an Instrument of Financial Prudence and Management: Prospects and Problems. The study examinations the objectives of the TSA framework, discusses the possibilities of the TSA and its difficulties. The study uncovered that the framework requires political will, honesty and determination to conquer different moves distinguished in request to accomplish the normal advantages of the framework. Yusuf (2016) investigated the impact of treasury single account on public finance management in Nigeria. The study utilized both essential and secondary information, the populations of this study are Ministries, Department and Agencies (MDAs) within Bauchi metropolis using a sample of 72 respondents through judgment sampling. The information gathered were dissected using the Pearson Correlation techniques. Result showed that adoption of a Treasury Single Account (TSA) is fit for plugging financial loopholes, promoting transparency and accountability in the public Financial System.

3. Methodology

The research study area is South-West region of Nigeria which comprises six states which are Ekiti, Lagos, Ogun, Ondo, Osun and Oyo states. The region is majorly a Yoruba speaking region even though there are different dialects even within each state. For this study, Ogun and Ekiti states were examined. Ogun and Ekiti were purposively selected based on their uniqueness to the study. This study employed quantitative research design and cross-sectional design that helped to collate good quantity of responses from the respondents on the variables of the study and the quantity of respondents on each characteristic. Ogun state ministry of finance entire 218 staff and Ekiti state ministry of finance all 95 staff according to the registry of both states ministry of finance in 2019 constitute the population of this study. The entire 190 senior staff in Ogun and Ekiti all 73 senior staff of the ministry of finance according to the registry of both states ministry of finance in 2019 make the sample size of the study.Purposive Sampling Technique (PST) was employed. The entire staff population of the ministry of finance in Ogun and Ekiti states formed the sample population while only the senior staffs of the ministry were purposively selected for the study and this formed the sample size. Questionnaire were administered on the senior staff in Ogun and Ekiti states ministry of finance based on the total figure of the population of senior staff where Ogun has 190 and Ekiti 73 making a total of 263senior staff in both sampled states.

The method of data collection for this research work was face to face data collection. This type of data collection is where both the respondents and researcher were in face to face contact while the questionnaire were administered directly on the respondents. The primary data was collected through the use of questionnaire: which was used to examine the difference in the factors determining treasury single account adoption by state government in Nigeria. While, questionnaire and secondary data extracted from the annually approved estimates of the governments was used to examine the influence of treasury single account on financial control.The instrument used for this study data collection is questionnaire. Structured questionnaire was employed to capture needed data for the study. The questionnaires were designed as open ended and close ended. The questionnaire were administered on the respondents and collected face to face. The data captured were used to test for the objectives of the study. Inferential analysis method (multiple regression and ANOVA) was adopted for the objectives.

For objective one; To determine if there is any difference in the factors determining treasury single account adoption by state government in Nigeria.

$y = K + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5$

$Ad = K + b_1IGR + b_2FL + b_3LC + b_4EAS + b_5T$

Where, Ad = Treasury Single Account Adoption

K = Constant

$b_1 \ldots + b_5$ = Coefficients of explaining variable

IGR = Internally Generated Revenue

FL = Financial Leakages

LC = Level of Corruption

EAS = Effective Audit System

T = Technology

For objective two; To examine the influence of treasury single account on financial control.

$y = K + X_1 + X_2 + X_3 \cdots + Xn$

$FC = k + TSAAd$

Where, FC = Financial Control

k = Constant.

TSAAd = Treasury Single Account Adoption Status

4. Results and Discussion

Difference in Factors determining TSA Adoption by State Government in South West Nigeria.

Table 1 showed the model summary of difference of factors determining the Treasure Single Account adoption of state government in south-west Nigeria. It was observed that the multiple correlation coefficient R was 0.884 and the coefficient of determinant R^2 was 0.781 which implied the extent to which independent variables (State of Technology Impacts on Treasury Single Account Adoption, Level of Corruption is a Strong Determinant of Treasury Single Account Adoption, Financial Leakages is Considered Before Treasury Single Account Adoption, Treasury Single Account Adoption depends on Level of Internally Generated Revenue, Effective Audit System is a Factor Determining Treasury Single Account Adoption) explained a variation in the dependent variable (Government Directive on Treasury Single Account Determines its Adoption) was 78%.

Furthermore, table 2 presented the ANOVA of the difference between dependent variable and independent variable. It was observed that the F-ratio was 167.371 with critical p-value of 0.000 which was lower than 0.05 level of statistical significant. Since, the critical p-value is lower than the level of significant then the null hypothesis which stated that there is no difference in the factors determining Treasure Single Account adoption and usage by state governments in south-west Nigeria was rejected while the alternate hypothesis was accepted. Therefore, it was affirmed that the factors identified (State of Technology Impacts on Treasury Single Account Adoption, Level of Corruption is a Strong Determinant of Treasury Single Account Adoption, Financial Leakages is Considered Before Treasury Single Account Adoption, Treasury Single Account Adoption depends on Level of Internally Generated Revenue, Effective Audit System is a Factor Determining Treasury Single Account Adoption) are significantly different by state government in south-west Nigeria upon dependent variable (Government Directive on Treasury Single Account Determines its Adoption).

Also, table 3 showed the coefficients of the difference in the identified factors and dependent variable. It was observed that TSA Adoption depends on Level of Internally Generated Revenue had the highest effect with a beta value of 0.296, followed by Financial Leakages is Considered before Treasury Single Account Adoption with a beta value of 0.290, followed by Level of Corruption is a Strong Determinant of Treasury Single Account Adoption with a beta value of 0.197, followed by State of Technology Impacts on Treasury Single Account Adoption with a beta value of 0.045. This affirmed that State of Technology Impacts on Treasury Single Account Adoption, Level of Corruption is a Strong Determinant of Treasury Single Account Adoption, Financial Leakages is Considered Before Treasury Single Account Adoption, Treasury Single Account Adoption depends on Level of Internally Generated Revenue have significant difference with dependent variable of the state governments in south-west Nigeria.

Table 1: Model Summary of Difference inFactors determining TSA Adoption by State Government in South-West Nigeria

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
.884	0.781	0.776		0.24818

a. Predictors: (Constant), TSA Ad dp on Lvl of IGR, FinLe is Con BfrTSAAd, LvlofCorr a Strng Det TSAAd, EffAudSys a Fac Det TSAAd, Stateof Tech Impc on TSAAd.

b. Dependent Variable: Govt Dir on TSA Det its Adp.

Source: Researcher’s computation (2021)

Table 2: ANOVA of Difference inFactors determining TSA Adoption by State Government in South-West Nigeria

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	51.543	5	10.309	167.371	.000
Residual	14.474	235	.062		
Total	66.017	240			

Predictors: (Constant), State of Tech Impc on TSAAd, LvlofCorr a Strng Det TSAAd, FinLe is Con BfrTSAAd, TSA Ad dp on Lvl of IGR, EffAudSys a Fac Det TSAAd

Source: Researcher's computation (2021)

Table 3: Coefficients of Difference inFactors determining TSA Adoption by State Government in South-West Nigeria

	Unstandardized		Standardized		
	Model B	Std. Error	Beta	T	Sig.
(Constant)	0.222	.054		4.096	0.000
TSA Ad dp on Lvl of IGR	0.296	0.057	0.358	5.189	0.000
FinLe is Con BfrTSAAd	0.290	0.058	0.331	5.039	0.000
LvlofCorr a Det TSAAd	0.197	0.058	0.205	3.403	0.000
EffAudSys a FacDetTSAAd	0.005	0.064	0.006	0.076	0.939
State of Tech ImpcTSAAd	0.045	0.068	0.047	0.663	0.508

a. Dependent Variable: Govt Dir on TSA Det its Ad

Source: Researcher's computation (2021)

Influence of Treasure Single Account (TSA) Adoption on Financial Control in the Public Sector

Table 4 showed the model summary of influence of Treasure Single Account on financial control in the public sector. It was observed that the multiple correlation coefficient R was 0.769 and the coefficient of determinant R^2 was 0.592 which implied the extent to which the independent variables (Simplifies Accounting and Auditing of Government Revenue, Government Revenue is Received Promptly, Plugs Leakages in Revenue Collection and Accounting, Facilitates Cash Management monitoring of Government Cash Balances) explained a variation in the dependent variable (Enables Government to Harness Revenue from all Sources) was 59%. Furthermore, table 5 presented the ANOVA of the relationship between dependent variable and independent variable. It was observed that the F-ratio was 85.611 with critical p-value of 0.001 which was lower than 0.05 level of statistical significant. Since, the critical p-value is lower than the level of significant then the null hypothesis which stated that Treasure Single Account will not significantly influence financial control of state government was rejected while the alternate hypothesis was accepted. Therefore, it was affirmed that the factors identified (simplifies accounting and auditing of government revenue, government revenue is received promptly, plugs leakages in revenue collection and accounting, facilitates cash management monitoring of government cash balances) significantly influenced dependent variable (enables government to harness revenue from all sources). This agrees with (Ajibade, Oyedokun and Doumu, 2018). Also, table 6 showed the coefficients of the relationship between the four identified factors and dependent variable. It was observed that TSA facilitates cash management monitoring of government cash balances had the highest effect with a beta value of 0.654 followed by government revenue is received promptly with a beta value of 0.325, followed by simplifies accounting and auditing of government revenue with a beta value of 0.239. This affirmed that TSA facilitates cash management monitoring of government cash balances, government revenue is received promptly and simplifies accounting and auditing of government revenue have significant relationship with dependent variable. This agreed with Ndubuaku, Ohaegbu and Nina (2017) and that the significant relationship between the independent and dependent variables showed that TSA adoption influenced financial control in the public sector in Nigeria.

Table 4: Model Summary of influence of Treasure Single Account on financial control in the public sector

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
0.769	0.592	0.585	0.57537	

Predictors: (Constant), SimpsAcctngndAudtng of Gvt Rev, Govt Reve is Received Promptly, Plugs Lkgs in Rev ColltnndAcctng, Facltts Cash MgtMonit of GvtCaBal.
Source: Researcher's computation (2021)

Table 5: ANOVAof influence of these variables on financial control in the public sector

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	113.366	4	28.341		85.6110.001
Residual	78.128236	0.331			
Total	191.494	240			

Predictors: (Constant), SimpsAcctngndAudtng of Gvt Rev, Govt Reve is Received Promptly, Plugs Lkgs in Rev ColltnndAcctng, Facltts Cash MgtMonit of GvtCaBal.
b. Dependent Variable: Enb Govt Har Rev frm all Sources.
Source: Researcher's computation (2021)

Table 6: Coefficients of influence of these variables on financial control in the public sector

Model	B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	T	Sig.
(Constant)	-0.241	0.126	-1.909	0.057	
Govt Reve is Received Promptly	0.325	0.066	0.270	4.910	0.001
Plugs Lkgs in Rev ColltnndAcctng	-0.059	0.099	-0.044	-0.591	0.555
Facltts Cash Mgt Monit of GvtCaBal	0.654	0.108	0.491	6.078	0.001
SimpsAcctngndAudtng of Gvt Rev	0.239	0.084	0.160	2.864	0.005

a. Dependent Variable: Enb Govt Har Rev frm all Sources.

Source: Researcher's computation (2021)

5. SUMMARY, CONCLUSION AND RECOMEDATIONS

In summary, this study was carried out to appraise treasury single account adoption and financial control in the public sector in Nigeria making Ogun and Ekiti states as a case study. On this note the following research objectives were set; to examine the difference in factors that determines treasury single account adoption by state governments of south-west in Nigeria and to examine the influence of treasury single account on financial control by state governments of south-west in Nigeria. The result for objective one, revealed the coefficient of determinant R^2 = 0.781, implied the extent to which predicting variables (State of Technology Impacts on Treasury Single Account Adoption, Level of Corruption is a Strong Determinant of Treasury Single Account Adoption, Financial Leakages is Considered Before Treasury Single Account Adoption, Treasury Single Account Adoption depends on Level of Internally Generated Revenue, Effective Audit System is a Factor Determining Treasury Single Account Adoption) explained a variation in the dependent variable (Government Directive on Treasury Single Account Determines its Adoption) was 78.1 percent. While the multiple correlation coefficient (R) was = 0.884.

The ANOVA results (F-ratio = 167.371; p-value = 0.000), p-value of 0.000 which was lower at significant level of 0.05 affirmed that there is a significant difference between the factors identified (State of Technology Impacts on Treasury Single Account Adoption, Level of Corruption is a Strong Determinant of Treasury Single Account Adoption, Financial Leakages is Considered Before Treasury Single Account Adoption, Treasury Single Account Adoption depends on Level of Internally Generated Revenue, Effective Audit System is a Factor Determining Treasury Single Account Adoption) and government directive on treasury single account determines its adoption.

Likewise, for objective three with coefficient of determinant $R^2 = 0.592$, implied the extent to which the predicting variables (simplifies accounting and auditing of government revenue, government revenue is received promptly, plugs leakages in revenue collection and accounting, facilitates cash management monitoring of government cash balances) explained the variation in the dependent variable (enables government to harness revenue from all sources) is 59.2 percent. While the multiple correlation coefficient (R) was = 0.769. The ANOVA results (F-ratio = 85.611; p-value = 0.001), p-value of 0.001 which was lower at significant level of 0.05 affirmed that there is a significant influence between the factors identified (simplifies accounting and auditing of government revenue, government revenue is received promptly, plugs leakages in revenue collection and accounting, facilitates cash management monitoring of government cash balances) and enables government to harness revenue from all sources.

Based on the findings of the study, it was concluded that level of internally generated revenue, financial leakage, level of corruption, having effective audit system, government directive, state of technology are different in how they determined treasury single account adoption in states government. Also, that there is a significant relationship between the predicting factors identified (simplifies accounting and auditing of government revenue, government revenue is received promptly, plugs leakages in revenue collection and accounting, facilitates cash management monitoring of government cash balances) and the dependent variable (enables government to harness revenue from all sources). And that the Treasury Single Account adoption influences Financial Control in the state government of south-west Nigeria.

It was recommended that, government should prioritise formulation of policies that encourage and enhances TSA adoption in all sectors of the economy. Adoption of technological innovations that support easy compliance with TSA adoption should be a focal point of operation for revenue generating agencies and parastatals.

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ANALYSES OF MACROECONOMIC DRIVERS OF STOCK MARKET DEVELOPMENT IN NIGERIA (1980 – 2018)

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Abstract

The paper investigates the long run and short run relationship between the endogenous variable (stock market development) and exogenous variables (economic growth, banking sector development, inflation, stock market liquidity and trade openness) in Nigeria. Annual data were collected using desk survey approach. Autoregressive Distributed Lag (ARDL) test and ARDL error correction regression model was used after preliminary tests were carried out to ascertain stationarity properties. From the result of the analyses, it was discovered that gross domestic product, domestic credit to private sector and trade openness has negative impact on Nigeria stock market development in the long run, whereas inflation rate and total value of shares traded had a positive impact on the development of the Nigeria stock market in the long-run. The results suggested that domestic credit to private sector, stock market liquidity, ratio of credit to private sector, total value of traded stock as well as ratio of trade openness are key drivers of stock market development in Nigeria. As part of recommendations, government should strengthen and solve the weaknesses affecting development of Nigeria's stock market. Policy makers should pursue those policies that stimulate banking sector development so as to promote immediate development of the stock market and government should intensify efforts in stability of inflation rate so as to promote stock market development in the long- run.

Keywords: Macroeconomic drivers, stock market development, ARDL test

JEL Classification Code: 007 and ID 14

1.0 Introduction

The stock market is a platform or avenue for raising needed funds and allocation of funds needed for investment and development. It is a market that allows trading of stock within a region or country. The stock market is a barometer for economic development. A viable financial market makes an economy to grow. Stock markets that are liquid have the potential to strengthen corporate governance and encourages the stability of the economy (Okoi, Stephen & Orok, 2019). The various channels through which financial or stock market development is believed to enhance economic growth and development include: They are various ways through which stock market development facilitates economic growth. These channels are: interest rate, money supply, gross domestic product, and external debt. Others are improved liquidity, risk diversification, improved mobilization of savings as well as effective dissemination and acquisition of information as well as better reward system for corporate control (Matadeen, Shash & Jeevita, 2017).

The International Monetary Fund (IMF) maintained that in 2019, the global domestic product stood at 3.7% while developing markets and developing economies grew at 4.7% while Sub-Sahara grew at 3.7% respectively. Africa However, Nigeria expected growth is at 2.3% in 2019. This became the best real GDP growth estimate over the last three years (The Nigeria stock exchange, 2019). In a related development, analyst, stock brokers and other stakeholders in the financial sector believe that the year 2020 promised to be hopeful for equity investors and other traders as regulatory bodies will assist in driving investment for stock capital development. This is because of the macro-ecoecomic inducement of variables like the comparative low interest rate, closure of the border, and timely approval of 2020 budget, reduced valuations of companies based on their fundamentals and banks application of 65% loan to deposit Ratio (LDR) at year end within the economy and equity prices, all things being equal. Other relevant studies who had made meaningful impact on macroeconomic factors that influence stock market development were: (John & Duke II, 2013; Garcia & Liu, 1999; Ayunku & Etale; Umar, Gambo, Dayyaby & Darussalam, 2015; Udoka, Nya &Bassey, 2018; Tarus, 2012; Tsurai, 2018 and Azeez &Obalade, 2019). Few other scholars laid emphasis on both macroeconomic factors and institutional qualities of stock market development (Cherif & Gazdar, 2010; and Acquah-Sam, 2016).

Consequently, since stock market development is seen as a catalyst for economic growth and development, it will be imperative to identify the main drivers of stock market development in Nigeria. This is why this study is carried out.

Problem

The unfavorable economic climate in the last few years has engulfed the Nigerian capital market as witnessed in continuous bearish trend until 2019 before the policy of CBN on open market operations brought a fall in yields on fixed income securities.Nigeria has also witnessed a fragile economy with GDP growth of 2.3 per cent in comparison with the country's population which grows at 2.6 per cent. There have been low savings mobilization as a result of markets that are not liquid and insufficient stock markets which has affected stock market development in the future. In terms of banking development, credit to firms and individuals as well as private sector was not sustainable and not adequate to get to the targeted priority financial sectors. There have been continuous fluctuations in consumer price index in the economy leading to macroeconomic not being stable on stock market development. Therefore, unstable macroeconomic environments discourage stock market growth. It is imperative to note that sound policies for people and institutions attract value in the market in a sustainable manna. This is critical for both market and economic growth. The challenges identified above have formed the bases for exploring the main drivers of stock market development in Nigeria

1.2 Objectives

The major objective of the study is to examine the macroeconomic drivers of stock market development in Nigeria. The specific objectives were:

i. Determine the relationship between economic growth and stock market development in Nigeria.

ii. Examine the effect of banking sector development on stock market development in Nigeria.
iii. Analyze the effect of inflation (consumer price index) on stock market development in Nigeria.
iv. Assess the impact of stock market liquidity on stock market development.
v. To establish the relationship between trades openness on stock market development in Nigeria.

Research questions and research hypotheses were based on the research objectives formulated above.

2.1 Literature review

Development of capital market has become imperative and focal point of government at all levels, policy makers, market regulations operators and other stake holders for mobilization of capital formation for organizations, industries, firms and government to promote economic growth and development. A sustained financial system guarantees the flow of funds from surplus economic units to insufficient spending units within a given economy. Capital market enhance the mobilization of domestic and external resources and eases investments outlay. There are two major factors that made the global stock market to pay attention to capital market development globally. One, the rapid growth of capital markets and their significant effects on developed nations of the world. Secondly, the downfall of the Soviet Union in the early 1990's and the speedy growth of capital markets (UNITAR/DFM, 1990). It is worthy of note that capital market started in Nigeria and other African countries through a deliberate national strategy to reorganize and strategize financial institutions as well as private owned institutions that were not operationally viable to contribute to economic growth and wealth of nations.

Acquah-Sam (2016) examined the macroeconomic factors that influence capital market development in Ghana. The study aimed at macroeconomic variables that will boost the capital market in Ghana to develop and alienate the challenges of raising capital for the vulnerable poor. The paper used secondary data that covering from 2001 – 2011. The least square multiple regression model for the study was used. The dependent variable used was market capitalization while gross domestic growth, foreign direct investment, gross capital formation, inflation, capital market liquidity and interest rates were used as independent variables. Principal Component Analysis (PCA) and Structural Equation Modelling (SEM) through Path Analysis and tests of interactions between variables were adopted to test the linear relationship. It was discovered that capital development in Ghana was positively influenced by Treasury bill rates (interest rate) inflation and foreign direct investment proved insignificant in the estimated equation. It was recommended that policy makers in Ghana should set infrastructural development in order to facilitate real growth in income and stock capital development.

Sin – Yu Ho (2018) analyzed the macroeconomic drivers of stock market development in the Philippines. The span of the period covers 2001Q4 to 2016Q4. The study's major objective was to examine the impact of banking sector development, inflation rate, exchange rate, economic growth, trade openness and stock market liquidity on the development of the Philippine stock market. The paper used Autoregressive distributed lag bounds test procedure. The theory used was the Asset Pricing theory. It was discovered that trade openness had an unfavourable impact on Philippine stock market development in the long run, while banking sector development and the exchange rate had favourable impacts on the development of the Philippines stock market in the short run.

Matadeen (2017) investigated the macroeconomic determinants of stock market development from African perspective. A set of 14 Sub-Sahara African countries were used and the scope covered was (1989 – 2016), spanning through 28 years. Descriptive statistic and Panel Vector Error Correction Model (PVECM) were used. The paper noted that long run drivers of stock market development in the region were stock market liquidity, investment, economic growth and banking development. The study added that in the long run stock market development complements banking development while a bi-directional relationship between stock market developments and banking development in the short-run. It was recommended that for African region to become volatile in liquidity, good police measures to strengthen the stock market to stabilize political environment must be taken.

Osaseri and Osamwonyi (2019) examined stock market development and economic growth in BRICS. The study used quarterly time series data for the period 1994Q1 to 2015Q4. The BRICS nations were Brazil, Russia, India, China and South Africa. The study employed the longitudinal research design and dynamic panel estimation generalized least square multivariate method. The study discovered that stock market development exercises a strong significant impact on economic growth of BRICS. Furthermore, the study recommended policy implementation that will heighten the provision of investment in stock.

Bolanle and Adefemi (2019) investigated macroeconomic determinants of stock market development in Nigeria. The selected macroeconomic variables used were economic growth, banking sector development, savings, inflation rate, foreign direct investment and stock market liquidity as well as market capitalization. The study used the ARDL bound test technique to investigate the long and short run relationship. The study discovered that banking sector development, stock market liquidity, foreign direct investment, income level and inflation rate as well as savings insignificantly explain stock market development. The paper recommended equity financing as a strong framework that will engender growth in the market.

Ezeibekwe (2019) examined stock market development and economic growth in Nigeria. The paper's main aim was to determine the impact of stock market development on long-run economic growth from 1981 – 2017. Market capitalization was used against real gross domestic product, manufacturing, agriculture, oil export and credit to private sector. The study used pre simple statistics such as graphical analyses and descriptive statistics. The unit root test of Augmented Dickey Fuller (ADF) test was applied. The findings showed that market capitalization to gross domestic product ratio has a positive but significant influence on Nigeria's long run economic growth. It was recommended that policy makers should strive and solve the problems faced by stock market in Nigeria. This study in Nigeria differs from other studies because it incorporated debasing of the macroeconomic variables by using gross domestic product. Moreover, Ezeibekwe (2019), Azeez and Obalade (2019) and few others failed to proxy stock market development by market capitalization..

John and Duke II examined economic variables that influence stock market development in Nigeria. The scope of the work was from 1970-2011. Specially, the study determined the degree to which inflation rate, stock market liquidity, national savings rate, gross fixed capital formation, real gross domestic product and financial sector development influence stock market development. A co – integration and error correction model was employed. Findings from the Chow test proved that there was no structural break in stock market development. This was as a result of the introduction of the structural adjustment programme in 1986.As Part of recommendations was a stable financial and economic environment should be the target of the government.

Udoka, Nya and Bassey (2018) expored the effect of macroeconomic determinants of stock price movements in Nigeria. The variables used were gross domestic product, exchange rate and interest rate as independent variables. Absolute stock price as dependent variable. The ARDL technique was used in analyzing the data for the period under review. It was revealed that the independent variables- gross domestic product, exchange rate, interest rate and inflation were not jointly co- integrated with the dependent variable, ASTP, hence, no existence of a long run relationship. As part of the recommendations, a favourable business environment should be the target of the policy statement of government.

Theory of Stock Market Development and Long Run Growth

The theory upon which this study is based is stock market development and long growth theory of Levine and Zerves (1996). The importance of financial system in any economic cannot be overemphasized. The financial system assists in mobilizing savings in the economy and channeling same into productive investments. The measurement indices of banking development correlates with economic growth in many scholarly work in the world. A well functional financial system is essential for sustained economic development (Levine and Zerves, 1996; King and Levine, 1993 a, b). The theory posits that stock market development correlates with economic growth. Levine and Zeros (1996) posits the transactional operations of equity markets is a function of spreading of risk, information acquisition concerning firms, corporate control and corporate control and savings mobilization. The duo added that liquidity is one of the major ways by which stock markets activities make economy to grow. Investment projects that are high demanding in terms of liquidity require long run capital commitment. Projects that are tied to high returns require sufficient liquidity to facilitate it. When a firm is able to diversify internationally in stock of portfolio, the lesser the risk of liquidity and hence, long run growth. (Devereux and smith, 1994). Strengthening the risk diversification using international stock market promote investment that yields high return. In terms of information acquisition about firms, in bigger liquid stock markets, efficient information will facilitates stock trading at posted prices. In this scenario, before the information spread to other interested stock traders, the investors will have made their monetary gain. Efficient information about stock enhances resource allocation and promote economic growth.

Stock market development improves corporate governance and strengthens regulatory structures of firms. The principal-agent problem is minimized when stock market is efficient; and make it easier relate manager's reward package to stock performance. In so doing, the interests of managers and owners are protected (Diamond & Verracchia, 1982). Mobilization of savings is a function of huge, liquid efficient stock markets. Through savings mobilization, stock markets increases the possibility of investment projects to be undertaken. Generally, the theory believes that larger liquid stock market enhances economic growth. Moreover, this theory is relevant to this work because stock market development is dependent on integration with world capital markets, the scope of the market and the state of liquidity of the market.

3. Methodology

3.1 Estimation technique

In this paper annual data covering 1980 to 2018 was used. Data sourced from CBN statistical bulletin was used in this study. The study used the autoregressive distributed lag (ARDL) cointegration approach, or bound testing method proposed by Pesaran et al. (2001). The choice of this model is premised on Gracia and Liu (1999), Matadeen (2017) who conducted a similar work on macroeconomic determinants of stock market development and came out with good results. Hence, by taking log of all variables on both sides of the equation, the present model is modified after their model and takes the following form:

$$MCR_t = B_0 + B_1GDP_t + B_2CPSR_t + B_3INFR_t + B_4VTR_t + B_5TONR_t + E_t$$

MCR: It is market capitalization ratio. It is value of listed shares in the stick exchange divided by GDP within the time (t) dimension. It is used as a proxy for stock market development. The debasing of GDP was done because of economic development in the model.

GDP: The main factor of equity growth. Current GDP is used as bases of income level.

CPSR: Domestic credit to private sector expressed as a percentage of GDP. This explains channeling of savings to investors.

IFR: It assesses the impact of macroeconomic instability on stock market development.

VTR: This is the sum total value of shares traded on a country's stock exchange expressed as a percentage of GDP.

TONR: Trade openness is total sum of exports and imports of goods and services ratio. It is believed that an open economy will encounter a great number of adverse shocks because of more international risk sharing between markets.

4. Empirical Tests

Table 1. Descriptive statistics test

	LMCR	LGDP	LCPSR	LIFR	LVTR	LTONR
Mean	1.898991	8.588515	2.280164	2.682758	5.741776	3.324460
Median	1.923873	8.838912	2.105062	2.501436	5.689541	3.654626
Maximum	3.687632	11.75793	3.033669	4.291828	8.363608	4.572287
Minimum	-4.450417	4.975569	1.463667	1.547563	-0.076844	-2.867327
Std. Dev.	1.296805	2.330066	0.453167	0.735379	1.699760	1.161729
Skewness	-2.938936	-0.235278	0.605467	0.701632	-1.053468	-4.032512
Kurtosis	15.79350	1.610931	1.973195	2.536168	4.697355	21.94913
Jarque-Bera	322.1126	3.495272	4.096124	3.549471	11.89531	689.1854
Probability	0.000000	0.174185	0.128985	0.169528	0.002612	0.000000
Sum	74.06065	334.9521	88.92641	104.6276	223.9293	129.6539
Sum Sq. Dev.	63.90471	206.3099	7.803693	20.54975	109.7890	51.28538
Observations	39	39	39	39	39	39

4.1 Descriptive statistical analysis

In table 1, the highest value recorded was 3.68 while the lowest value was -4.45. The average or mean value was 1.89 with a standard deviation of 1.29. The variable economic growth (LGDP) has an average value of 8.58 with a standard deviation of about 2.33 as well as 4.97 as its lowest value and 11.75 as its maximum value. The average value of banking development (LCPSR) was 2.28 with a standard deviation of 0.45 starting from 1.46 to 3.03. Inflation rate (LIFR) recorded average value of 2.68. The standard deviation was 0.73 with its lowest value as 1.54 and a highest value of 4.29. Market liquidity (LVTR) value was 5.74 with a standard deviation of 1.69 with -0.07 as its smallest value and 8.36 as its greatest value. Finally, trade openness (LTONR) had average of 3.34 with a standard deviation of 1.16. Its smallest value was -2.86 while 4.57 was the biggest value. The skewness of the variables revealed that, LMCR, LVTR and LTONR were leftward skewed. The variables (LGDP, LCPSR, and LIFR) are rightward skewed. The Kurtosis coefficients of the variables indicate that LMCR, LVTR and LTONR were found to be platykurtic relative to the normal while variables such as LGDP, LCPSR and LIFR leptokurtic. The Jarque-Bera (JB) values of 3.49 (LGDP), 4.09 (LCPSR) and 3.54 (LIFR) and their respective probability of greater than or equals to 0.05 settles that the series are normal and can be generalized suitably. It further revealed the absence of outliers in the model.

4.2 Unit Root Test Result

The Augmented Dickey Fuller (ADF) test presented in table 2 reveals the following:

Table 2. Augmented Dickey-Fuller (ADF) Unit Root Test

Variables	**At Level**	**At 1st Difference**	**Order of integration**
LMCR	-8.1569**	-	I(0)
LGDP	-1.0402	-53.790**	I(1)

LCPSR	-1.5027	-5.6064**	I(1)
LIFR	-2.7815	-7.0895**	I(1)
LVTR	-4.0233**	-	I(0)
LTONR	-11.076**	-	I(0)

Notes: ** significance at 5% level

4.3 Augmented Dickey-Fuller (ADF) unit root test

Table 2 showed result for ADF unit root test that three (3) of the variables (LMCR, LVTR and LTONR) of the regression had no unit root process at various critical levels at 5% level of significance and was found to be stationary at levels. Non-stationary variables were LGDP, LCPSR and LIFR at their levels. As a result of this, the null hypotheses of the presence of unit root cannot be rejected. Variables such as (LGDP, LCPSR and LIFR) became stationary at their first differences, therefore; their null hypotheses can be rejected. As a result of the stationarity integration orders 1(1) and 1(0) in the ADF unit root test, the Autorregressive Distributive Lag test is most suitable to control the long run and short run dynamics of the present study.

4.4 ARDL bound test

Table 3. ARDL F-bounds test

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	7.521319	10%	2.08	3
K	5	5%	2.39	3.38
		2.5%	2.7	3.73
		1%	3.06	4.15
Actual Sample Size	37		Finite Sample: n=40	
		10%	2.306	3.353
		5%	2.734	3.92
		1%	3.657	5.256
			Finite Sample: n=35	
		10%	2.331	3.417
		5%	2.804	4.013
		1%	3.9	5.419

4.5 ARDL F-bound testing approach

This test the joint significance of the coefficients in the model. The Wald test is made by making constraints on the estimated long-run coefficients of macroeconomic determinants (LGDP, LCPSR, LIFR, LVTR, and LTONR) and stock market development in Nigeria (LMCR). Table 3, showed ARDL F-bound test have lower and upper bound is selected based on 5% significance level. The paper is based on the normal 5% significance level, therefore, the result revealed that macroeconomic drivers-variables (LGDP, LCPSR, LIFR, LVTR, LTONR) are jointly co-integrated with the dependent variable, LMCR, hence, long-run relationship exist. The computed F-statistic is 7.52 at 5% significance level was greater than corresponding ARDL lower (2.39) and upper (3.38) critical bound values. The value revealed that there is an indication of long-run co-integration between macroeconomic determinants (LGDP, LCPSR, LIFR, LVTR, LTONR) and stock market development in Nigeria (LMCR).

Table 4. ARDL long run form

Dependent Variable: D(LMCR)				
Selected Model: ARDL(1, 1, 2, 2, 2, 0)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LGDP	-0.155176	0.071724	2.163508	0.0411
LCPSR	-0.285010	0.293614	0.970696	0.3418
LIFR	0.159948	0.139402	1.147385	0.2630
LVTR	0.287511	0.084120	3.417862	0.0024
LTONR	-0.039852	0.152386	-0.261520	0.7960
C	-2.120585	0.835673	-2.537579	0.0184
EC = LMCR - (-0.1552*LGDP - 0.2850*LCPSR + 0.1599*LIFR + 0.2875*LVTR -0.0399*LTONR -2.1206)				

4.6 ARDL long run form estimates

With reference to the unit root test order of integrations 'I (0)' and 'I (1)', this study seeks to confirm the assertion that there is a possibility of a long run cointegration. The long run coefficient measures the long run effect of the independent variables on the dependent variable. From table 4, long run estimates showed that the independent variables (GDP, CPSR, IFR, VTR, and TONR) have a combined significant positive effect on stock market development in the long run. This means that an increase in these variables will have a significant positive effect with changes in stock market development in Nigeria in the long run. Also, stock market development in Nigeria will reduce by 2.12 per cent as a result of the upsurge in macroeconomic drivers (GDP, CPSR, IFR, VTR, and TONR) in the long run, all things being equal. Similarly, in the long run, economic growth will have a significant negative effect on the stock market development in Nigeria all things being equal. There was a negative but insignificant relationship between banking development and stock market development in the long run. In the same vein, trade openness has an insignificant and negative effect on stock market development. Inflation rate has insignificant positive effect on stock market development in Nigeria all things being equal. Lastly, stock market liquidity has a significant positive effect on stock market development in the long run. The outcome is not in line with the result from the long run coefficients of Yartey (2008) and Ho & Odhiambo (2017).

Table 5. ARDL short run dynamics result

Dependent Variable: LMCR
Method: ARDL

Selected Model: ARDL(1, 1, 2, 2, 2, 0)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LMCR(-1)	0.289898	0.226115	1.282081	0.2126
LGDP	1.046853	0.581242	1.801062	0.0848
LGDP(-1)	0.936663	0.578666	1.618657	0.1192
LCPSR	0.544980	0.318636	1.710351	0.1007
LCPSR(-1)	-0.639305	0.299757	-2.132745	0.0438
LCPSR(-2)	0.296711	0.257940	1.150312	0.2618
LIFR	-0.004118	0.071505	-0.057584	0.9546
LIFR(-1)	-0.025824	0.064308	-0.401571	0.6917
LIFR(-2)	-0.135286	0.072948	-1.854558	0.0765
LVTR	0.207467	0.071398	2.905807	0.0080
LVTR(-1)	-0.002777	0.087932	-0.031586	0.9751
LVTR(-2)	-0.000528	0.040600	-0.012995	0.9897
LTONR	0.028299	0.109238	0.259058	0.7979
C	1.505832	0.749984	-2.007818	0.0565

R-squared	0.963949	Mean dependent var	2.088433
Adjusted R-squared	0.943573	S.D. dependent var	0.778644
S.E. of regression	0.184963	Akaike info criterion	-0.255991
Sum squared resid	0.786859	Schwarz criterion	0.353546
Log likelihood	18.73583	Hannan-Quinn criter.	-0.041101
F-statistic	47.30669	Durbin-Watson stat	1.978624
Prob(F-statistic)	0.000000		

*Note: p-values and any subsequent tests do not account for model selection.

4.7 ARDL short run estimates

The result of the short run coefficients indicated the major macroeconomic drivers of stock market development in Nigeria were gross domestic product, credit to private sector, market capitalization ratio, inflation, total value of shares traded and trade openness ratio. Table 5 above indicated that the value of the intercept is 1.50 revealed that stock market development in Nigeria will experience 1.50% increase when all other variables remained constant. The goodness of fit of the model as measured by R^2 or R-squared with the value 0.9639 (96.39%), approximately 96%. This is a good fit meaning that about 96% of the total variation in the dependent variable, MCR has been explained by variations in th independent variables (GDP, CPSR, IFR, VTR and TONR). Moreso, the high value of F-statistics (47.30) showed that the overall model is statistically significant. The overall significance of the ARDL short-run model implies the joint significance of all explanatory variables. This is not in line with findings of Bolanle & Adefemi (2019) who did a similar work. Furthermore, variations in the current period and the previous lagged period of economic growth had an insignificant positive effect on stock market development. This means that, a percentage increase in economic growth will enhance stock market development in the short run. Similarly, the current period and the previous two lagged periods of banking sector development was found to have an insignificant positive impact on stock market development. On the other hand, the previous lagged period of banking sector development had a significant negative effect on stock market development in the short run. This means that, a percentage increase/decrease in banking sector development will increase/decrease stock market development respectively in the short run. This is in confirmation that banking development promotes stock market development (Levine & Zerves, 1996).

The ARDL result added that changes in the current period and the previous period of inflation rate had an insignificant negative effect on stock market development while the previous two lag period was negative and insignificant. This imply that, a proportionate increase in inflation rate will decrease stock market development accordingly in the short run. However, the current period of stock market liquidity had a significant positive effect on stock market development in the short run. On the other hand, the previous lagged period and the previous two lagged periods of stock market liquidity both had an insignificant negative effect on stock market development in Nigeria in the short run. This means that, a percentage increase/decrease in market liquidity will increase/decrease stock market development accordingly in the short run.

Lastly, the result showed that variations in the current period of trade openness had a positive influence on stock market development in the short-run. This implies, a proportionate increase in trade openness will increase stock market development. Trade openness is important factor that transmit and predict volatility of stock market development between countries (Nikmanesh & Mohd Nor, 2016). This result is not in line with Sin Yu Ho (2018) who discovered that trade openness had an adverse effect on Philippine stock market development.

Table 6. ARDL error correction regression result

ECM Regression				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LGDP)	1.046853	0.230929	4.533227	0.0001
D(LCPSR)	0.544980	0.237981	2.290014	0.0315
D(LCPSR(-1))	-0.296711	0.194591	-1.524793	0.1409
D(LIFR)	0.004118	0.042456	0.096984	0.9236
D(LIFR(-1))	-0.135286	0.043979	-3.076180	0.0053
D(LVTR)	0.207467	0.054482	3.807979	0.0009
D(LVTR(-1))	0.000528	0.032257	0.016356	0.9871
CointEq(-1)*	-0.710102	0.193788	-3.664327	0.0013

4.8 ARDL error correction regression (ect)

The ECT discloses the speed of change to restore equilibrium in the model in the short run. The ECT tells the speed with which our mathematical model returns to equilibrium in the short run following an exogenous shock in the long run. It is negatively signed, implying a move back near equilibrium; a positive sign shows movement away from equilibrium. The highly significant ECT which is negative further confirms the existence of a stable and significant long run relationship. This affirms the presence of the long run significant relationship between macroeconomic drivers and stock market development with their various lags. The coefficient of

ECT (-0.7101) as shown in the above table 6 that deviation away from the long run macroeconomic drivers is deemed adjusted by 71.01 % by the following year. Therefore, this study subjected the ARDL model and results to further post-test analysis in order to meet the condition of stability and reliability. Hence, the needs to test the model for serial correlation through Breusch-Godfrey serial correlation LM stability test and CUSUM test.

TABLE 7. Breusch –Godfrey serial correlation LM test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.346877	Prob. F(2,4)	0.1672
Obs*R-squared	5.089623	Prob. Chi-Square(2)	0.1026

4.9 Breusch-Godfreyserial correlation lm test

This was employed to examine whether the model was free from serial correlation. Based on the Breusch-Godfrey serial correlation LM test result in table 7, it is shown that F-stat (0.16) and Obs*R-squared (0.10) probabilities are more than 0.05, therefore, we accept the null hypothesis that, there is no serial correlation in the ARDL model. The Breusch-Godfrey serial correlation LM test statistics indicated that the model is free from the first and second order serial correlation implying the stationarity of the ARDL analysis exist. The implication is that, the ARDL model is sufficient to capture all the dynamics of the model.

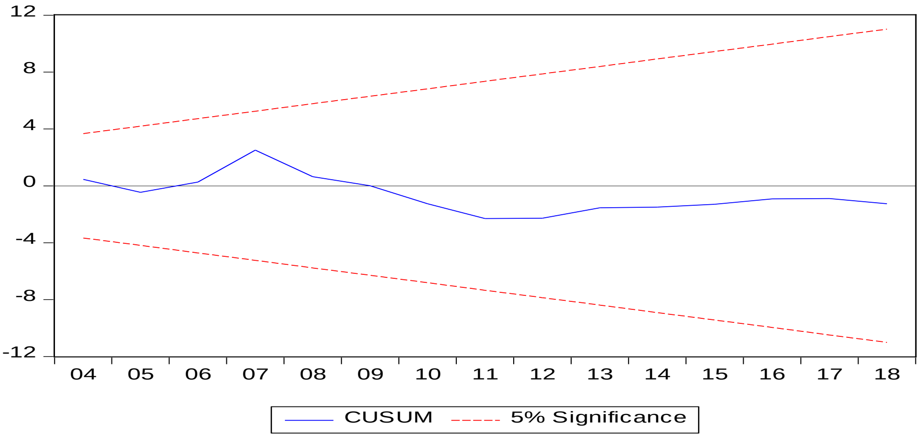

Figure i. CUSUM STABILITY TEST

4.10 CUSUM stability test

The essence of this is to determine the stability of the model using the CUSUM stability test analysis. The CUSUM stability test condition holds that, the middle line (trend) must not lie outside the set-region, bordered by two slant lines. From our analysis, the CUSUM stability test in Fig. 1 revealed that this condition has been met satisfactorily, hence, it is concluded that, the ARDL model is stable or has stability at 5% level of significance.

5. Summary of Findings

The study found out that long-run and short- run relationship exist within and between macroeconomic determinants (LGDP, LCPSR, LIFR, LVTR, LTONR) and are together co-integrated with the endogenous variable, LMCR. The long run coefficient measures the long run effect of the independent variables on the dependent variable. The result of the study found out that in both the short run and long run, key macroeconomic drivers of stock market development in the context of the Nigerian Stock Exchange Market are The study found out that macroeconomic drivers of stock market development in the short run and long run were banking sector development, stock market liquidity and. income level (GDP). Inflation rate that measures macroeconomic stability, do not significantly elucidate stock market development in the long run, nevertheless, inflation in the short run is negative and related to stock market development. This is translated as instability of macroeconomic variables within the environment erodes the confidence of investors and other stakeholders. Though, it does not meaningfully directs the development of the stock market. Overall, the study is consistent with previous studies by Sin - Yu Ho (2018). Summarily, the finding explains that in the long run, banking sector and stock market act like substitutes for investment financing. In the short run, banking sector and stock market are complementary to each other for investment purposes.

5.1 Conclusion

Stock markets acts as a channel for investments in an economy due to the role it performs in capital acquisition for development of the economy. Many a plethora of scholars have shown that a robust economy must be internally stable , resilient and flexible as necessities of stock market development for economic growth of both developed and developing countries. On a general note, the stock market in a sound financial system is supportive and active in operations of the economy. The study used autoregressive distributed lag (ARDL) bound test to x-ray the macroeconomic determinants of stock market development in Nigeria. The study essentially made use of market capitalization ratio to proxy for stock market development as endogenous variable. Other exogenous variables used were gross domestic product as a measure of income level, domestic credit to private sector as a proxy for banking development, consumer price index proxied as inflation and total value of shares traded which was used to proxy liquid stock market. From the descriptive statistics used, the study confirmed the normality of the series and suitable for generalization.

5.2 Recommendations

Based on the findings of this study, it was suggested that government should strengthen and tackle impediments militating against development of Nigeria's stock market. Policy makers should pursue those policies that promote banking sector development so as to promote short term development of the stock market. The government should intensify efforts in stability of inflation rate so as to promote stock market development in the long run. The Nigerian stock market should intensify policies that will diversify risks by investing in international portfolio of stocks that can influence investment decisions in the long –run. Moreover, policy makers should promote the use of equity financing in the production of main exports. This will facilitate trade openness in the economy. The findings of this study have contributed to the literature as it pinpoints nearly all the set of macroeconomics drivers that determine stock market development in Nigeria.

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EARNINGS MANAGEMENT AND FIRM VALUE OF LISTED CONSUMER GOODS COMPANIES IN NIGERIA

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Abstract

The quality of financial reporting has been a growing concern of regulators and practitioners, especially after numerous accounting scandals involving high-profile companies**.**This study aims to examine the effect of earnings management on the firm value of quoted consumer goods firms in Nigeria for 10 years (2010 to 2019). The study adopted an ex-post facto research design, and a sample of ten listed consumer goods companies was selected using a simple random sampling technique on a population of twenty-one companies. The study used secondary data collected from financial statements of the sampled companies via Machameratios a database maintained by Talk data Associates for 10 years. The data were analyzed using Panel corrected standard error regression techniques to determine the effect of earnings management proxy with (DCA, ABNCF, ABNPC, and ABNEX) on value proxy with (Tobin's Q) of listed consumer goods companies. The result showed a positive and insignificant effect between discretionary accruals (DCA), Abnormal expenses (ABNEX), and value, while the effect was positive and significant between abnormal cash flow from operation and value of the listed consumer goods companies in Nigeria. The study also revealed that abnormal production cost has a negative and insignificant effect on value. The control variable Firm Size has a positive and insignificant effect on value while Firm Age has a negative insignificant effect on value. The study recommended that relevant regulatory authorities, such as the Financial Reporting Council of Nigeria (FRCN),Nigerian Stock Exchange(NSE), and Security and Exchange Commission (SEC), who are responsible for ensuring that listed companies comply with laid down accounting standards, and other requirements should design policies and put in place measures that will checkmate and discourage earnings management activities. This will enhance the increase in the quality of financial reporting and build stakeholder's confidence in financial reports released by companies.

Keywords: Discretionary Accruals, Earnings management, Firm value, Panel Corrected Standard error, Tobin's Q

1.0 Introduction

Until recently, the investing public believed that a firm's financial statement once externally audited, provided reliable information and therefore could be used to assess the firm's present and potential financial prospects. This belief, along with investor confidence in general, has been steadily diminishing in conjunction with recent high profile accounting scandals With recent high-profile accounting scandals, such as Cadbury (2006), Lehman Brothers(2010), Theranos Inc. (2018) to mention but a few, this trust, as well as investor faith in general, has been slowly eroding.Financial reporting credibility has become a growing concern among regulators and practitioners, especially in the wake of high-profile accounting scandals involving once-respected corporations. For many years, regulators and practitioners have been concerned about earnings management because it degrades the standard of financial reporting.

Earnings management is a business strategy employed by managers that seek to give the appearance of consistent annual earnings by showing a high profit for the current accounting period at the cost of future earnings, or by lowering current earnings to record-high earnings in the future. (Ronen &Yaari, 2008). It is, therefore, the intentional alteration of financial details published in the annual report to either deceive stakeholders about the firm's underlying economic situation or to obtain contractual benefits that are dependent on the reported accounting numbers in the financial statement (Healy &Wahlen, 1999, Bergstresser&Phillippon, 2003).

Financial statement fraud and subsequent business failures are common occurrences around the world. Cadbury Nigeria PLC where the financial statement wasoverstated by approximately N13 billion stands out as an example of a firm that engaged in earnings management (Okafor, 2012).

MorealsoAfricanPetroleumPlc.(2010),OandoPlc.(2017),Lever Brothers Nigeria Plc. (2018) and Sky Bank Plc. (2018) are well-known earnings management and financial fraud cases. Shareholders, employees, and the communities in which firms operate suffer as a result of these deliberate managerial actions aimed at concealing the true value of a firm's assets, transactions, or financial position.

Several empirical studies on the impact of earnings management have been performed in different industries and economies around the world, but the majority of these studies have mostly focused on the relationship between earnings management and financial performance.

for instance, the study conducted by Ijeoma,(2014) and Saidu, Ocheni, and Muktar (2017) were conducted on banks using return on asset and earnings per share as a proxy for performance for a period of 7 and 5 years respectively, more also Ijeoma,(2014) used Kruskal Wallis on a sample of 50 questionnaires and Saidu,Ocheni and Muktar (2017) used OLS regression as the tool of analysis with a sample of 5 banks.Umpbong and Ibanichuka, (2016), and Umobong and Ironkwe (2017) studied FoodandBeverage and Pharmaceutical companies respectively using Returnon Assets, return on equity, and earnings per share asa measure of performance for 5years. Egbunike and Udeh, (2015) studied conglomerate firms using earnings per share and book value per share as measures of performance for 5 years

This study extends the time frame to10years(2010-2019)usingTobin’s Q as a proxyfor firm valuewithfour earnings management components namely (Discretionary accruals, Abnormal cash flow from operation, Abnormal production cost, Abnormal expenses). Nonetheless, none of these studies on consumer goods Companies in Nigeria used the four proxy for earnings management and the same measure for firm value.The main objective of the study is to examine the effect of earnings management on firm value of listed consumer goods sector in Nigeria.

In line with the objectives stated above the following hypotheses were formulated:

$Ho_{1:}$ discretionary accruals has no significant effect on firm value of listed Consumer Goods Sector in Nigeria

$Ho_{2:}$ abnormal cash flow from operating activities has no significant effect on firm value of listed Consumer Goods Sector in Nigeria

$Ho_{3:}$ abnormal production cost has no significant effect on firm value of listed Consumer Goods Sector in Nigeria

$Ho_{4:}$ abnormal expenses has no significant effect on firm value of listed Consumer Goods Sector in Nigeria

Earnings Management

Healy and Wahlen (1999) defined Earnings management as the altering of financial statements through the use of judgment in structuring transactions to either mislead the firm's stakeholders about the true economic picture of the firm or to achieve some contractual benefit that is based on accounting numbers". "This means that earnings management is the manipulation of financial statement by managers, using accounting choices, estimates, and methods, to achieve some objectives that are largely in conflict with the underlying economic status of the firm.

Firm value is an economic metric that reflects the market value of a company as a whole" (Kurshev&Strebulaev, 2005). "According to Ehrhard and Bringham (2003), it is the sum of all claimants' claims secured and unsecured creditors, as well as equity holders" (preferred and common)".The value of a firm is described by Leland and Toft (1991) as the sum of its assets plus the value of tax benefits obtained as a result of debt, minus the value of debt-related bankruptcy costs. As a result, a company's valuation is made up of both equity and long-term debt. According to Modigliani and Miller (1980), a company's value is determined by the amount of its debt and equity and this depends only on the income stream generated by its assets.

Ijeoma (2014) examined the effect of earnings management on the performance of the Nigerian banking industry for one year (2014). The population of the study consist of 58, out of which a sample of 50 was selected after applying Taro Yamane's 1967 sample size determination formula, the sample was selected using judgmental sampling techniques. Primary source of data collection was employed through the use of a questionnaire. The data collected were analyzed using Kruskal-Wallis test and multiple bar charts. The findings revealed that earnings management practice in Nigerian banks has a positive relationship with earnings per share by reducing the apparent levels of borrowing. The result of the study further showed that banks inflate the operating cost to reduce exposure to taxes.

Egbunike and Udeh (2015) used an ex-post facto research design to investigate the impact of earnings management on earnings per share and book value per share of Nigerian quoted conglomerate companies over five years.Ex-post facto analysis was used in this study. The study's population consists of six conglomerate companies that were publicly traded on the stock exchange as of December 31, 2013. The Jones (1991) model was used to calculate earnings management. Secondary data was gathered from the Stock Exchange and the companies' annual reports. Regression was used to evaluate the data.The findings showed that earnings management has a positive and substantial impact on a company's earnings per share and book value per share.

Suffian, Sunusi, and Mastuki (2015) concluded a study on the effect of real earning management (proxy with the abnormal cost of production, abnormal cash flow, and abnormal expenses) on firm value of listed firm in Malaysia for a period of 8 years from 2004-2011. The study's population totaled 7736 firm years, from which a sample of 6216 firm years was chosen after removing financial firms because of their different regulatory requirement. Secondary data were obtained from data stream. Thompson Reuters. The data were analyzed using OLS regression.

The finding revealed that all the three proxy of real earning management has a significant positive effect on firm value.

James and Memba (2015) conducted a study to investigate the effect of earnings management (proxy with abnormal cash flow from operation) on the firm value (proxy market to book value) of public limited companies listed on the Nairobi Stock Exchange (NSE) for a period of 5 years from 2010-2014. The study adopted a correlational research design and a population of 45 companies. A sample of 30 public companies was drawn using the purposive sampling technique. The research used both descriptive and inferential statistics. Secondary data was collected from the financial statement of the companies that were being sampled. Multiple linear regression techniques were used to analyze the relationship between earnings management and firm value. The study found that a strong relationship exists between abnormal cash flow from operation and firm value.

Umpbong and Ibanichuka (2016) examined the effects of accounting manipulations on a firm's performance (proxy by ROA ROE and EP) in Nigeria for a period of 9 years from 2006-2014. The population of the study consists of all listed manufacturing firms out of which food beverage and pharmaceutical sub-sector of the Nigerian economy constituting a sample of 35% was used because of complete information. Secondary data were obtained from annual reports and fact book of the sampled companies between the years 2004 and 2014. Panel regression analysis technique was used to analyze the data. The findings revealed that there is a positive effect of earnings management on firm's performance that is an increase in accounting manipulation increases returns on assets and earnings purchase while an increase in accounting manipulation has a negative relationship with return on equity.

Using an ex-post facto research design with a population of fifteen (15) listed deposit money banks, Saidu, Ocheni, and Muktar (2017) investigated the effect of earnings management onthe performance of quoted deposit money banks in Nigeria overfive years from 2011 to 2015, using an ex-post facto research design out of which five banks were selected using a judgmental sampling technique.Secondary data was gathered andanalyzed using a pooled ordinary least square regression technique. Earnings management has no statistically significant impact on return on asset, according to the results.

For the nine years between 2006 -2014, Umobong and Ironkwe (2017) looked at the effect of earnings management on the financial performance of Nigerian food and beverage companies. Ex-post facto research was used in this study. Seasonal trading reports were used to proxy earnings management, while return on asset, return on equity, and earnings per share were used to proxy financial results.The study's population consists of all manufacturing companies listed on the Nigerian Stock Exchange, with food and beverage and pharmaceutical companies on the exchange forming the sample for the study. The censor form of sampling was used, which does not require determination of sample size. Secondary data was gathered from the Nigerian Stock Exchange factbook and the sampled companies' annual reports. Earnings management has no major impact on return on asset, return on equity, or earnings per share, according to the findings.

Susanto (2017) assessed the effect of accrual and real earnings management on firm value using a sample of 162 non-financial companies listed on the Indonesia Stock Exchange for 5 years from 2011-2015. The companies that were sampled were chosen using a purposive sampling technique. Secondary data from annual reports were gathered and analyzed using multiple regression.The results showed that accrual earnings management has a significant positive impact on firm value, while real earnings management proxy with abnormal production costs, abnormal cash flow from operations, and abnormal expenditures has a significant negative effect on firm value.

Alaa (2018) conducted a study from 2009 to 2017 to look at the impact of earnings management (proxied by discretionary accruals) on firm value (proxied by Tobin's Q) of Qatari listed industrial companies. The study adopted an ex-post facto research design, the population of the study comprised 21 listed industrial companies out of which a sample of 7 was selected randomly, secondary data were collected from the financial statement of the sampled companies and analyzed using multiple regression techniques. The result reviewed that industrial companies listed on the Qatar stock exchange do not exercise earnings management practices in general and that earnings management has no effect on firm value.

Abbas (2018) examined the effect of earnings management on firm value of listed banks in Indonesia for a period of 8 years from 2007-2014. The population of the study comprised 33 listed banks out of which 23 banks were selected using the purposive sampling technique. The data collected were analyzed using Wilcoxon signed-rank test and multiple regression. The results of the research found that earnings management has a positive and significant impact on firm value. It was also found that there is no difference in accrual earnings management pre and post-period convergence of IFRS.

Ahmed, Mukhtaruddin, and Razie (2018) conducted a study to examine the effect of real earnings management (proxy by abnormal cash flow from operation) on market value (proxy by market value to book value of equity) of manufacturing companies listed in Indonesia stock exchange for a period of 3 years 2011-2013. The sample consists of 65 companies randomly selected out of a population of 125 listed manufacturing firms, Secondary data were used which were obtained from the published financial statement of the sampled companies and analyzed using OLS regression techniques. The result reviewed that abnormal cash flow from operation has a negative and insignificant effect on market value to book value of equity.

Abner and Ferrer (2018) examined the impact of Real earnings management on financial performance and firm value of listed Food, Beverage and Tobacco companies in the Philippines for a period of 4 years from 2013-2016. The study adopted an ex-post facto research design with a population of 23 companies out of which 20 companies were selected using the purposive sampling technique. Secondary data were and analyzed using regression. the study found that earnings management through abnormal production cost, abnormal cash flow from production, and abnormal expenses have no significant impact on financial performance and firm value in terms of return on equity (ROE) return on asset (ROA) and Tobin’s Q but have a significant effect on earnings per share. The findings further revealed that earnings management proxy with discretionary accruals has a positive and significant impact on earnings per share, while abnormal cash flow from operation has a significant impact on company value proxy with Tobin's Q.

DarmawanSutrisno and Mardiati (2019) empirically examined the effect of accrual earnings management and real earnings management on firm value of listed manufacturing firms in Indonesia for 5 years from 2013-2017. The study adopted an ex-post facto research design with a population of 123 companies out of which a sample of 69 companies was selected using a purposive sampling technique. Secondary data were collected from financial statements of the sampled companies and analyzed using the multiple linear regression techniques. The test results showed that accrual earnings management measured by discretionary accruals has no significant effect on the value of the firm, while Real earnings management proxy with abnormal production cost, abnormal cash flow from operation, abnormal expenses and was found to have a negative effect on firm value.

Olatunji and Juwon (2020) studied the effect of real and accrual earnings management on firm value of quoted manufacturing companies in Nigeria for ten years from 2008-2018. Secondary data were collated from the financial statement of the selected manufacturing companies and analyzed using panel regression. The results revealed that accrual earnings management has a positive significant effect on firm value, while real earnings management proxy with abnormal cash flow from operation has a significant negativeeffect on firm value.

2.2 Theoretical Framework

Agency Theory

The study relied on the Agency theory developed by Jansen and Meckling, (1976) which explains the relationship between the owners of the business who are the principal, and the managers who are the agents of the owners. In modern firms, due to the size of the firm, the dispersion of ownership in which their huge number of shareholders, and the nature of the business which requires professionalism, the owners of the business cannot manage the operations, hence they hire managers to operate the business on their behalf. The manager though is required to operate for benefit of the owners, At times they operate in their own interest hence causing the principal-agent problem. According to Jansen and Meckling, (1976), the agency theory is very important in explaining the behaviour when one individual delegate work to another with the expectation that the agent will make decision which is of the best interest to the principal. Agency theory explains earnings management since managers are motivated to manage earnings to increase their bonuses, compensations, and commissions which are closely tied to the earnings of the firm (Booth & Schulz, 2004, Shapiro, 2005).

3.0 Methodology

The study used an ex-post facto research design because the researchers didn't influence the variables. After all, the occurrence had already happened and couldn't be modified.The population of the study consists of 21 consumer goods firms listed on the Nigerian Stock Exchange as of 31st December 2019, out of which a sample of 10 firms was selected using a simple random sampling technique. The data for the listed consumer goods companies were collected from financial statements via Machameratios a database maintained by Talk data Associates for a period of 10 years, from 2010-2019.The period was chosen to allow the analysis to look at the impact of earnings management on firm value over time.With the aid of STATA 13 software, the data was analyzed using panel regression.The linear regression equation for this model for the hypothesis is given as:

Model 1Discretionary Accruals

$TA_{it}/A_{it-1} = \alpha_0 + \beta_0\ 1/A_{it-1} + \beta_1\Delta\ REV_{it}/\ \Delta\ REC_{it} + \beta_2\ PPE_{it}/A_{it-1} + \varepsilon_{it}$ …………………………………... (1)

Model 2 Abnormal Cash flow from operating activities

$CFO_{it}/A_{it-1} = \alpha_0 + \beta_0\ 1/A_{it-1} + \beta_1 REV_{it}/\ A_{it-1} + \beta_2\ \Delta REV_{it-1}/A_{it-1} + \varepsilon_{it}$……..……..………… (2)

Model 3 Abnormal Production Cost

$PRODt/A_{it-1} = \alpha 0 + \beta_0(1/A_{it-1}) + \beta 1(REVit/A_{it-1}) + \beta 2\ (\Delta REV_{it}/A_{it-1}) + \beta 3\ (\Delta REV_{it}/A_{it-1}) +$ ….(3)

Model 4 Abnormal Discretionary Expenses

$DISEXP_{it}/A_{it} = \alpha_0 + \beta_0\ 1/A_{it} + \beta_1 REV_{it}/\ Ait + \beta_2\ REV_{it-1}/A_{it} + \beta_3\ \Delta REV_{it-2}/A_{it} + \varepsilon_{it}$ ……………….. (4)

Where TA_{it} = Total Accruals (measured as Accounting profit before tax – net Cash flow from operating activities).
$CFO_{it} =$ Cash flow from operating activities for the year
$PROD_{it} =$ Productioncostsdefinedinthisstudyasthesumofthe costofgoodssold(COGS)andchangein inventories (ΔINV) throughout the year.

A_{it-1} = Total Assets in year t-1
$EXP_{it} =$ discretionary expenses (DISEXP) in this study includethe costof advertising, research and development expenses, and selling, general and administrative expenses.
REV_{it} = Total revenue for the year
$\Delta\ REV_{it}$= (change in sales over year's measured as current year sales – previous year sales *y-1* to year *y*,) and
PPE_{it} = is the level of the gross property, plant, and equipment for the year.
ΔREC_{it} = Account Receivable (measured as change in net accounts receivable)
$\mu_{it} =$ error term

Model Specification

To look at the effect of earnings management on firm value of listed consumer goods companies the study adopted with modification the model used by Sulfan, Sunusi, and Mastuki (2015) with modification as follows:

$Tobin's\ Q = B_0 + \beta_1 DCA_{it} + \beta_2 ABNCF_{it} + \beta_3 ABNPCS_{it} + \beta_4 ABNEX_{it} + \beta_5 FSIZE_{it} + \beta_6 FAGE_{it} + \varepsilon_{it}$ …..(5)

Where:

Tobin's Q = Tobin's Q; DCA = Discretionary Accruals; ABNCF = Abnormal Cash flow from operation; ABNPC = Abnormal production cost; ABNEX = Abnormal expenses; Control Variables; FSIZE = Size of firm; FAGE = Firm Age; B_0 = constant or intercept of the regression; B_1-B_6 = Coefficients of the explanatory variables; ε = error term; i = firm; t = time

Table 1: Study Variablesandtheir Measurement

Variable Acronym	Variable Name	Measurement	Source(s)
TOBIN'S Q	Tobin's Q	The market value of equity divided by total asset	Yusuf, Abu, and Yahaya (2014)
DAC	Discretionary accruals	Total accruals minus non-discretionary accruals	Saidu,Ocheni and Muktar (2016)
ABNCF	Abnormal cash flow from operation	See model 2 above	Suffuian, Sanusi and Mastuki (2015)
ABNPC	Abnormal production cost	See model 3 above	Suffuian, Sanusi and Mastuki (2015)
ABNEX	Abnormal expenses	See model 4 above	Suffuian, Sanusi and Mastuki (2015)
FSIZE	Firm Size	Log of total Assets	Yusuf, Abu, and Yahaya (2014)
FAGE	Firm Age	number of years passed after listed on the Nigerian Stock Exchange	Yusuf, Abu, and Yahaya (2014)

Source: Author's Compilation, 2021

4.0 Results and Discussion

Table 2 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Tobin's Q	100	2.1603	1.2917	0.04	6.43
Discretionary Accruals (DCA)	100	-0.5603	4.3687	-43.64	0.33
Abnormal cash flow from operating Activities (ABNCF)	100	1.1347	1.0712	-0.72	3.83
Abnormal production cost (ABNPC)	100	-0.372	0.6606	-0.57	0.04
Abnormal expenses (ABNEX)	100	0.0474	0.1935	-0.684	1.047
Firm size (FSIZE)	100	7.5002	0.9263	4.99	8.54
Firm Age (FAGE)	100	28.18	12.0297	7	53

Source:Stata 13 Output Results based on study data

Table2 presented the descriptive statistics for the dependent and independent variables (TOBIN'S Q =Tobin’s Q,DCA= Discretionary Accruals, ABNCF= Abnormal cash flow from operating activities, ABNPC= Abnormal production cost, ABNEX= Abnormal expenses,FSIZE= Firm Sizeand FAGE=Firm Age). The standard deviationof the variables ranges from 0.0660 to4.3686. abnormal production cost has the lowest standard deviation of 0.0660 followed by abnormal expenses and firm sizewith a standard deviation of 0.1935 and 0.9263 respectively, this was followed by abnormal cash flow from operation, Tobin’s Q, discretionary accruals, and firm age with standard deviations of 1.0712, 1.2917, 4.3686, and 12.0297 respectively. The relatively low standard deviation for all the study variables may be an indication that the sampled data for the studyis normally distributed.

The Table also indicated an average value of 2.1603 for Tobin’s Q. The minimum and maximum values of Tobin’s Q during the study period are0.04and 6.43 respectively. These values implied that all the sampled companies have values for Tobin’s Q during the study period,while thehighest value of Tobin’s Q by the sampled companies during the study period stood at 6.43. The Table further revealed an average value of 0.5603 for discretionary accruals.The minimum and maximum values of discretionary accruals during the study period were -43.64and0.33 respectively. Similarly, the Table showed that abnormal cash flow from operating activities, abnormal production cost, abnormal expenses firm size, and firm age had a mean value of1.1347, -0.0372, 0.4736, 7.5002, and 28.18 respectively during the study period, with a minimum and maximum value of -0.72, -0.57, -0.684, 4.99, and 7 and 3.83 0.04, 1.407, 8.54 and 53 respectively.

Table 3 Results of VIF Test

Variable	VIF	Tolerance (1/VIF)
Discretionary Accruals	1.04	0.960186
Abnormal cash flowfrom operating Activities	1.11	0.902074
Abnormal production cost	1.05	0.954231
Abnormal expenses	1.11	0.902842
Firm size	1.06	0.944210
Firm Age	1.14	0.874770
Mean VIF	1.08	

Source: STATA 13 output Results based on study data

Table 3 showed the VIF and tolerance, in each case, VIF is less than 10 and tolerance level is less than 1 respectively, showing that there was an absence of perfect Multicollinearity among the independent variables. The mean VIF of 1.08 also attests to the fact that there is no problem of Multicollinearity among the variables.

Table 4 Breusch- Pagan/ Cook- Weisberg test for Heteroskedasticity, Breusch and Pagan Lagrangian multiplier test for random effect and Hausman test Results

	Chibar^2	Prob.> chi^2
Heteroskedasticity test	180.23	0.0269
Breusch and Pagan Lanrangian multiplier	11.05	0.0004
Hausman test	6.82	0.3378

Source: STATA 13 output Results based on study data

The result of the test in table 4 showed that there isa presence of Heteroskedasticity as the probability chi-square value of 0.02690 is less than 0.05.The results of the LM test in table 4 above showed a chi bars^2 of 11.05 with a corresponding prob > chibar of 0.0004 therefore the study rejected the null hypothesis and conclude that random effects is the most appropriate model because there is evidence of significant differences across the firms. As a result, pooled OLS should not be used.Theresultof the Hausman test in table 4 above suggested that the random effect regression model is most appropriate. However the post-diagnostic analysis showed that there is a problem of Heteroskedasticity consequently,panel corrected standard error (PCSE) regression was used to correct the problem of Heteroskedasticityas presented in resultTable 5therefore the interpretation was based on PCSE regression and not random effect regression.

Table 5 Panel Corrected Standard Error Regression Results

Variable	Coef.	Std. Err.	Z-value	P-value
Discretionary Accruals	0.0195	0.0194	1.00	0.316
Abnormal cash flow from operating Activities	0.6387	0.0972	6.58	0.000
Abnormal production cost	-4.9011	2.9437	-1.66	0.096
Abnormal expenses	0.0751	0.4238	1.81	0.859
Firm size	0.1596	0.0881	-0.44	0.070
	).0881			
Firm Age	-0.0035	0.0081	-0.44	0.663
-Cons	0.1640	0.6778	0.24	0.809
R2				0.2851
Prob > chi2				0.0000

Source: STATA 13 Output Results based on study data

The F- statistics value of 48.85 and a corresponding Prob.>F of 0.0000 indicated that the model is fit to explain the relationship expressed in the study.The nature and extent of the relationship between the dependent variable and each of the independent variables of the study in terms of coefficients, z- values,and p- values are explained further:

The panel corrected standard error regression result for the sampled consumer goods companies as presented in table 5 above showed that there is a positive relationship between discretionary accruals (DCA) and firm value (proxy with Tobin's Q) as explained by a coefficient value of 0.01951 and a z- value of 1.00 with a corresponding P-value of 0.316 This revealed that a one-unit rise in discretionary accruals leads to 0.01951 unit increase in firm value, more also abnormal cash flow from operating activities (ABNCF) of the sampled consumer goods companies during the study period has a positive relationship with value as explained by the coefficient of 0.6387 and a z-value of 6.58 with a corresponding P-Value of 0.000. This means that for every unit increase in abnormal cash flow from operating activities (ABNCF), firm value increase by 0.6387 unit. Similarly, the results revealed that there is a negative relationship between abnormal production cost (ABNPC) and firm value of the sampled consumer goods companies during the study period. This is explained by a coefficient value of -4.9011 and a z-value of -1.66 with a corresponding P-Value of 0.096. This showed that a unit increase in abnormal production cost (ABNPC), lead to a 4.9011 unit decrease in firm value. In the same vein, the result showed that there is a positive relationship between abnormal expenses (ABNEX) and firm value as explained by a coefficient value of 0.7511 and a corresponding z-value of 0.18 with a P-Value of 0.859. This implied that for every unit increase in ABNEX, firm value increase by 0.7511 units. Furthermore, the firm size (FSIZE) of the sampled consumer goods companies during the study period has a positive relationship with firm value as explained by a coefficient of 0.1595 and z-value of 1.81 with a corresponding P-value of 0.070. This implied that for every unit increase in FSIZE, TOBIN'S Q increase by 0.1595 units. Finally, the results from table 7 above showed a negative relationship between firm age (FAGE) and firm value as shown by the coefficient of -0.0035.

Hypothesis 1 Discretionary accruals have no significant effect on firm value of listed Consumer goods companies in Nigeria
The regression result as presented in Table 5 shows that discretionary accruals of listed consumer goods companies in Nigeria is statistically insignificant at a 5% level of significance. The z-value of 1.00 with a corresponding P-Value of 0.316 attest to this fact. This provided evidence of rejecting the alternate hypothesis and accepting the null hypothesis and conclude that earnings management

At a 5% level of significance, the regression result in table 5 shows that budgetary accruals of listed consumer goods companies in Nigeria are statistically insignificant. This is supported by the z-value of 1.00 and the corresponding P-Value of 0.316. This supported rejecting the alternative hypothesis and accepting the null hypothesis, leading to the conclusion that earnings management (proxy with discretionary accruals)has no significant effect on firm value of listed consumer goods companies in Nigeria. This finding agrees with that of Alaa (2018), who discovered that earnings management has no significant impact on firm value but differs from Susanto (2017), Abbas (2018), and Sunardi (2018), who discovered that earnings management has a significant positive impact on firm value.

Hypothesis 2
During the study period, abnormal cash flow from operating activities of the sampled firms has a significant impact on the value of listed consumer goods. This was shown by a z-value of 6.58 and a P-value of 0.000, both of which are statistically significant at the 5% stage. As a result, ABNCF has a significant impact on firm value.As a result, the study was rejected the null

hypothesis and accepted the alternative hypothesis, resulting in the conclusion that ABNCF has a significant impact on firm value of quoted consumer goods firms in Nigeria. The results are similar to those of Olatugi and Juwon (2020), who discovered that ABNCF has a significant positive impact on firm value. The results were in direct opposition to those of Ahmed, Mukhtaruddin, and Razie (2018) who also found that abnormal cash flow from operating activities has a negative effect on firm value.

Hypothesis 3 Abnormal production cost has no significant effect on firm value of listed Consumer goods companies in Nigeria

Abnormal production costs of sampled firms have a negative relationship with firm value. The regression outcome had a z-value of -1.66 and a P-value of 0.096, all of which are statistically insignificant. This provided evidence for rejecting the alternative hypothesis and accepting the null hypothesis that abnormal production costs had no significant effect onthe firm value of listed consumer goods companies in Nigeria.This study's results are consistent with those of Yusuf, Abu, and Yahaya (2014), who found that abnormal production costs have no significant impact on firm value. Sulfan, Sanusi, and Mastuki (2015), as well as Abner and Ferrer (2018), found that abnormal production costs have a significant positive impact on firm value. The findings also contradict those of Susanto (2017) and Darmawan, Sustrisno, and Mardiati (2019), who found that abnormal production costs have a significant negative impact on firm value.

Hypothesis 4 Abnormal expenses have no significant effect on value of listed Consumer goods companies in Nigeria

Abnormal expenses of the sampled consumer goods firms had a positive relationship with financial performance. Table 5 shows that the regression result had a z-value of 0.18 and a P-value of 0.859, which is statistically insignificant.This supported rejecting the alternative hypothesis and accepting the null hypothesis that abnormal expenses had no significant impact on the firm value of Nigeria's publicly traded consumer goods firms. The results of this study agree with those of Ahmed Mukhtaryddin and Razie (2018), who found that abnormal expenses have no significant impact on firm value. However, the results of the study conflict with the findings of Sulfan, Sanusi, and Mastuki (2015), who found that abnormal expenses have a significant impact on firm value.

5.0 Conclusion and Recommendation

The study came to the following conclusions as a result of data interpretation and discussion:

Specifically, the study concluded that there is a positive and insignificant association between discretionary accrualsandfirm value oflistedconsumer goods companies inNigeria which implied that discretionary accruals donot significantly affect firm value of sampled consumer goods firms in Nigeria.

The study also concluded that abnormal cash from operation has a positive and significant effecton the firm value of listed consumer goods companies in Nigeria indicating that abnormal cash flow from operation does not constrain but increases the firm valueof the sampled firms.

The study concluded that abnormal production cost had a negative and i n significant effecton value of listed consumer goods firmsinNigeria suggesting that abnormal production costhas no significant effect on the firm value of the sampled firms.

Finally, the study found that abnormal expenses have a positive but negligible relationship with the value of listed consumer goods companies in Nigeria, implying that abnormal expenses have no substantial impact on the value of sampled firms in Nigeria. Overall, earnings management has a negligible effect on the valuation of Nigeria's publicly traded consumer goods firms.

The recommendations of this study are directed at different parties that use annual reports and accounts. It is also directed to regulatory bodies and policymakers. Based on the findings of this study, the following recommendations were made:

i. That relevant regulatory authority, such as the Security and Exchange Commission (SEC), Financial Reporting Council of Nigeria (FRCN), Nigeria Stock Exchange (NSE), who are responsible for ensuring that listed companies comply with laid down accounting standards, and other requirements should design policies and put in place measures that will check-mate and discourage earnings management activities. This will enhance the increase in the quality of financial reporting and build stakeholder's confidence in financial reports released by companies.

ii. Based on the findings, it is suggested that management efficiency is needed in controlling costs, increasing efficiency, and improving the output of Nigeria's publicly traded consumer goods companies. Managers' equity participation should be increased for them to be more effective, vigilant, and avoid participating in earnings management.

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FACTORS AFFECTING THE APPLICATION OF FORENSIC ACCOUNTING IN THE NORTH-WESTERN STATES OF NIGERIA

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Abstract
This study examined the factors that affect the applicability of forensic accounting in the Northwestern states of Nigeria. The study utilized primary data through the administration of questionnaire to accountants, internal and external auditors drawn from seven states of the North-Western geo-political zone of Nigeria. Partial Least Squares (PLS) path modelling using smart PLS3 Statistical Software was employed for the analysis. The findings indicated that educational, legal, behavioural, political and environmental factors are positively related to the applicability of forensic accounting in the States. The results also revealed the importance of educational, legal, behavioural, political and environmental factors in the successful application of forensic accounting in order to deter and detect fraudulent activities in the Northwestern States of Nigeria. The study shows how educational and professional institutions would assist in the promotion of the awareness, knowledge and skills of forensic accounting. It is thus recommended that there should be massive campaigns through collaborations between the government, relevant professional bodies, and academic institutions to create awareness on the benefit of forensic accounting so that it can be accepted by all stake holders with the view to reducing fraudulent activities in the northwestern states of Nigeria.

Keywords: Forensic accounting; Educational factors; Legal factors; Behavioral factors; Political factors; Environmental factors.
JEL codes: M410, M420, M480

1. Introduction

Corruption has become a serious issue of concern in many countries across the globe. The issue is not only peculiar to developing economies, but also in developed countries (Suleiman & Ahmi, 2018). It is perceived as a potential threat to political and economic development, as it negates stability. The level and degree of the occurrence of corruption vary from one country to another (Enofe, Afiangbe, & Agha, 2017). For example, in the past three decades, many high-profile financial reporting scandals emerged, such as the one in Enron, WorldCom, Parmalat, Satyam, Sub-prime mortgages and Olympus (Rezaee, Ha, & Daniel Lo, 2014; Rezaee, Lo, Ha, & Suen 2016). A survey carried out by the Association of Certified Fraud Examiners (ACFE) in 2014 revealed that organizations across the globe lost nearly five per cent of their total annual income to fraudulent activities, with aggregate costs of about $3.7 trillion and a median cost of over $140 million. Similarly, more than one-fifth of the fraudulent cases led to monumental losses of at least $1 million (ACFE, 2014).

The Nigerian public sector is not excluded from corruption in one form or the other, despite the efforts being made by governments in fighting corruption (Suleiman & Ahmi, 2018). In fact, Nigeria had been ranked among the top ten most corrupt nations in the world by Transparency International and other relevant international organizations (Ekpo, Chime, & Enor, (2016). Clearly this is an indication of the prevailing nature of corrupt practices in Nigeria. The consequences of corruption are vividly manifested in dwindling social welfare of the people; unemployment, youth restiveness, armed robbery, kidnapping and general insecurity (Ijewereme, 2015). It significantly affect the provision of infrastructure in the country, particularly at the state government level where the internal control and internal audit department are incapable of providing the assurance services that are needed to prevent financial malpractices.

Governments efforts or policies to tackle corruption in Nigeria began in the 1970's with the launched of Jaji Declaration, Ethical Revolution, War against Indiscipline (WAI) and the Ethical and Social Mobilization Crusade. Also, in 1999, the Independent Corrupt Practices and Other Related Offenses Commission (ICPC) as well as the Economic and Financial Crimes Commission (EFCC) were established to fight corruption in Nigeria. Regrettably, many Nigerians assessed the activities of these anticorruption commissions as grossly inadequate (Ayobami, 2011).

The need to find a better way of combating corruption and other related fraudulent activities at the state level at a time when the federal government and developed countries are complaining about the drastic fall in their revenues due to COVID-19 pandemic is very profound. A very contemporary and effective technique of combating corruption and other related fraudulent activities that is widely acknowledged is forensic accounting. It is not a new branch of accounting, as the skills and activities depicting it has been practiced for long. (Pedneault, Rudewicz, Sheetz, & Silverstone, 2012). Forensic Accounting Practice was first conducted in the United States in the late 1870s and early 1880s precipitated by the stock fraud cases and scandals found in the securities market and the credit industry (Rezaee et al., 2016). It evolved from the courts of law (Gray, 2008). The continuous rise in white-collar crimes forced educators, students and professional associations to develop interest in studying forensic accounting (Bhavani et al., 2018). It is a viable mechanism in providing litigation support, consulting, expert witnessing and fraud investigation (Rezaee et al., 2014).

Nigeria's debt profile became a topical issue for policymakers and development practitioners as recently the debt service-to-equity ratio is 60 per cent due to the drastic fall in oil revenue (Onyekwena&Ekeruche, 2020). Many experts believe that Nigeria needs no debts to finance its budget provided that corruption and other fraudulent activities are deterred and detected. In other words, the available resources in Nigeria are enough to satisfy the needs and requirements of all Nigerians provided that corruption and other fraudulent activities are curbed. In Nigeria, corruption occurs in various forms, such as misappropriation, kickback, over-invoicing, bribery, embezzlement, money laundering and the outright looting of the treasury (Ijewereme, 2015).These financial misconducts are part of the problems hindering the development of North-Western geo-political zone of Nigeria. The report on bribery released by the United Nations Office on Drugs and Crimes (UNODC, 2017) indicated a high rate of prevalence of bribery in the public offices of the North-West of Nigeria; Jigawa, 93.0%; Kaduna, 93.8%; Kano, 84.8%; Katsina, 92.9%; Kebbi, 94.0%; Sokoto, 95.5% and Zamfara, 95.5%. Also, most former governors in the geo-political zone had cases with EFCC; former governor of Jigawa state, 1.35bn fraud, and his son 10bn money laundering case, former governor of Kebbi state 0.45bn fraud, former governor of Katsina state 76bn among others it is obvious that, Nigeria needs a better way of curbing corruption and other related fraudulent activities at the three tiers of government. According to Suleiman and Ahmi (2018), forensic accounting is the only best option to apply by Nigerian anti-corruption agencies to curb corruption in the country. Similarly, through an interview technique, the appropriateness of the application of forensic accounting to investigate and prosecute offenders in the public sector of Nigeria was established by Suleiman and Ahmi (2018). Besides, many empirical studies, such as Okoye and Gbegi (2013), (Enofe, O., Julius & Ogbedie, (2015,), Joseph, Okeke, and Yoko, (2016), Suryanto and Ridwansyah (2016), Okoye and Ndah (2019) and Umar, Haron, and Kurawa (2021) have established the effectiveness of forensic accounting in combating corruption and other related fraudulent activities.

In recognition of the relevance of Forensic Accounting in detecting and preventing of fraudulent activities, this study seeks to establish the key factors that affect its applicability in the Northwestern States. Study on the available relevant literature revealed that there are many influential factors responsible for the effective application of forensic accounting, but this study covered only five factors namely; educational, legal, behavioural, political, and environmental factors. The educational factors consider the availability of tertiary institutions that offers forensic accounting course, workshops and seminars organised by the state governments on forensic accounting, the level of knowledge acquired by the staff of accounting and auditing department at the state level among others. The legal factors consider whether laws are backing the conduct of forensic accounting at the state level, the availability of good litigation support in the courts, strong or weak judicial system at the state level, as well as prompt trial without unnecessary delay. The legal factors influence the application of forensic accounting more than any other factor (Huber, 2017). Similarly, the political factors focus on the bureaucratic processes in adopting an innovation or system, continuity of governments, continuity of policies and programs, accountability and transparency of the political office holder, institutional corruption on the part of political office holders,

Furthermore, the behavioural factors examine the readiness of the practitioners at the state level to adopt forensic accounting. Muthusamy (2011), argues that the application of forensic accounting is influenced by the intention of top management of organisations to use forensic accounting information. Finally, the environmental factors involve the availability of forensic experts, equipment and facilities for the conduct of forensic accounting, conducive atmosphere, forensic laboratories, as well as, chemicals and reagents needed for forensic tests. Finally, the environmental factors involve the availability of forensic experts, equipment and facilities for the conduct of forensic accounting, the conducive atmosphere, forensic laboratories, as well as chemicals and reagents needed for forensic tests. It is against this background that this study explores the factors affecting the applicability of forensic accounting in the Northwestern States of Nigeria with a view to determining the potentials of applying forensic accounting for improved financial management systems in the region.

Modern organized financial misconducts such as employee theft, payroll fraud, corporate fraud, insurance fraud, embezzlement, and bribery, become indiscriminate, especially with the emergence of Information and Communication Technology coupled with the advent of internet facilities worsened the problem (Asuquo, 2012). The detection and prevention of the financial impropriety can be overcome using forensic accounting, especially at the state government levels, where the accounting controls and internal audit departments are not adequate to prevent and detect financial misconduct (Dada, 2014). At the state and local government levels, perpetrators were in most cases unpunished. This means that few cases were discovered on time, investigated, and prosecuted. Consequently, many financial crimes and individuals involved were left undetected and unpunished (Okoye & Gbegi, 2013). Such problems justified the need for forensic accounting. Bierstaker *et al.*.(2006) reported that forensic accounting is the most effective fraud detection tool, but has the least adoption rate by organizations, leading to growth in fraudulent practices (Muthusamy, Quaddus, & Evans, 2010) Accordingly, the non-adoption of forensic accounting by organizations was influenced by both the organizational, and individual factors (Bierstaker *et al.*., 2006; Muthusamy, 2011).

Previous studies on forensic accounting were focused on areas related to the demand for forensic accounting services (Carnes & Gierlasinski, 2001); understanding fraud detection techniques (Bierstaker, Brody, & Pacini,

(2006), the intention to use forensic accounting (Muthusamy, 2011) and development of forensic accounting programs (Pooja, 2014; Rezaee, Crumbly & Elmore, 2014). Empirical studies in Nigeria examined forensic accounting from diverse perspectives. The studies of Mainoma and Adejola (2009); Adegbi and Fakile (2012); Gbegi and Adebisi (2013); Enofe, Olurunho and Okpara (2016); Franklyn (2013); Imam, Kumshe, and Jajere (2015); Wilson, Francis, Emeka, E. E. and Loraver, T.N. (2017) Claire and Jude (2016); Anuolam, Onyema and Okeke (2016); Fynaface and Sunday (2017) and Safiyanu, Saifullahi and Armayau (2019) investigated the use of forensic accounting in detection and prevention of fraud in Nigeria.On the hand, the studies of Owolabi, Dada and Olaoye (2013); Dada (2014) and Babatunde (2014) focused on the use of forensic accounting in the prevention of corruption in Nigeria.

However, the studies of Imam (2013); Ibrahim, Rose and Mudzamir (2016), Ibrahim (2018); considered the factors affecting the application of forensic accounting in Nigeria. Furthermore, the studies of Eme (2013); Saito and Teresa (2016) and Wilson, Francis, Emeka and Loraver (2017); focused on forensic accounting education in Nigerian tertiary institutions. Even the studies that considered factors affecting the application of forensic accounting in Nigeria concentrated on environmental factors (Ibrahim, 2018; Ibrahim *et al.*. 2016) and political factors (Imam, 2013). Other factors such as educational factors, legal, and behavioral factors were not covered by the previous studies in Nigeria. Evidently none of the studies combined the five factors, and none was conducted at the state ministries and departments in Nigeria.

Moreover, previous studies used chi-square (Mainoma & Adejola, 2009; Adegbi & Fakile, 2012; Imam, Kumshe, & Jajere, (2015); Wilson *et al.*. 2017), Analysis of variances (ANOVA) (Gbegi& Adebisi, 2013; Okoye &Gbegi, 2013; Franklyn, 2013; Imam, 2013; Claire & Jude, 2016; Wilson *et al.*. 2017), Ordinary Least Square and Multiple Regression (Owolabi, Dada & Olaoye, 2013; Enofe, Okpakor, & Atube 2013; Dada, 2014; Ehioghiren, 2016; Anuolam, Onyema, & Okeke, (2016); simple percentages (Efiong, 2012; Fynaface & Sunday, 2017), correlation analysis (Ezegba,2014), t-tes (Gbegi & Adebisi, 2013) and Structural Equation Modeling (SEM) (Eme, 2013) as techniques for analyses. None of the previous studies used Partial Least Square Structural Equation Modeling (PLS-SEM) which this study used for data analysis.

Furthermore, most of the previous studies on forensic accounting either used theory of fraud triangle (Enofe, Okpakor, & Atube 2013; Dada, 2014; Imam *et al.*., 2015) or theory of fraud diamond (Gbegi & Adebisi, 2013; Imam, 2013), none of the previous studies used contingency theory which this study used. Contingency theorists try to identify and measure the conditions under which things will likely occur. A contingency is a relationship between two phenomena. If one phenomenon exists, then a conclusion can be drawn about another phenomenon (Carlisle, 1976).

Therefore, the purpose of this study is to investigate the perceived factors affecting the applicability of forensic accounting in North-Western States of Nigeria which has not been previously studied to the best of the knowledge of the researcher.

The specific objectives of the study are to:

a. explore the educational factors that will significantly affect the application of forensic accounting in Northwestern states, Nigeria;
b. identify the legal factors that will significantly affect the application of forensic accounting in Northwestern states, Nigeria;
c. explore the behavioural factors that will significantly affect the application of forensic accounting in Northwestern states, Nigeria;
d. explore the political factors that will significantly affect the application of forensic accounting in Northwestern states, Nigeria;
e. find out the environmental factors that will significantly affect the applicability of forensic accounting in Northwestern states, Nigeria.

2 Literature review and hypothesis development

The fact is that there is no universally accepted and all-encompassing definition of forensic accounting. The definition mainly depends on the background, experience and practice of each individual forensic accountant (Pedneault et al., 2012). It has been seen as the application of science and technology for investigating and exposing fraudulent and other illegal activities in the fields of accounting, finance, management, criminology and other areas where such activities could occur (Rezaee et al., 2014). Services offered by forensic accountants involve business purchases, the valuation of divorce assets, property damage, lost profits caused by embezzlement and other illegal activities, tax evasion and money laundering practices (Gray, 2008). Moreover, AICPA described forensic accounting to involve the application of two forms of knowledge:

i. Fundamental knowledge, such as laws, courts and dispute resolution, planning and preparation, information gathering and preserving, discovery, reporting, experts and testimony, and;
ii. Specialized forensic knowledge, such as bankruptcy, insolvency and reorganization, computer forensic analysis, economic damages calculations, family law, financial statement misrepresentation, fraud prevention, detection and response and business valuation (Pedneault et al., 2012).

Briefly, it is understandable from the above that forensic accounting entails the application of accounting techniques and concepts in issues concerning legal matters. The concept has been introduced due to the high rate of white-collar crimes like embezzlement, fraudulent financial practices and other various financial misconducts. In the world of finance, most of the economic damages are caused by white-collar crime (Rezaee et al., 2014). This gave birth to the emergence of forensic accounting into the world (Bhavani, et al., 2018). Therefore, the role of forensic accounting in minimizing white-collar crimes and other irregularities is very profound.

Many factors influence the application of forensic accounting, such as the educational, the legal, the behavioural, the political and the environmental. However, for the purpose of this study, education, legal and behavioural factors are considered. Discharging forensic accounting services requires forensic accountants to acquire certain special skills and knowledge, as earlier mentioned. It is, therefore, an important factor that influences the applicability of forensic accounting services. In other words, forensic accountants are required to have certain knowledge and skills, such as auditing, investigative knowledge, criminology, accounting, legal, information technology and communication skills, among others (Oyedokun, 2012). The major sources of forensic accounting knowledge and skills are educational and professional institutions. These institutions perform a critical role in the dissemination of forensic accounting knowledge and skills. Many universities and other educational institutions, particularly in developed nations, have introduced forensic accounting courses into their various academic programmes. However, Eme (2013) disclosed that Nigerian universities are not yet prepared to take up forensic accounting courses. Hence, many calls have been made for the integration of forensic accounting education into accounting curricula in universities (Alabdullah, Alfadhl, Yahya, & Rabi, 2014; Rezaee et al., 2014; Efiong et al., 2016; Ramadhan, 2016; Bhavani, Amponsah, & Mehta, 2018; Ejike, 2018; Kumshe, Umar, & Imam, 2018). Not only universities, polytechnic and other advanced education institutions should introduce forensic accounting courses into their various accounting programmes. This is because lack of inclusion of forensic accounting in some countries like in Iraqi university curricula has been contributing significantly to the increase in financial fraud and corruption in the country (Alabdullah et al., 2014). The introduction of the course is needed because educational institutions play an essential role in the construction, interpretation and reinforcement of societal values by spreading and transferring knowledge.

Besides, they produce accountants to be absorbed in various public and private organizations. Therefore, acquiring forensic accounting skills would be of great help to them and the organizations.

Besides, professional institutions have been performing a vital role of qualifying and certifying people to become competent forensic accountants. Therefore, they actively engage in disseminating the knowledge and skills of forensic accounting among their members and non-members through examination, training and lectures. Today, there are many professional associations and institutions that regulate the practice and dissemination of such knowledge and skills. Such institutions include the Association of Certified Fraud Examiners, National Association of Certified Valuation Analysts, American Institute of Certified Public Accountants, American College of Forensic Examiners, Association of Certified Fraud Specialists, National Litigation Support Services Association and the Institute of Business Appraisers (Gray, 2008). A similar institution known as the Institute of Forensic Accountants of Nigeria (IFA) exists in the country to support forensic accounting services (Umar et al. 2021). However, this Nigerian institution is still struggling to have an enabling law. More so, the Institute of Chartered Accountants of Nigeria (ICAN) as a general Nigerian Accounting Professional body has an independent faculty for the dissemination of the knowledge and skills of forensic accounting. Moreover, these professional associations usually organize seminar and training for their members through a program known as Mandatory Continuing Professional Development (MCPD) to enable them to keep abreast of contemporary issues, which include forensic accounting. Interestingly, even non-members are allowed to participate.

Many empirical studies relevant to forensic accounting education were conducted. For example, Gbegi and Adebisi (2014) studied the role of forensic accounting skills and techniques in fraud investigation in the Nigerian public sector. The main data were collected from the staff of three anti-corruption agencies that fight corruption in Nigeria through questionnaire administration. The findings established a significant positive relationship between forensic accounting skills and techniques and fraud detection and reduction in the Nigerian public sector. Rezaee et al. (2014) surveyed to explore experts' views on forensic accounting education and practice in China. One of the key findings is the need to infuse forensic accounting topics into business and accounting curricula in the country. Saito and Teresa (2016) examined four financial reporting fraudulent activities, such as Olympus, Parmalat, Satyam and Longtop intending to find their implications. The results revealed the relevance of forensic accounting and auditing education so as to inculcate ethical conduct in future managers and business persons in order to promote their ethical thinking

Moreover, Wilson et al. (2017) administered questionnaires to academics and practitioners to explore the prospects and challenges of forensic accounting in Nigeria. The study revealed an increase in the demand for forensic accounting services. Hence, forensic accounting education should be integrated into educational curricula with a view to meeting up the market demand for its services. Bhavani, Amponsah, and Mehta (2018) explored views on the relevance of forensic accounting education in the United Arabs Emirates (UAE) from various participants, such as educators, executives and students. The results indicated that little attention was paid to forensic accounting education as it has not been adequately integrated into the Emirate University curricula of graduate and postgraduate programmes.

Briefly, through educational and professional associations the knowledge and skills of forensic accounting could be disseminated and enable it to be successfully applied. Hence, it is hypothesized that:

H_1: Educational factors will not significantly affect the application of forensic accounting in North-western State of Nigeria.

Earlier mentioned forensic accounting entails making a presentation of a report to courts in order to resolve civil and criminal litigation cases. In fact, forensic accounting evolves to resolve legal disputes in courts of law (Gray, 2008). Hence, the importance of the existence of effective laws to support the applicability of forensic accounting is very profound. In Nigeria, the weak judicial system is among the key problems faced by forensic accountants in discharging their duties (Ejike, 2018). Basic legal issues of forensic accounting include litigation support and expert witnessing in the court of law. Hence, there must be enabling laws that allow forensic accountants to discharge both litigation support and expert witnessing services effectively. Basically, forensic accountants render two kinds of service, litigation support and expert witnessing. In the case of litigation supports, forensic services are provided to an attorney which comprise services related to fact-finding (in the discovery and analysis of accounting data), damage calculations and the preparation of demonstrative evidence (AICPA, 2008). Similarly, Albrecht et al. (2006) state that some of the key services rendered by forensic accountants to support litigation involve business litigation and dispute advisory to help lawyers in litigation processes.

However, in the case of expert witnessing, litigation support services are extended and comprise the preparation of reports for various subject matters, such as tax analysis, economic fact-finding and analysis of damage, which are required documented and testified as an expert witness in a courtroom. According to Gray (2008), forensic accountants may be required to provide evidence in civil and criminal cases by serving as expert witnesses to provide legally acceptable evidence in each case. Similarly, Melia (1991) asserts that in the case of expert witnessing, forensic accountants perform a vital role in trial actions (civil or criminal) whenever expert evidence is needed.

Briefly, in order to discharge forensic accounting services for litigation support and expert witnessing, there must be strong legal processes and a judicial system. Hence, it is hypothesized in null form that:

H_2: Legal factors will not significantly affect the application of forensic accounting in North Western States of Nigeria.

Moreover, many studies exist on the behavioural aspects of the application of forensic accounting, which have to do with intention, associated risks, acceptance, benefits, pressure, etc., of applying forensic accounting. For example, Muthusamy (2011) investigated the determinants of the behavioural intention to apply forensic accounting services by large Malaysian companies to detect and prevent fraud. Through the administration of questionnaires, the findings revealed that attitude, organizational ethical climate, stakeholder pressure and the perceived severity of fraud have significant positive impacts on the behavioural intention to use forensic accounting services. On the other hand, financial costs have a significant negative relationship with intention. Similarly, in Nigeria Efiong et al. (2016) evaluated the behavioural intention to apply forensic accounting techniques to detect and prevent fraud through the administration of questionnaires to some selected accounts from nine states and the Federal Capital Territory, Abuja. The study found that the acceptance of forensic accounting services by accountants was influenced by understanding the benefits, risks, fraud susceptibility and fraud severity in their organizations. Ogbeide et al. (2017) administered questionnaires to mainly internal auditors, chief accountants, executive directors and managers in order to establish the determinants of organizational intentions to apply forensic accounting services to detect and prevent fraud in Nigeria. The study found the perceived benefits and perceived risks of applying forensic accounting to have significantly affected the organizational intention to apply forensic accounting services to detect and prevent fraudulent activities. On the other hand, awareness and stakeholder pressures were found not influence the intention to use the services. Thus, it is hypothesized in null form that:

H_3: Behavioural factors will not significantly affect the application of forensic accounting in North Western State of Nigeria.

Generally, political factors are among key factors that influence the internalization of accounting and auditing standards (Abdallah, 2008). Similarly, the political system is an important factor that influences the development of accounting practices Tahat, Omran, and AbuGhazaleh, (2018). Pratiwi, Shalihatulhayah, and Mayasari concluded that a number of political factors, such as colonialism and the quality of local regulators, international power politics and Colonialism, were established to affect the adoption of international financial reporting standards. Nearly all developed countries have well established political systems characterized by almost all developed countries, which are based on high levels of democracy, freedom, political stability and the culture of accountability (Alia and Branson, 2011). They added that some or all of these factors are found in the political systems of developing countries.

Further, Nobes (1998) claims that political systems do not affect accounting in developed countries because they are probably sufficiently homogeneous in these countries, but they may change the accounting system in developing countries, particularly local legislations and tax laws in order to favor political affiliates and other category of people because of nepotism. Ball *et al*. (2003) find it likely that political factors influence financial reporting practices in East Asian countries.

In specific, though there is very scanty literature on the impact of political factors and forensic accounting, they have been established as key factors that affect the applicability of forensic accounting as a result of the abuse of office by politicians (Imam, 2013). This is because in developing countries political office holders do not continue with the policies of previous governments, particularly of the opposition party. This indicates that the political will of office holders can determine the applicability of forensic accounting at the state level in Nigeria.

Briefly, the regular change of governments at the state levels in Nigeria due to the four-year tenure can affect the application of forensic accounting because another government administration may not be willing to continue with applying forensic accounting, particularly if it is initiated by the previous opposition party. But in developed countries there is continuity of previous government's good policies even if they were initiated by previous administrations. Hence, it is hypothesized in null form that:

H_{04}: Political factors will not significantly affect the applicability of forensic accounting in the North Western States of Nigeria.

Accounting is a product of its environment (Zhang, 2005). Generally, in the accounting literature, environmental factors were established as key factors responsible for international accounting diversity (Alia and Branson, 2011). Therefore, environmental factors are believed to have a significant influence on a country's accounting and auditing system and practices (Abdallah, 2008).

In specific, as regard to environmental factors Ibrahim *et al*. (2018) argued that the environment provides resources and posed obstacles to organizational performance. In essence, the adoption of forensic accounting may be influenced by environmental characteristics such as the availability of resources. Consequently, environmental factors have a basis to be considered as among the key determinants of the applicability of forensic accounting at the state level. Therefore, it is hypothesized in null form that:

H_{05}: Environmental factors have a positive and significant effect on the applicability of forensic accounting.

3. Methodology

3.1Research design

The present study applied quantitative cross-sectional survey design through the administration of questionnaires. The survey method was selected because it is the medium that measures the attitudes, knowledge and preferences of respondents.

3.2 Population of the study

The population of this study is made up of all the accountants, internal and external auditors, who are on Grade Level 12 and above in the Ministries of the seven states of the North-West geo-political zone of Nigeria. Through contact with senior employees in the zone, the population was estimated to be around 1636 for 2021. The states comprise Jigawa, Kaduna, Kano, Katsina, Kebbi, Sokoto, and Zamfara.

3.3Sample Size and Sampling Techniques

In survey research, determining an appropriate sample size is essential Bartlett, Kotrlik, & Higgins, (2001). It is needed in order to minimize the total cost of sampling error (Kura, 2014). In determining the sample size for the study, the Taro Yamane 1968 formula was used to select a sample from the population. This technique was used by previous studies, such as Gbegi and Adebisi (2013), Adefila (2008) and Franklyn (2013). By applying the formula, a sample size of 321 was arrived at. However, in order to minimize the low response rate that could result from uncooperative respondents, the sample size of 321 was increased by 50 per cent, which is 161, as suggested by Salkind (1997) and Kura (2014). Consequently, a sample of 482 was used for the study. Stratified sampling technique was applied to drawn a sample from each state. Only 412 were returned, representing a 85.48 per cent response rate. This rate falls above the acceptable recommended range of 40 per cent -50 per cent in social science study (Little, 1989). It is also satisfied the requirement of Sekaran (2003) and Hair Jr, Hult, Ringle, & Sarstedt, (2011), who considered a 30 per cent response rate enough for a survey.

3.4 Variables and their measurements

The study consisted of four variables. Three independent variables, educational, legal and behavioural factors, as well as the applicability of forensic accounting as the dependent variable. These variables were adapted from previous studies and measured on a 5-point Likert scale, from Strongly Disagree (1) to Strongly Agree. The questionnaire was structured into two sections. Section one contains four items for the demographic information of the respondents. Sections two provides items measuring the variables of the study. The variables were measured as follows: applicability of forensic accounting, 13 items; educational factors, 5 items; legal factors, 3 items, behavioural factors, 12 items; political factors, 3 items and environmental factors, 8factors.

3.5 Model Specification

$\text{APPFORACT} = \beta_{O} + \beta_1\text{EDUFACT} + ei$……………………i

$\text{APPFORACT} = \beta_{O} + \beta_2\text{LEGFACT} + ei$……………………ii

$\text{APPFORACT} = \beta_{O} + \beta_3\text{BEHFACT} + ei$……………………iii

$\text{APPFORACT} = \beta_{O} + \beta_4\text{POLFACT} + ei$……………………iv

$\text{APPFORACT} = \beta_{O} + \beta_5\text{ENVFACT} + ei$……………………v

Where:

APPFORACT = Applicability of forensic accounting

EDUFACT = Educational factors

LEGFACT = Legal factors

BEHFACT = Behavioural factors

POLFACT = Political factors

ENVFACT = Environmental factors

Developed by the Researcher

3.6 Analysis Method

This study uses the structural equation modelling (SEM) approach. There are three main reasons for using this approach. First, it is helpful to identify the predictive causal relationship (Baron & Kenny 1986). Second, it uses partial least squares (PLS) with confirmatory factor analysis (CFA) to test the hypotheses. This study used Software SmartPLS 3.2 to analyse the data. It performs two steps to analyse data using the outer model (measurement model) by using the PLS algorithm. Third, it analyses the inner model (structural model) through a bootstrap resampling technique.

4. Results and Discussion

4.1 Demographic profile of respondents

Table 4.1 Demographic information of the respondents

S/no.		Item	Frequency	Percentage
1	Office		212	54.08
Accountants		Internal Auditors	113	28.83
		External Auditors	67	17.09
2	Experience	10 years and below	98	25.00
		11- 20 years	95	24.23
		21-30 years	135	34.44
		31 years and above	64	16.33
3.	Educational qualification	OND/NCE/Advanced Diploma	134	34.18
		HND/BSc/PDG	174	44.39
		Masters and above	84	21.43
4	Professional qualification	ICAN	39	9.95
		CMA	21	5.36
		ANAN	283	72.19
		CPA	14	3.57
		CIA	4	1.02
		Others	31	7.91
5	Current position	Principal Acct./Auditor I	80	20.41
		Principal Acct./Auditor II	106	27.04
		Chief Accountant/ Auditor	87	22.19
		Ass./Deputy Director Acc/Audit	57	14.54
		Director Account/Audit	62	15.82

Table 4.1 presents the demographic information of 392 respondents. It shows that 212 (54.08 per cent) are accountants, 113 (28.83 per cent) internal auditors and the remainder 67 (17.09 per cent) external auditors. The respondents' years of working experience are that 98 (25.00 per cent) have been working for 10 years and below, 95 (24.23 per cent) between 11 and 20 years, 135 (34.44%) 21 and 30 years and 64 (16.33 per cent) 31 years and above. Concerning educational qualification, 134 (34.18 per cent) have OND/NCE/Advanced Diploma certificates, 174 (44.39 per cent) HND/BSc/PDG and 84 (21.43 per cent) Masters and above. In the case of

professional qualification, 39 (9.95 per cent) are members of the Institute of Chartered Accountants of Nigeria (ICAN), 21 (5.36 per cent) Certified Management Accountant (CMA), 283 (72.19 per cent) the Association of National Accountants of Nigeria (ANAN), 14 (3.57 per cent) Certified Public Accountants (CPA), 4 (1.02 per cent) and 31 (7.91 per cent) others. Besides, 80 (20.41 per cent) are currently in the position of Principal Accountant/Auditor I, 106 (27.04 per cent) Principal Accountant/Auditor II, 87 (22.19 per cent) Chief Accountant/Auditor, 57 (14.54 per cent) Assistant/ Deputy Director Account/Audit and 62 (15.82 per cent) Director Account/ Audit.

4.2 Data Screening

In conducting any multivariate analysis, significant data editing and screening are vital. This is because the quality and the meaningful outcome of the analysis depend more or less on the initial data cleaning. Thus, missing data, outlier, normality and linearity were checked and treated accordingly.

4.3Measurement Model

The purpose of a measurement model is to find the validity and reliability of the items of variables (Faruk, 2018). Four tests were conducted, individual item reliability, internal consistency reliability, convergent validity and discriminant validity.

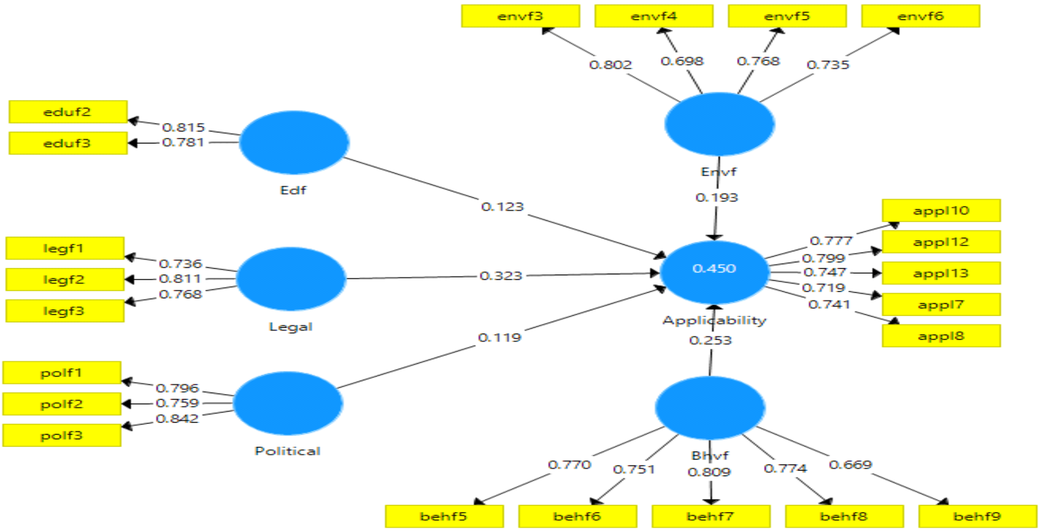

Figure 4.1 Path Model **Sources: Result Output 2021**

From figure 4.1 shows the independent variable has 17 indicators, while the dependent variable is having the manifest variables of 5.

4.3.1 **Individual Item Reliability of the Measurement Model**

In order to ascertain the individual item reliability and other measurement model assessments, the study performed PLS algorithm (Geladi& Kowalski, 1986) as presented in Figure 4.9. The individual item or factor reliability of reflective constructs was determined using the outer loadings of each construct's indicators (Duarte & Roposo, 2010; Hair, Hult., Ringle, C & Sarstedt, 2012; Hulland, 1999). Based on Hair, Hult, Ringle, & Sarstedt, (2017) rule of thumb, an indicator with 0.70 outer loadings is reliable and acceptable. Nevertheless, they argued that rather than just automatically eliminating an indicator with loading below 0.70, researchers should consider deleting the factor only if its removal increases the AVE as well as the composite reliability (CR). As such, to maintain a particular indicator, the loading must be between 0.40 and 0.70, and thus the deletion is subject to the increment of the AVE and CR. Hence, since this study exploratory, the recommended factor loadings as proposed by (Hair et al.., 2017) is 0.60, similarly, following Hair *et al.*. (2017) rule of thumb, 22 items measuring 6 constructs in the study remained for further analysis.

Table 4.2 Measurement Model: Reliability and Convergent Validity
Individual items reliability

Construct	Items	Loadings	AVE	Composite Reliability
Applicability			**0.573**	**0.870**
	appl10	0.777		
	appl12	0.799		
	appl13	0.747		
	appl7	0.719		
	appl8	0.741		
Behavioural Fact			**0.572**	**0.869**
	behf5	0.770		
	behf6	0.751		
	behf7	0.809		
	behf8	0.774		
	behf9	0.669		
Educational Fact			**0.637**	**0.778**
	eduf2	0.815		
	eduf3	0.781		
Environmental			**0.565**	**0.838**
	envf3	0.802		
	envf4	0.698		
	envf5	0.768		
	envf6	0.735		
Legal Factors			**0.596**	**0.815**
	legf1	0.736		
	legf3	0.768		
Political			**0.640**	**0.842**
	polf1	0.796		
	polf2	0.759		
	polf3	0.842		

Sources: Field Survey Result, 2021

As can be seen from Table 4.2 the indicators have loadings of 0.70 and above. Even though tone items have a loading below 0.70, it was maintained because it is this study was exploratory, and already the loadings are above the critical level of 0.40, and its removal would not bring about any significant change to either AVE or CR. Therefore, based on the criterion given by (Hair, Hult, Ringle, & Sarstedt, 2014), all the remaining items are reliable to measure their respective reflective latent constructs.

4.3.2. **Internal Consistency Reliability of the Model**

The most common measurement used for internal consistency is Cronbach alpha and composite reliability, in which it measures the reliability based on the interrelationship of the observed items variables. However, Cronbach's alpha serves as the lower bound. The composite reliability is the upper bound for internal consistency reliability. Thus, the present study used Cronbach's alpha and composite reliability (CR) for assessing internal consistency reliability and report below.

Table 4.3 Internal consistency reliability

Construct	Cronbach's Alpha	rho_A	Composite Reliability	AVE
Applicability	0.814	0.817	0.870	0.573
Bhvf	0.811	0.811	0.869	0.572
Edf	0.752	0.653	0.778	0.637
Envf	0.749	0.772	0.838	0.565
Legal	0.664	0.669	0.815	0.596
Political	0.729	0.771	0.842	0.640

Sources: Field Survey Result, 2021

Table 4.3 shows the internal consistency reliability of the model, and it has been suggested that a reflective latent construct is said to be reliable when it has at least 0.70 value of CR (Henseler, Pauline & Ray, 2016). As shown in Table 4.10, the CR of all the constructs in this study ranges from 0.778 to 0.870. Specifically, the table shows that the Cronbach's alpha and composite reliability are all above the threshold of 0.70, and therefore, going by the rule as mentioned above of thumb of 0.70 and above for the acceptable values, the researcher has concluded that all of these constructs are reliable as all their respective composite reliability's values are above the threshold (cf. Hair, Hult, Ringle, & Sarstedt, 2016).

4.3.3. **Convergent Validity of the Model**

Convergent validity is the assessment to measure the level of correlation of multiple indicators of the same construct that are in agreement. To establish convergent validity, the factor loading of the indicator and the average variance extracted (AVE) have to be considered (Hair *et al.*., 2014). The value ranges from 0 to 1, and the AVE value should exceed 0.50 so that it is adequate for convergent validity, where the construct is assumed to have convergent validity when its items or indicators are converged or share a high proportion of variance (Hair *et al.*., 2014).

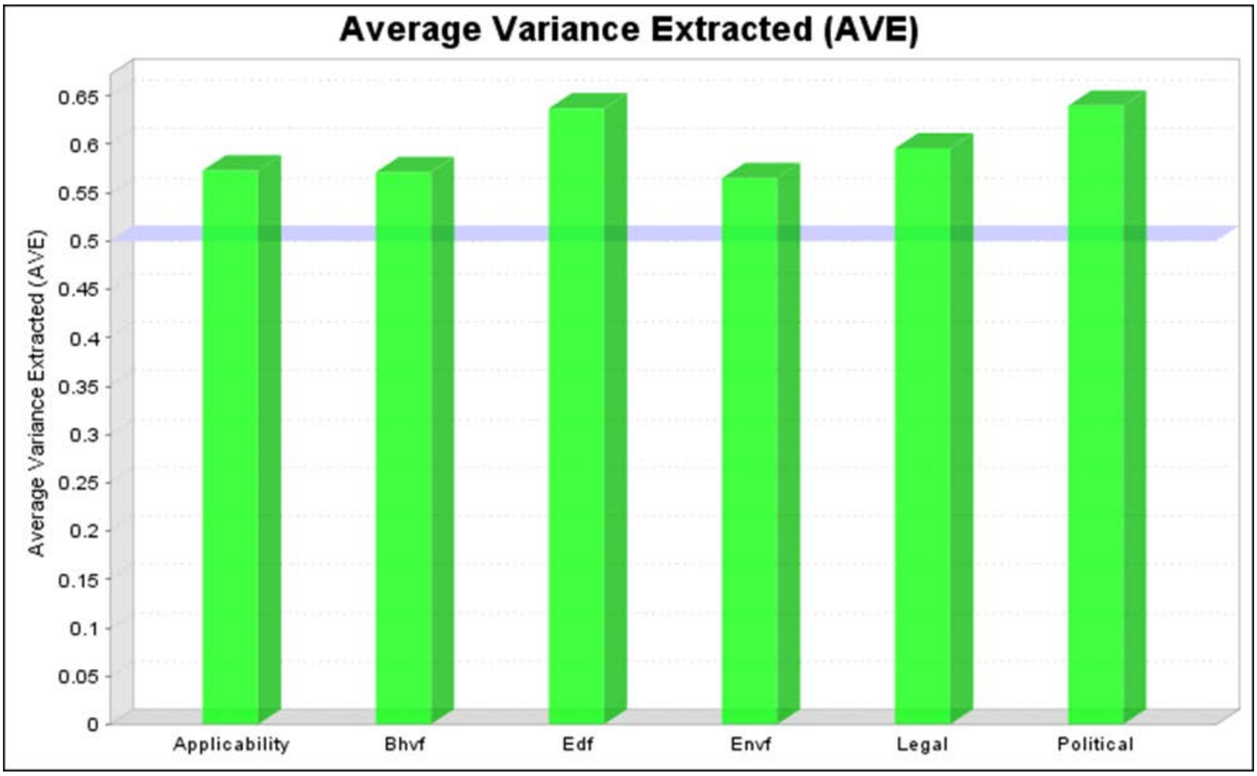

Figure 4.2 Average Variance Extracted (AVE) of Convergent validity Sources: Field Survey Outputs, 2021

Specifically, based on PLS-SEM algorithm results that are presented in Table 4.2 and figure 4.2 Application of Forensic accounting has the AVE value of 0.578, behavioural factors have 0.572, educational factors have 0.637, legal factors have 0.596, environmental factors have 0.565, and political factors have 0.640 level of AVE respectively. This indicated that all the construct had achieved adequate convergent validity.

4.3.4. **Discriminant Validity of the Model**

Discriminant validity is referring to the extent to which the construct is differing from one another empirically. The discriminant validity can be evaluated by using Fornell & Larcker criterion and Heterotrait-monotrait (HTMT) ratio of correlation. This study looks at the two methods and reports to ascertain whether discriminant validity exists.

The first criterion is to assess discriminant validity using the Fornell-Lacker criterion (Henseler *et al.*., 2016).

Table 4.4 Discriminants FornellLacker

Construct	Applicability	Bhvf	Edf	Envf	Legal	Political
Applicability	**0.757**					
Bhvf	0.490	**0.756**				
Edf	0.138	0.120	**0.798**			
Envf	0.463	0.348	0.000	**0.752**		
Legal	0.539	0.364	0.049	0.442	**0.772**	
Political	0.382	0.311	0.006	0.325	0.376	**0.800**

Sources: Field Survey Result, 2021

Table 4.4 present the discriminant validity of the construct. The study utilized the Fornell and larker (1981) criteria, which state that the square root of AVE must be greater than the correlation between the constructs. The square roots of AVEs are represented bolded on the diagonal. The highest correlation coefficient for applicability is 0.539, while the square root of AVE stood at 0.757, for behavioral factor, the correlation coefficient is 0.364 while the AVE is 0.756. Also, the correlation coefficient of educational factors is 0.049, as the AVE stood at 0.798. Also, the correlation coefficient of environmental factors is 0.442, while the AVE is 0.752, so also the correlation coefficient of legal factors is 0.376 the AVE is 0.772 while the AVE of political factors stood at 0.800.

Secondly, the study assesses the other measure for discriminant validity, which is the Heterotrait-monotrait (HTMT) ratio of correlation. Henseler*et al.*. (2015) proposed the superior performance of this method (also see Voorhees *et al.*., 2016) using Monte Carlo simulation study and found that HTMT can achieve higher specificity and sensitivity rates (97% to 99%) compared to the cross-loadings criterion (0.00%) and Fornell-Lacker (20.82%). The result is reported in figure 4.3

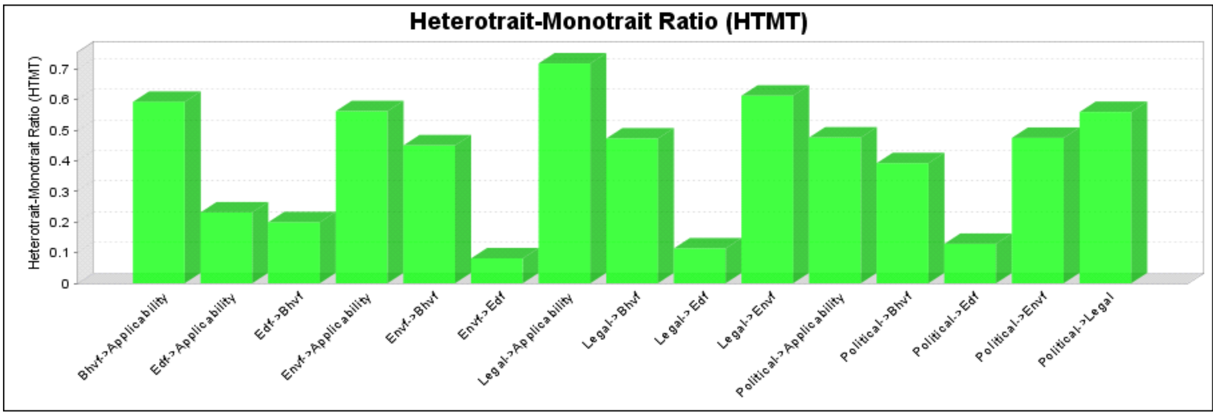

Figure 4.3. Discriminants Validity Using HTMT Criterion. Sources: Field Survey Output, 2021

Form figure 4.3 it shows that using the HTMT as a criterion involves comparing it to a predefined threshold. If the value of the HTMT is higher than this threshold, one can conclude that there is a lack of discriminant validity. Some authors suggest a threshold of 0.85 (Kline, 2011), also, (Henseler*et al.*. 2015) argued with it and proposed a value of 0.90. Based on this criterion, all the reflective latent constructs of this study have achieved discriminant validity.

4.4 Assessment of the Structural Model

This section presents the structural equation model of data analysis. Specifically, the standard bootstrapping procedure was employed using a number of 5000 bootstrap samples for 392 cases to assess the significance of the path coefficients of direct relationships (Hair *et al.*., 2014; 2017). Nevertheless, the objectives of this study are to empirically examine the direct relationships between independent variables (IVs) and the dependent variable (DV). Under the structural model, the study tested the hypothesis of the study, determined the coefficient of determination, effect size, and the predictive relevance of the model.

4.4.1 Hypotheses Testing for Direct Relationships

As can be seen the model specifically analyzed direct relationships represented by hypotheses H_{01}: Educational factors do not significantly affect the application of forensic accounting in North-Western states, Nigeria; H_{02}: Legal factors do not significantly affect the application of forensic accounting in North-Western states, Nigeria; H_{03}: Behavioural factors do not significantly affect the application of forensic accounting in North-Western states, Nigeria; H_{04}: Political factors do not significantly affect the application of forensic accounting in North-Western states, Nigeria; H_{05}: Environmental factors do not significantly affect the application of forensic accounting in North-Western states, Nigeria. Thus the assessment of the structural model using bootstrapping is reported in figure 4.4 and table 4.5 below.

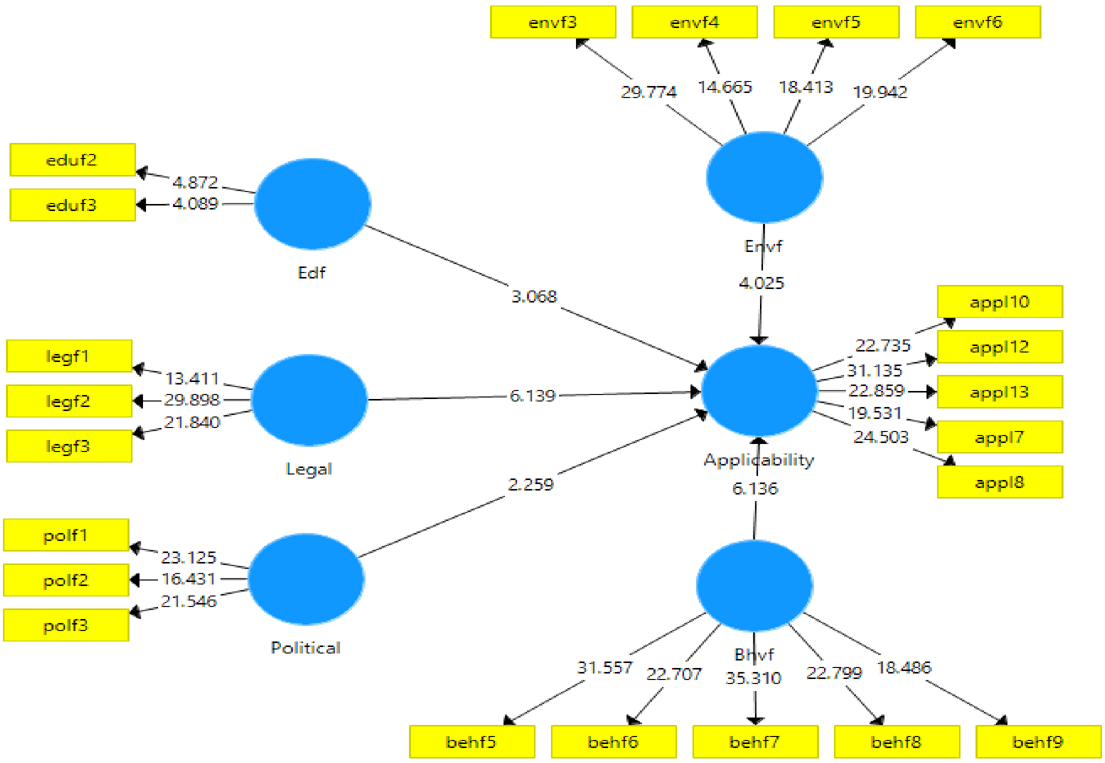

Figure 4.4 PLS Bootstrapping result. **Sources: Field Survey Output, 2021**

Table 4.5

Test of hypotheses – Path coefficient

Hypothesis	Beta Value	Standard Dev	T Statistics	P-value s	Decision
H_{01}	0.123	0.040	3.068	0.000	Not Supported
H_{02}	0.323	0.053	6.139	0.000	Not Supported
H_{03}	0.253	0.041	6.136	0.000	Not Supported
H_{04}	0.119	0.053	2.259	0.001	Not Supported
H_{05}	0.193	0.048	4.025	0.000	Not Supported
$R^2 = 0.450$					

Table 4.5 presented the results of the test of hypotheses. Educational factors was found to be positive (Beta value = 0.123 t-value = 3.068 & p-value = 0.000) and significantly related with applicability of forensic accounting. Legal factors was positively related with application of forensic accounting and having relation (Beta value = 0.323 t-value = 6.139 & p-value = 0.000). The table further disclosed that behavioural factors has significant positive effect on application of forensic accounting (Beta value = 0.253 t-value = 6.136 & p-value = 0.000), as the political factors was also found to be positively related with the application of forensic accounting (Beta value = 0.119 t-value = 2.259 & p-value =0.001). So also the environmental factors was positive and have significant effect with application of forensic accounting (Beta value = 0.193 t-value = 4.025 & p-value = 0.000). In summary, from all the direct relationships between the latent exogenous and endogenous constructs, all five null hypotheses were not supported empirically.

4. 4.2 Coefficient of Determination for Direct Relationships

Apart from the assessment of the significance and relevance, another most commonly used measure of the evaluation of the structural model relationships in the PLS-SEM model is the coefficient of determination or assessment of the level of R-square (Henseler, Hubona, & Ray , 2016). The R-square (R^2) is the measure of the predictive accuracy of a model, which is calculated as the squared correlation between the endogenous construct's actual and predicted value (Hair *et al..*, 2014). The R^2 value represents the combined effects of the exogenous latent variables on the latent endogenous variable (Hair *et al..*, 2014). However, the R^2 value of the endogenous variable of the direct relationships model is presented in Table 4.16

Table 4.6 ***Coefficient of Determination for Direct Relationship: R-Squared***

Construct	**R-Squared**
Applicability	0.450

Sources: Survey Result 2021

The R square stood at 0.450 which implies that about 45% variation in the applicability of forensic accounting in North West Nigeria is explained by the exogenous variable of the study, while the remaining 55% is explained by the others constructs that this study does not cover.

Furthermore, R^2 is an accurate term that can presume values between 0 and 1, Hair et al. (2013) state that no generalizable report can be made about adequate yardstick value of R^2. Conversely, the better R^2 is, the bigger the percentages of variance explained. Also, According to Cohen (1988), R^2 values for latent dependent variables are evaluated as follows: (0.26 substantial, 0.13 moderate, and 0.02 weak). Based on the assessment criterion suggested Cohen (1988), the study R^2 here is considered substantial, representing the influence of independent variable (educational factors, legal factors, behavioural factors, political factors, and environmental factors) in explaining the applicability of forensic accounting as the dependent variable respectively.

4.4.3 Effect size of the Model

Having tested the hypotheses, it is equally important to assess the effect size of each endogenous variable on the exogenous. F square f^2value is used to determine the effect size, as a rule of thumb f^2 values of 0.35, 0.15, and 0.02 are considered large, medium, and small, respectively. Therefore, the effect size of this study was presented in Table 4.17 below.

Table 4.7 F-square; effect size

Construct	Applicability	Effect Size
Bhvf	0.091	Small
Edf	0.027	Small
Envf	0.051	Small
Legal	0.135	Small
Political	0.021	Small

Sources: Survey Result 2021

From table 4.7, the effect size of Bhvf, Edf and Envf are 0.09, 0.027, and 0.051, respectively, signifying the small effect size of the R^2 value excluded. Legal shows a high small effect size of 0.135, and the political is 0.021 signify small effect size from the model.

4.4.4 Predictive Relevance of the Model

Another means to assess the PLS path model's predictive accuracy is by calculating the Q^2 value (Geisser, 1974; Stone, 1974). This metric is based on the blindfolding procedure that removes single points in the data matrix, imputes the removed points with the mean, and estimates the model parameters (Rigdon, 2014; Hair *et al..*, 2014). Using these estimates as input, the blindfolding procedure predicts the data points that were removed for all variables. Small differences between the predicted and the original values translate into a higher Q^2 value, thereby indicating a higher predictive accuracy. As a guideline, Q^2 values should be larger than zero for a specific endogenous construct to indicate the predictive accuracy of the structural model for that construct. As a rule of thumb, Q^2 values higher than 0, 0.25, and 0.5 depict small, medium, and large predictive relevance of the PLS-path model.

However, in this study, a cross-validated redundancy criterion was employed to examine the predictive relevance (Q^2) of the exogenous latent variables on the reflective endogenous latent variable (cf. Geisser, 1974; Stone, 1974). Consequently, the Q^2 value obtained using the blindfolding procedure (see Figure 4.12) as presented in Table 4.18.

Table 4.8 Cross-Validity Redundancy

Construct	**SSO**	**SSE**	**Q^2 (=1-SSE/SSO)**
Applicability	1,980.00	1,510.18	0.237
Bhvf	1,980.00	1,980.00	
Edf	792	792	
Envf	1,584.00	1,584.00	
Legal	1,188.00	1,188.00	
Political	1,188.00	1,188.00	

Sources: Survey Result 2019

Table 4.8 represents the blindfolding result of the cross-validated redundancy (Q^2) of the latent endogenous variable of the direct relationships model of this study. As this cross-validated redundancy (Q^2) is greater than zero, it indicates the presence of path model predictive relevance (Chin, 1998; Hair *et al.*., 2014; Henseler, Ringle, & Sinkovies, 2009).

4.4.5 Predictive Power of the Model (PLSpredict)

However, since the R^2 only indicates the model's in-sample explanatory power, it says nothing about the model's out-of-sample predictive power (Shmueli, 2010; Shmueli&Koppius, 2011). Addressing this concern, Shmueli, Ray, Velasquez, Srada, (2016) proposed a set of procedures for the out-of-sample prediction that involves estimating the model on an analysis (i.e., training) sample and evaluating its predictive performance on data other than the analysis sample, referred to as a holdout sample. Thus, each case in every holdout sample has a predicted value estimated with a sample in which that case was not used to estimate the model parameters. The result is reported in table 4.9 and table 4.10

Table 4.9 Summary of PLS predict

	RMSE	MAE	Q^2_predict
Applicability	0.571	0.412	0.379

Sources: Survey Result 2021

Table 4.10 PLS model and Linear Model

PLS Model				
Items	RMSE	MAE	MAPE	Q^2_predict
appl10	0.889	0.656	25.729	0.229
appl12	0.76	0.585	18.863	0.310
appl13	0.774	0.601	19.194	0.190
appl7	0.823	0.611	21.441	0.257
appl8	1.005	0.769	29.848	0.210
Linear Model				
Items	RMSE	MAE	MAPE	Q^2_predict
appl10	0.812	0.597	21.715	0.357
appl12	0.738	0.554	17.82	0.349
appl13	0.716	0.546	17.026	0.306
appl7	0.823	0.596	21.069	0.259
appl8	0.96	0.728	28.017	0.28

Sources: Survey Result 2021

Table 4.10 ascertain the relevance of the model; researchers need to compare the RMSE (or MAE) values with a naïve benchmark. Thus, in this study, the PLS-SEM analysis of root mean squared error RMSE (or mean absolute error MAE) and Q^2_predict values and the result show that none of the LM have the RSME value higher than the PLS analysis, this indicates that the model has high predictive power. Also, the study find that all the endogenous constructs' indicators outperform the most naïve benchmark (i.e., the training sample's indicator means), and all the indicators yield $Q^2\_{predict}$ values above 0 (Table4.10).

4.4.6 The Importance Performance Map Analysis (IPMA)

The study further assesses the important-performance of the map analysis (IPMA) of the independents variable to the dependent variable and report in figure 4.6

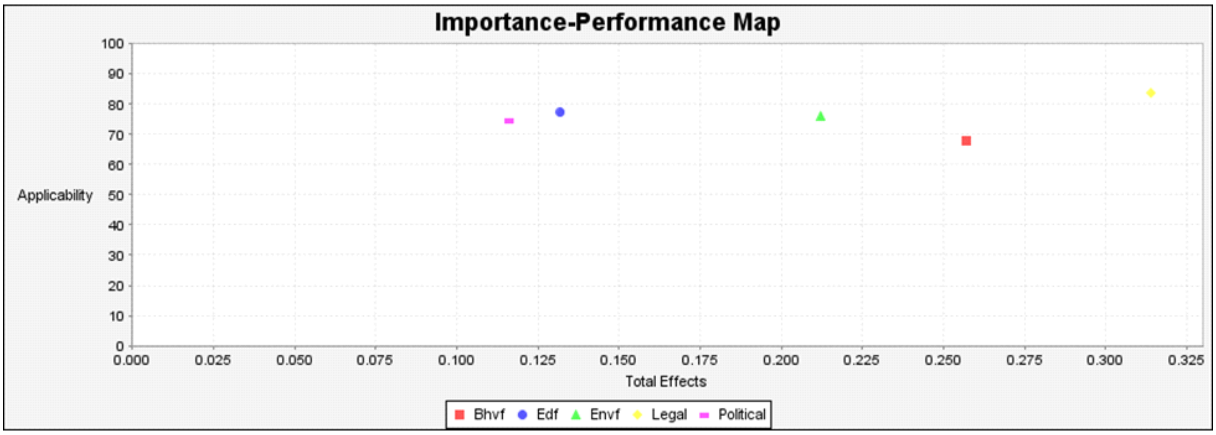

Figure 4.5 Importance Performance Map Analysis (IPMA).Sources: Survey Output 2021

From Figure 4.5, the importance-performance map analysis (IPMA) indicates that legal factors have the highest performance (83%), followed by political, environmental factors, and Educational factors respectively (77%, 76%, and 74%). However, behavioral factors appeared to have a low performance (68%) on the target construct. This could be due to the low importance attached to them by the respondents, which suggests room for improvements. This indicates that the state governments should pay more attention to the legal factors, followed by the political, environmental, educational and finally the behavioural factors for smooth application of forensic accounting in the region for detection, prevention and deterrence of fraud. The details of the analysis could be seen in figure 4.15

5. Conclusion and Recommendations

It is established by the findings of the study that those factors for the effective applicability of Forensic Accounting in the North Western states of Nigeria were significant; as without those factors that Forensic Accounting could not be effectively applied. Therefore, one most obvious conclusion that can be made on the basis of the study is that the application of Forensic Accounting is determined by the presence of many variables, without which the success of using Forensic Accounting for the detection and prevention of financial frauds cannot be realistically achieved, In addition, each of those five factors covered by this study manifested a viable conclusion:

(i) Educational factors: One possible conclusion that can be deduced from the finding is that integrated knowledge based on inter-disciplinary approach is essential.

(ii) Legal factors: Apart from knowledge of forensic Accounting enabling law for the conduct of Forensic Accounting is also essential. Likewise issues relating to presentation and establishing facts in a court of law.

(iii) Behavioural factors: It is obvious that accountants, auditors and other stake holder's attitudes towards the application of Forensic Accounting are important. Therefore, it can be concluded that held perception can determine the applicability of Forensic Accounting.

(iv) Political factors: The problem of continuation of government policies, accountability and good governance are commonly manifested in Nigeria. Therefore, it is concluded that lack of continuation of government policies and programmes are detrimental in the effective application of Forensic Accounting as such the success of Forensic Accounting is determined by good and excellent political will, determination to ensure its continuity, as well as strong will to ensure transparency among politicians.

(v) Environmental factors: It can be concluded that the effective application of Forensic Accounting is determined by the availability of those essential gadgets and conducive environment. Therefore, provision of those necessary facilities and conditions are obviously a necessity.

5.2 Recommendation

(a) All federal and state educational institutions (universities, colleges of Educations, Polytechnics) offering accounting and related courses should be compelled by regulatory bodies, such as National University Commission (NUC), National Board of Technical Education (NBTE) and National Commission for Colleges of Education (NCCE) to introduce courses related forensic accounting in to their curricula. In addition, all professional associations prevalent to accounting should integrate it in to their professional examination syllable; topics in forensic accounting should also be among aspects for discussion during their work shops, training and Mandatory Continuing professional Development Programs

(b) There should be legislation on Forensic Accounting, so as to provide a legal basis and framework for the sustenance of the Forensic Accounting practices in the North Western states. Also the Financial Reporting Council of Nigeria and revenant professional bodies should provide standards for the hitch free application of forensic accounting.

(c) There should be massive campaigns through collaborations between the government, relevant professional bodies, and academic institutions to create awareness on the benefit of forensic accounting so that it can be accepted by all stake holders so as to reduce corruption and other related fraudulent activities in the northwestern states of Nigeria.

(d) There should be a good commitment from politicians in ensuring accountability, transparency and acceptance of modern approach to problem solving; as Forensic Accounting is modern in Nigerian context, such adoption would facilitate detection and prevention of financial malpractices.

(e) Governments at different levels should also provide enabling environment for application of forensic accounting through the provision of needed equipment, facilities and other resources necessary to carry out forensic accounting service.

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IMPACT OF MONETARY POLICY TRANSMISSION MECHANISMS ON CAPITAL MARKET LIQUIDITY IN NIGERIA (2006-2020)

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Abstract
This study examined the impacts of monetary policy transmission mechanisms on the liquidity of Nigerian capital market from 2006-2020. The required data were sourced from Central Bank of Nigeria (CBN) statistical bulletin. Capital market liquidity is the dependent variable while the independent variables are; treasury bill rate, savings rate, net domestic credit, exchange rate and inflation rate. The Ordinary Least Square multiple regressions with econometric view were used as data analysis techniques. The study found that monetary policy transmission mechanism does not have significant impact on the liquidity of the capital marketas against the findings of Akani and Imegi (2017). Also, all the channels of monetary policy transmission mechanisms have positive relationship with capital market liquidity except exchange rate. It therefore recommends that exchange rate should be worked upon so as to enhance the liquidity of Nigerian capital market in view of its negative impact on the capital market liquidity
Keyword: *monetary policy transmission mechanism, liquidity of capital market, treasury bill rate, savings rate, net domestic credit, exchange rate and inflation rate.*

1.0 Introduction

Due to structural and economic changes and subsequent transitions to new policy regimes, study of monetary transmission mechanisms in emerging economies has gained significant significance since the beginning of the 1990s. These economies, on the other hand, have distinct characteristics from those of developed countries. According to Akani and Imegi (2017), monetary policy refers to the monetary authority's stance on monetary issues.It deals with financial institution controls, aggressive purchases and sales of paper assets to influence improvements in the money supply and interest rate maintenance. Monetary policy has existed in Nigeria since the founding of the Central Bank in 1959, and the mechanism for implementing it has undergone many changes. Direct monetary management was the key strategy of monetary policy implementation during this period, with a later transition to an indirect (market-based) approach in 1993.Direct monetary regulation was emphasized in the direct method (1974-1992).

The various intermediate channels by which changes in the nominal money stock or short-term interest rates influence macroeconomic aggregates are referred to as the monetary policy transmission mechanism (Akani, Okonkwo & Ibenta,2016). The interest rate channel, asset price channel, and exchange rate channel are all transmission mechanisms. The interest rate channel discusses how expansionary monetary policy impacts business investment by lowering long-term interest rates.The asset price channel claims that expansionary monetary policy leads to higher equity prices, which makes investment more appealing and raises aggregate demand, while the exchange rate channel claims that expansionary monetary policy lowers the domestic real interest rate and causes a real depreciation of the domestic currency due to the foreign interest parity condition, which leads to higher aggregate demand. Akani and colleagues (2016).The macroeconomic environment and structural economic conditions, the extent of development of capital markets, the health of and extent of development within the financial system, as well as the major monetary policy instruments used by the nation, all influence monetary transmission channels. “An efficient and reliable transmission mechanism of monetary policy can only be ensured in an economically stable and sound environment characterized by a competitive banking system,” according to Sanusi (2009).

Liquidity refers to an asset's capacity to be turned into cash at a moment's notice without losing value. Central bank liquidity refers to reserves kept by financial institutions at the central bank, market liquidity refers to the ability to buy and sell assets without causing undue price volatility, and financing liquidity refers to the ability to raise cash in the market through collateralization loans, asset sales, or borrowing.Liquidity of the stock market is also one of the regulatory authorities' top priorities in the market. This is because a liquid capital market allows potential investors to change their investments rapidly and cheaply, lowering the risk of their investment and allowing them to invest in more profitable ventures.

1.2 Statement of the Problem

The monetary policy transmission mechanism as a pathway through which monetary policy choices affect the general economy should be established for any economy to go in the right direction on the path of development. Despite recent efforts by the Central Bank of Nigeria (CBN) and monetary policymakers to define the most successful transmission mechanism, the economy has failed to react favorably, and the monetary policy transmission mechanism has remained uncertain Extant studies also show that the interaction between capital market liquidity and monetary policy will only work in developed financial markets where monetary policy is well managed and its financial market objectives are met, as opposed to developing countries' financial markets, such as Nigeria's, where the financial market is developing and monetary policy is characterized by uncertainty. In addition, there are only a few studies of note on the effect of monetary policy transmission mechanisms on capital market liquidity.The few ones that exist did not consider the all the five channels as indicated in this study such as Akani and Imegi (2017). Hence, this study intends to examine the impact of monetary policy transmission mechanisms on capital market liquidity in Nigeria from 2006 to 2020.

1.3 Objectives of the Study

To identify the descriptive characteristics of the channels of monetary policy transmission mechanisms.
To examine the effect of monetary policy transmission mechanisms on money market liquidity.

1.4 Hypothesis of the Study

Ho$_1$: Monetary policy transmission mechanisms do not have impact on capital market liquidity

1.5 Significance of the Study

This study is relevant mostly because of the abundant benefits that can be derived from it. It will help policymakers to formulate appropriate policies by determining the right channels and instruments of monetary policy transmission mechanisms to deploy in stabilizing the Nigeria economy. Thus, research on the impact of monetary policy transmission mechanisms on the capital market liquidity can serve as a distinguishing case study revealing the ease and flexibility with which financial market participants catches up with forerunners by increasing their participation on the global stage.

1.6 Scope of the Study

Financial market is composed of the money market, capital market, commodity market, derivatives market, futures market, insurance market as well as foreign exchange market (World Finance, 2015). However, this study is focused on capital markets. This is because the consequence of the financial crises was more evident in the performance of capital markets (Olokoyo*et al*, 2014). Also, the capital markets are the most common form of financial market in Nigeria. The periods to be covered are between 2006 and 2020. The rationale for the time frame is to cover the era of major global financial crisis of 2008 which caused devastating and contagious effects and implications on all economies of the world. Its impact in Nigeria is evident in the performance of the NSE and the financial system as well as in the real sector (Olaopa*et al*, 2011).

2.0 Literature Review

2.1 Monetary policy

In recent years, many have argued that central banks should emphasis price stability as a single Other priorities, such as growth or employment, are not taken into account when determining monetary policy. The desire to restrict monetary policy's objectives in this way stems from the near-universal agreement among economists and policymakers that monetary policy cannot affect the economy's long-term growth. Efforts to boost growth above its potential rate, in this view, simply lead to higher inflation; as a result, monetary policy can only moderate short-term fluctuations in production.Many economists doubt that discretionary monetary policy can effectively reduce economic volatility. It's difficult to time policy decisions precisely enough to stabilize market cycles because of lags in understanding business cycle turns and subsequent lags in the economy's reaction to changes in monetary policy (Kamin et al., 1998). Furthermore, while many central banks may continue to try to stabilize production in practice, they find that having their public mandate limited to price stability reduces their susceptibility to political pressure for expansionary policy.

2.2 Monetary Policy Transmission Mechanism

The monetary authority's stance on monetary (money) matters is referred to as monetary policy. It deals with financial institution controls, aggressive purchases and sales of paper assets to influence shifts in the money supply, and interest rate maintenance (Jhingan, 2005). Changes in the money supply or other aggregates, according to the classical theory of monetary policy, will function through certain intermediate variables, through which some results will be transmitted to the ultimate goals of price stability, production, employment, and external balance (CBN, 2016).The various intermediate channels by which changes in the nominal money stock or short term interest rates influence macroeconomic aggregates are referred to as the monetary policy transmission mechanism (Akani, 2013).The interest rate channel explains the relationship between expansionary monetary policy and lower long-term interest rates, which affects business investment, residential housing investment, and consumer spending on durable goods, and the asset price channel explains the relationship between asset prices and consumer spending on durable goods. The exchange rate channel showed that an expansionary monetary policy lowers the domestic real interest rate and, through the foreign interest parity situation, causes a real depreciation of the domestic currency, according to those who believe that expansionary monetary policy contributes to higher share prices, which makes investment more appealing and increases aggregate demand.this results to higher net exports and stronger aggregate demand on the supply side.

When the health of the banking sector deteriorates, monetary policy decisions may have a greater impact. It could be more expensive for banks to collect the additional capital needed to meet regulatory requirements. Furthermore, in economies where banks are not assessed by external rating agencies or where they report less details to the public, the cost of raising new capital may rise even more, as potential bank shareholders may find it more expensive to verify the health of a particular bank. A rise in loan interest rates reflects the higher cost of bank capital, which is then passed on to the cost of foreign borrowing for businesses.

2.3 The channels of transmission of monetary policy

In modern financial systems, four channels of monetary policy transmission have been established, according to Kamin et al (1998). The first is by direct interest rate impacts, which influence not only credit costs but also debtor and creditor cash flows. Interest rate increases affect the marginal cost of borrowing, affecting spending and saving, and therefore aggregate demand. Borrowers and lenders would also be affected by changes in average interest rates.

The effect of monetary policy on domestic asset prices, such as bond, stock market, and real estate prices, is the second channel. The third route involves the exchange rate. The fourth main channel is credit availability. Interest rates cannot shift to clear the market in countries with underdeveloped or tightly regulated financial markets. The quantity of credit, rather than its price, often influences aggregate demand. Credit reforms, in addition to interest rate changes, have been described as important factors affecting economic activity even in liberalized, highly developed markets.The financial structure and macroeconomic climate of a given economy determine how these channels work. The meeting's main goal was to look into the important ties between financial structure and monetary policy transmission mechanisms.

2.4 Factors influencing the transmission of monetary policy

In determining how quickly monetary policy impacts the real economy, two factors are critical. The first is the transmission of central bank-controlled instruments – such as short-term interest rates or reserve requirements – to the variables that have the most direct impact on non-financial sector conditions, such as loan rates, deposit rates, asset prices, and the exchange rate.The relation between financial conditions and household and firm spending decisions is the second aspect of the monetary transmission mechanism. The initial financial position of households, companies, and banks, including the extent of leveraging, the composition and currency denomination of assets and liabilities, and the degree of reliance on external financing sources, especially bank financing, is likely to play a key role in this regard.

2.5 Liquidity of capital market

The ease with which shares are exchanged in a stock market is referred to as liquidity (Ifeoluwa and Motilewa, 2015). The ratio of securities exchanged to total national production, which is calculated as total value traded/GDP, is used to measure liquidity. Liquidity refers to an asset's capacity to be turned into cash at a moment's notice without losing value.Liquidity of the stock market is also one of the regulatory authorities' top priorities in the market. This is because a liquid capital market allows potential investors to change their investments rapidly and cheaply, lowering the risk of their investment and allowing them to invest in more profitable ventures. Investors would be hesitant to tie up their money for an extended period of time in an illiquid stock market (Okonkwo, Ozrouru&Ajudua, 2014).

2.6 Monetarist Theory of Monetary Policy

Monetarism is described by Cagan (1989) as a philosophy associated with the belief that the quantity theory of money affects economic activity and price level, and that monetary policy must target the growth of money supply to contain inflation. The Chicago School of Economics was the forerunner of this school of thought, and Milton Friedman, widely regarded as its torchbearer, was later joined by Anne Schwartz. Monetarists emphasize the importance of money and the relationship between money growth and inflation, as the name implies (De Long, 2000).Money inflation in the quantity equation explicitly describes the monetary policy transmission mechanism, as opposed to the indirect relation through financial markets discussed earlier in Keynesian monetary theory. Milton Friedman (1968), the godfather of monetarism, argues in his early works that there are direct evidences that monetary policy has a significant short-term impact on real variables.

2.7 Rational Expectations Theory

According to John F. Muth's rational expectations theory, which he proposed in 1960, the actors in an economy will behave in a way that is consistent with what can reasonably be expected in the future. That is, a person will invest and spend money based on what he or she thinks will occur in the future. While this theory has gained a lot of traction among economists and financial analysts, its usefulness is debatable. For example, if an investor believes a stock will rise, he or she may buy it and cause the stock to rise.Outside of reasonable expectations theory, the same transaction can be framed. When an investor recognizes that a stock is undervalued, he or she purchases it and waits for other investors to notice the same thing, causing the price to rise to its true market value. This is the issue with the Nigerian stock market, which has been seeking to regain market trust since the global financial crisis. Nigerian investors' expectations are negative, and the market is lagging as a result, despite the regulatory agency's and the Nigerian stock exchange's innovations.

2.8 Empirical Review

Using data from the Nigerian economy from 1980 to 2013, Akani, Okonkwo, and Ibenta (2016) investigated the impact of monetary policy on capital market activities. The empirical findings show that monetary policy instruments such as the Broad Money Supply (M2), Liquidity Ratio (LIR), and Interest Rate (INTR) have a positive significant impact on Market Capitalization (MC), while the Monetary Policy Rate (MPR) and Treasury Bill Rates (TBR) have a negative and negligible effect on Market Capitalization (MC).Except for the Monetary Policy Rate, the results of model II show that the independent variables have a positive and important relationship with the dependent variables of the All Share Price Index (ASPI) (MPR). Mojo and Peersman (2003) investigate the monetary transmission mechanism in ten Eurozone countries. They assess cross-country transmission mechanism differences using the structural VAR process. Variables such as the world commodity price index, US GDP, and short term interest rates were included by Mojo and Peersman. The systemic New Keynesian model with three equations (Output difference, New Keynesian Phillips curve, and monetary policy reaction function) and the SVAR approach are used by Al-Raisi, Pattanaik, and Al-Raisi (2007) to investigate the transmission mechanism in Oman. Both the structural equation model and SVAR produce evidence that indicates interest rate changes have little effect on aggregate demand and supply in Oman. They attributed these findings to the lack of market-determined interest rate responses to Oman's interest rate policy.

Since monetary policy tightening affects bank credit in both supply and demand, Jimenez, Ongena, Peydro, and Saurina (2011) discovered that identifying monetary policy effects through the credit channel is difficult. As a result, various approaches were devised by individual studies to solve this problem; as a result, the results of these models are rarely comparable, but they are still rather insightful. Jimenez, Ongena, Peydro, and Saurina (2011) used the firms' loan applications to assess the impact of monetary policy on the likelihood of a loan being granted. Credit rationing models are another way to investigate the impact of monetary policy on production through the credit channel. Credit rationing models say that when credit market rigidity exceeds a certain amount, monetary policy effects become greater (Shao, 2010). Credit rationing models, on the other hand, have the flaw that the threshold amount is unknown and depends on the sample space in the study; it varies from sample to sample. Using Granger causality, Johansen co-integration, and the Vector Error Correction Model, Akani (2013) investigated the impact of inflation, interest rate, and money supply on aggregate stock prices in Nigeria from 1985 to 2011. Changes in the variables have a major effect on the overall stock price, according to the findings. According to Ho (2006), financial innovations that have an effect on financial market conditions will affect the transmission mechanism. The interest rate channel, asset channel, and exchange rate channel are the three key channels that can influence monetary policy, according to the author. He goes on to say that financial innovation improves the capacity of economic agents to lock in existing interest rates for potential funding needs.

In Macedonia, Fetai and Izet (2010) looked at the effect of the exchange rate on real GDP and prices. They find that shifts in money stocks and exchange rates have no major effects on real GDP using the SVAR process. Exchange rate shocks, on the other hand, have a big impact on the price level in Macedonia.In Japan, Boivin, Kiley, and Mishkin (2010) used the Vector Error Correction Model (VECM) to investigate the current relationship between stock market return and a collection of macroeconomic variables such as exchange rate, inflation, money supply, industrial output index, long term bond rate, and call money rate. The results showed that a collection of macroeconomic variables is co-integrated with the price of Japanese stocks. When Gerdesmeier (2013) looked at the impact of monetary policy on economic growth in Kenya, he found that the treasury bill rate and required reserve ratio have a positive impact on the cost of credit. In Kenya, the monetary transmission mechanism has a significant impact on credit development, credit cost, and deposit size. According to the author's review, the real money supply, required reserve ratio, and Treasury bill rate are all inversely related. As a result, the researcher concludes that lowering the required reserve ratio, Treasury bill rate, or both would vastly increase the amount of money supply in the economy. The author employed the Structural Vector Autoregressive Model (SVAR) and data from 1997 to 2009.

3.0 Methodology

The type of data used in this research work is the secondary data. The relevant data for the study was obtained from Central Bank of Nigeria (CBN) and Security and Exchange Commission (SEC) for the years under review.

Inferential statistics adopted for the study include Ordinary Least Square (OLS) multiple regression to examine the impact of monetary policy transmission mechanisms on capital market liquidity and Granger causality test was used to determine the direction of causality between the focal variables. The dependent variable is the capital market liquidity proxied by turnover ratio while the independent variables are: asset pricing channel; interest rate channel; credit channel; exchange rate channel and expectations channel to proxied by treasury bill rate, savings rate, net domestic credit, Naira exchange rate per US Dollar and inflation rate respectively

3.1 Model Specification

The formulation of this model is based on the empirical review of Musa Al-Faki (2006) and Ogunmuyiwa (2010) who opined that capital market liquidity is denoted by the turnover ratio of the market.

Thus, the model is given as;

$$TOR = f\,(\beta_1 + \beta_2 + \beta_3 + \beta_4 + \beta_5 + \mu) \qquad \text{……………….} (1)$$

Hence, the functional relationship is given as;

$$TOR = f\,(TBR, SR, NDC, EXR, INFR) \qquad \text{……………….} (2)$$

The logarithmic transformation of equation (2) is designed to bring the variables to the same base, hence the model becomes:

$TOR = \beta_0 + \beta_1 Log(TBR) + \beta_2 Log(SR) + \beta_3 Log(DC) + \beta_4 Log(XR) + \beta_5 Log(NFR) + \mu$…. (3)

Where: **TOR** = Turnover Ratio proxy for Capital Market Liquidity; **TBR** = Treasury Bill Rate proxy for asset pricing channel; **SR** = Savings Rate proxy for interest rate channel; **NDC** = Net Domestic Credit proxy for credit channel; **EXR** = Naira Exchange Rate per US Dollar proxy for exchange rate channel; **INFR** = Inflation rate proxy for expectations channel; **β_0** = regression constant; **β_1– β_5 =** slope coefficients; **μ =** error term

4.0 Discussions of Results

Table 4.1 below shows the descriptive statistics of the channels of monetary policy transmission mechanisms which include treasury bill rate, saving rate, exchange rate, net domestic credit and inflation rate. It is revealed in the table that net domestic credit has the maximum value of 8.600 followed by exchange rate (3.566), followed by treasury bill rate (2,213), followed by saving rate (1.695) which is then followed by inflation rate (1.269). The minimum value of all the identified channels is zero (0). The mean and standard deviation of the channels as reported in the analysis are treasury bill rate (1.46, 0.93); saving rate (1.12, 0.714); net domestic credit (6.12, 3.82); exchange rate (2.49, 1.56) and inflation rate (0.97, 0.29).

Table 4.2 below shows the impact of monetary policy transmission mechanism on capital market liquidity. The result shows that all the channels of transmission mechanisms have a positive relationship with Turnover Ratio (TOR) with an exemption of exchange rate. This implies that as treasury bill rate, savings rate, net domestic credit and inflation rate increase, TOR will also increase and that as exchange rate increases, TOR will decrease.

However, of all the channels of monetary policy transmission mechanisms, none is statistically significant at 5% significant level, as they all displayed p-values greater than 0.05. this is however, in dissonance with the findings of Akani and Imegi (2017) who reported that treasury bill rate, monetary policy rate and credit to private sector to GDP have significant effect on capital market liquidity. The R^2 and adjusted R^2 of 67.6% and 49.7% indicate that a reasonable number of the variations in the dependent variable are explained by the independent variables. Also, the value of F-Statistic value shows the overall significance of the model and evaluates the goodness of fit to predict the explanatory power of the model. Hence, the hypothesis that states that monetary policy transmission mechanisms do not affect capital market liquidity is rejected.

Table 4.1: Summary statistics for the key variables over the period 2006-2020

Variables	Mean	Standard Deviation	Minimum	Maximum
Logtor	1.007202	.2101447	.643453	1.531479
Logtbr	1.460296	.9399767	0	2.213836
Logsr	1.123754	.7148862	0	1.695044
Logndc	6.123457	3.826102	0	8.60055
Logner	2.499101	1.564187	0	3.566208
Logir	.9701245	.2940304	0	1.269513

Source: Author's Research (2020) using STATA 14

Table 4.2: OLS Multiple Regression Summary Results

Dependent variable	Independent variable	Coefficient	Standard Error	T	P>It
TOR	**Logtbr**	**.0067172**	**.3171058**	**0.02**	**0.984**
	Logsr	**.2109971**	**.4086318**	**0.52**	**0.618**
	Logndc	**.1418973**	**.3775899**	**0.38**	**0.716**
	Logner	**-.5434739**	**.8868861**	**-0.61**	**0.555**
	Logir	**.213193**	**.2490803**	**0.86**	**0.414**
	Constant	**1.042755**	**.261346**	**3.99**	**0.003**
R-Squared =0.6769	**Adjusted R-Squared = 0.4973**	**Prob > F = 0.0405**	**F = 3.77**		

Source: Author's Research (2020) using STATA 14

Table 4.3

Source	**SS**	**df**	**MS**
Model	.418469176	5	.083693835
Residual	.199782292	9	.022198032
Total	.618251468	15	.044160819

Source: Author's Research (2020) using STATA 14

5.0 Conclusion

The effectiveness of monetary policy transmission mechanisms in affecting the liquidity of capital market depends on the state of the financial system, and various financial developments can potentially changethe way monetary policy is transmitted through the financial system. From the findings of the research, interest rate, asset pricing, credit availability and expectation channel have positive relationship with capital market liquidity with the exemption of exchange rate.

Thus, exchange rate should be worked upon so as to enhance the liquidity of Nigerian capital market in view of its negative impact on the capital market liquidity.

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INTERNAL AUDIT AND FRAUD INCIDENCE IN PENSION ADMINISTRATION IN NIGERIA

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Abstract
The aim of this paper is to evaluate the effectiveness of internal audits on fraud incidence in pension administration in Nigeria. The study revealed that internal audit function represented by auditor's independence, integrity, competence and corporate governance have significant effect on reducing fraud in pension fund administration in Nigeria. The findings revealed significant and positive results for all the hypotheses. The first hypothesis tested whether internal auditor's independence effect on fraud occurrence in pension fund administration in Nigeria this was rejected at less than 5% significance level hence the alternative hypothesis was accepted. For hypothesis two, it was found that that internal auditor's competence had significant effect on fraud occurrence in pension fund administration in Nigeria hence the null hypothesis was rejected and the alternative hypothesis was accepted. Hypothesis three which stated that internal auditor's integrity had no effect on fraud incidence in pension fund administration in Nigeria became rejected whilst alternative hypothesis was accepted. For hypothesis four, null hypothesis which stated that corporate governance had no effect on fraud incidence in pension fund administration in Nigeria was rejected hence alternative hypothesis was accepted. The conclusion revealed that the level of fraud perpetrated in public pension is not experienced in contributory pension scheme which started since 2004. There is a bit of transparency and segregation of responsibilities among the three tiers operating the scheme i.e. the regulator (Pencom), the custodian (PFC), and the operators (PFAs). The payment process of pension is cumbersome for perpetrators to crack. It was revealed that PFAs in Nigeria have good internal audit function that has significant effect on fraud incidence.

Keywords: Internal auditing, Fraud, Competence, Integrity, Independence
Type of paper: Internal Audit and Pension Administration
JEL Classification Code: J32

1. Introduction

Fraud is a dangerous weapon used by people in organizations to enrich themselves to the disadvantage of the employer or owner of the resources being stolen. Rabiu and Mansor (2018) described fraud as a terrible and great risk to the global economy which should be rapt attention by internal auditors and forensic professionals as well as anti-graft agencies worldwide. Fraud is seen as an avenue to get rich quick having identified the operational loophole in a system. The fraudsters take advantage of this weakness to cause havoc before it is discovered. Fraud increases everywhere be it private or public sector despite the efforts being made to eradicate or reduce it (Rabiu & Mansor, 2018; Wolfe & Hermanson, 2004).

Fraud is not restricted to a particular country. There is news of fraud committed all over the world, there is fraud committed among companies in more two countries. No country can claim to be immune against fraud incidence. Fraud is considered as a global phenomenon though the developing countries seem to suffer more from this menace (Rabiu & Mansor, 2018). Fraud has become a regular news item in Nigeria (including private and public sectors). The perpetrators seemed not to have received grave punishment to deter others from engaging in this dastardly act. There have been series of fraud perpetrated in some public sector agencies such as NNPC, NDDC, Police Pension Board, the NHIS fund misappropriation, and Nigerian Pension Board.

This goes to show that a lot of undisclosed fraud is ongoing in various ministries, departments and agencies (MDAs). Abdulrasheed Maina, the Chairman of Pension Reformed task Team (PRTT) was accused of siphoning N2b from public pension. The case is being investigated by Economic Financial Crimes Commission (EFCC) since 2014, the case is before a Federal High Court in Abuja to date. It was also reported in 2006 that an Inspector General of the Police was found guiltyof theft in the sum excess of $100m of public funds during his tenure. The man only spent six months in prison and was released to enjoy his loot (Rabiu & Mansor, 2018).

Combatting fraud in Nigeria has become a herculean task tackled by successive administrations since 1999 when the country moved from military system to political system. This fight against fraud and corruption paved way for the establishment of Economic and Financial Crime Commission (EFCC) and the Independent Corrupt Practices Commission (ICPC). In various organizations in public and private sectors, internal audit department is established to serve as watchdogs against fraud. Recent events in Nigeria have shown that fraud and corruption levels are on the increase in both public and private sectors despite the strong warning by Buhari administration since 2015. The report from Transparency International (TI) in CPI 2014 ranked Nigeria as the 136 most corrupt nation out of 176 countries.

The situation was worse in 2018 CPI report when Nigeria was ranked 144 out of 175 countries (Ibironke, 2019). Fraud has destroyed some private organizations and is affecting development and growth of infrastructures in Nigeria. Fraud and corruption are negatively affecting the development and growth of Nigeria despite her rich oil earnings (Homi, Kristofer, & Martin, 2018). Establishment of a strong internal audit department in every organization will reduce the fraud incidence and will complement the efforts of anti-graft agencies across the country.

A new definition of internal audit in 1999 by the International Institute of Internal Auditors (IIA) in the U.S.A. from a study carried out by auditors from Australian universities for 800 students which stipulates that: "Internal audit is an independent and objective activity, an organization that gives assurance as to the degree of control by the operations, a guide to improve operations and contribute to an adding value". Internal audit function contributes to the improvement of risk management and control in a control environment. Internal audit is also defined"an independent, consulting, and objective assurance activities, designed to create value and improve an organization's operations" (The Institute of Internal Auditors, 2016).

Internal audit function helps to evaluaterisk and internal control management system respectively in an organization. Principle 18 of 2018 Nigerian Code of Corporate Governance covers Internal Audit which mandates the Internal Auditor to report to the Board audit committee and administratively to the Managing Director of the Company. This gives power to the Internal Auditor to report every infraction in the company to the Board audit committee. S. 404(f) of CAMA 2020, and Principle.11.4.6.6 of 2018 Nigerian Code of Corporate Governance empower the audit committee to authorize the internal auditor to carry out investigations into any activities of the company as deemed fit.

Principle 18.6 of 2018 Nigerian Code of Corporate Governance requires that external assessment of internal function be carried out every three years by a qualified independent consultant appointed by the Board. To give effect to the effectiveness of the internal auditor, Principle 18.7 stipulates that “the evaluation of the head of the internal audit function should be performed by the committee responsible for audit, and he may only be removed by the Board on the recommendation of the committee responsible for audit”.

It can be safely said that fraud and inefficient management of pension funds led to the creation of Contributory pension scheme in Nigeria by the Obasanjo administration in 2004. There was no transparency in the administration of pension in pre 2004. The contributors did not receive account statement to know what they were contributing and how the money was being invested. The National Social Insurance Trust Fund (NSITF) could not account for the invested funds of the contributors. At the time NSITF was asked to transfer contributors’ fund to the PFAs, they were asked to transfer only the principal contributions without investment returns. There were contributors who had contributed from the days of National Provident Fund (NPF) whose money did not attract any return. This was a fraud in action which no one was talking about till date. The spate of fraud going on around us calls for caution and for every stakeholder to establish workable control to stop the incidence.

Despite the controls put in place by the regulator (PenCom), fraud could ot be said to be eradicated from the pension industry (Agbata, Ekwueme, & Jeroh, 2017). The trend of fraud cannot be compared with previous administration that could not account for returns on contributors’ fund. There is a general expectation that internal audit as a control arm will reduce or eliminate fraud incidence in pension administration in Nigeria so that retirees’ fund will be safe and they will earn good returns on their fund at retirement. Having considered various frauds in our system, it has become very important to evaluate the effectiveness of internal audit function in curbing fraud incidence in pension administration in Nigeria.

The primary objective of this study is to evaluate the effect of internal audit function on fraud incidence in pension administration in Nigeria considering the impact the pension failure will have on teeming Nigerian pensioners. The specific objectives are: (i). to examine the significant effect of internal auditor’s independence fraud incidence in pension administration in Nigeria. (ii). to assess the impact of internal auditor’s competence on fraud incidence in pension administration in Nigeria. (iii). to appraise the impacy of internal auditor’s integrity on fraud incidence in pension administration in Nigeria. (iv). to examine the relationship between the board audit committee and internal auditor on fraud incidence in pension administration in Nigeria.

2. Review of Extant Literature

2.1 Conceptual Framework

Ernst and Young (2005) defined fraud as "the deliberate use of trick, deceit, or any dishonest action to deprive another legal right, money or property". Fraud is a means of shortchanging the other as a result of loopholes identified in the other party's process. A fraudster looks for weakness in a system to take advantage of before he launches attack. Fraud is also expressed as intentional deception and other illegal means of obtaining favour in a system irrespective of the disadvantage to the company (Albrecht, (2004); Hopwood, (2008); Rezaee, (2010); Kranacher, (2010); and KPMG (2005)). It is pretty difficult to identify on the surface who will commit fraud, there would not have been any fraud committed in any organization. Fraud in most cases is committed by the people least expected in a group. Fraud is an intentional act carried out by the perpetrator (Abullahi & Mansor, 2018; Mukoro, Faboyede, & Edafejirhaye, 2011). Fraud is committed due to some reasons which range from management deficiency, accounting and control failures, poor corporate governance, supervisory deficiency, employee's background, peer pressures etc (Ramaswamy, 2005). Fraud is committed in both private and public sectors respectively but it is more evident in the public sector.

a. Types of Fraud

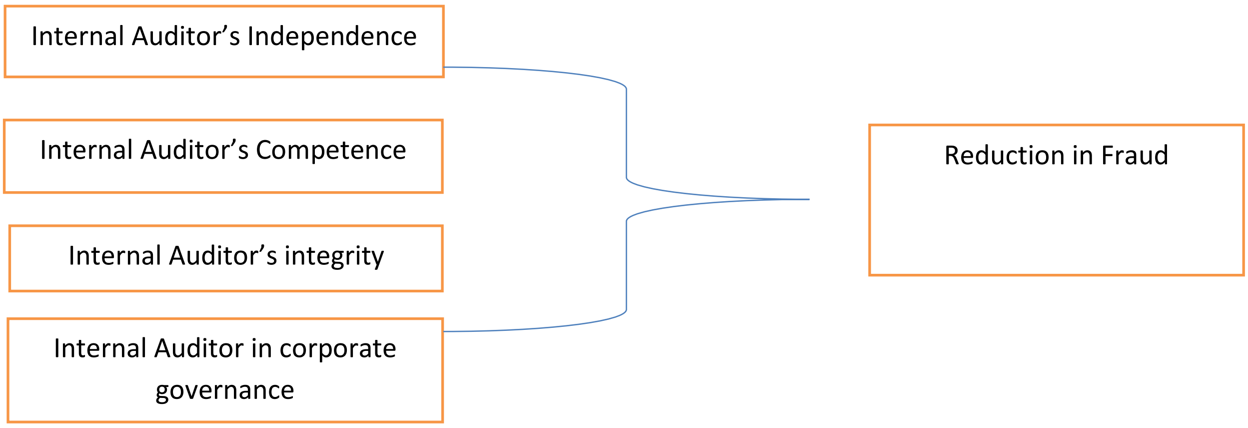
Fraud was classified into three broad categories as corruption, assets misappropriation, and financial statement fraud (Association of Certified Fraud Examiners, 2012). Fraud can be committed in different ways as evidenced in some studies (Anyanwu, (1993); Ajie & Ezi, (2000); Karwai, (2002); Okafor. (2004); Adeniji, (2004) and Onuorah, Chi-Chi, & Appah, (2011)) which range from defalcation, suppression,unauthorized lending, theft, embezzlement, tampering with reserves,fraudulent substitutions, insider abuses, forgeries, lending to ghost borrowers, unofficial borrowing, impersonation, kite flying and cross firing, teeming and lading, and fake payment. There are frauds that are common with pension administration which include manipulation of client's remittance schedules, manipulation of clients' records on the computer, collusion of regulator's employees with public sector employees to defraud the system, manipulation of investment transactions to obtain undue advantage, use of long unprocessed pension contribution to commit fraud, impersonation of NOKs to obtain deceased client's benefits, objective setting for employees.

b. Internal Audit Effectiveness

Internal audit is described as"an independent, consulting, and objective assurance activities, designed to create value and improve an organization's operations" (The Institute of Internal Auditors, 2016). Internal audit function is the last line of defense that adds value to achieving the objectives of risk management and control. Weak or lack of internal control paves way for fraud to be committed in some organizations hence there is need to institute strong internal control to discourage fraud. Principle 18.5.1 provides that the head of Internal audit reports directly to the audit committee and having a line of communication with the MD/CEO. With this arrangement, internal audit is empowered to frustrate fraud in an organization (Jeppesen, 2018).

The internal audit function in an organization determines how people respond to control in an organization, such audit failure or inactivity can impact on organizational performance negatively (Caratas, Spatariu, & Trandafir, 2018). This goes to show that the quality of internal audit affects the level of fraud committed in an organization (Asiedu & Deffor, 2017). Internal auditing carried out in accordance with the principles of Nigerian Code of Corporate governance will reduce fraud incidence and will cause people to have confidence and trust in the system (Assakaf, Samsudin, & Othman, 2018). Internal audit goes beyond review of financial statement, the function reviews every aspect of the of the organization to ensure that all controls put in place by the board are working as intended and there is no loophole for fraud to take place (Adedeji, Soyinka, and Sunday, 2018),

c. Internal audit effectiveness



Source: Donald R. Cressey. Other People's money (Montclair: Patterson Smith, 1973)

d. Internal auditor's independence

Internal Auditor's independence is regarded as an autonomy or disengagement from external interference. Independence is defined by the Public Sector Internal Audit Standard (PSIAS) as the capability of the internal auditor to conduct internal audit function without bias. It further states that the internal auditor must have direct and unrestricted access to the Chairman of the audit committee and the board. This was also contained in the Principle 18.5.2 of 2018 Nigerian Code of Corporate governance. The independence of the internal auditor is the freedom from events that prevent him from carrying out his duties without bias or undue distraction (INTOSAI, 2013). This independence makes the internal auditor perform his functionsobjectively without bias.

e. Internal auditor's competence

Competence is the ability to perform a role considering the skill and knowledge possessed by the internal auditor. The IIA (2010) stated that "auditor's competence is about knowledge, technical, and behavioural skills". Principle 18.6 and 7 of 2018 Nigerian Code of Corporate Governance lend credence to this competence. Principle 18.6 states that "there should be an external assessment of the effectiveness of the internal audit function at least once every three years by a qualified independent reviewer to be appointed by the Board". Principle 18.7 states that the evaluation of the head of the internal audit function should be performed by the committee responsible for audit, and he may only be removed by the Board on the recommendation of the audit committee. Education and skill of the internal auditor and compliance with the provision of the law confirmed the competence of internal audit function as revealed in the study carried out by Asiedu and Deffor (2017).

f. Integrity ofInternal Auditor

Integrity is described as the ability of the auditor of being honest, ethical, and moral in performing his functions. The internal auditor is required to execute his assignment without partiality or favour to any party to prove his credibility and sincerity. The institute of Internal Auditors provides ethics for all internal auditors to abide with, which provides the basis for their judgment. The following serve as the basis for measuring internal auditor's integrity as provided by the institute:

i. The internal auditor shall perform his responsibility with honesty and diligence;
ii. An internal auditor shall observe the law and make necessary disclosures as required bythe law and the institute whilst performing his function;
iii. The internal auditor must not be involved in any illegal transactions, or partake of actions that might be against the career of internal auditing or to the company; and
iv. Internal auditor shall conduct his manners that commandrespect and add value to the actual and moral standard of the organization

g. Internal auditor - corporate governance

The 2018 Nigerian Code of Corporate Governance seeks to establish corporate governance best practices in Nigerian companies. With the 2018 NCCG put in place, it is expected that this will reduce spate of fraud in our system. If people who are put in place allow the system to work, fraud will be greatly reduced if not eliminated. Principle 18 of NCCG 2018 is dedicated to internal audit which has the following:

2.2 Theoretical Considerations

There are auditing theories that can be reviewed to gain better understanding of this study, which include agency theory, institutional theory, lending credibility theory, policeman theory, contingency theory, and stewardship theory. We will also look at some theories under Fraud which include Fraud Triangle theory, Fraud Scale theory, Fraud Diamond theory, and SCORE model.

a. **The Agency Theory:** In agency theory, a principal delegate decision making responsibility to an agent who in turn provides stewardship of his activities after completing a task for a fee. The theory implies entrusting resources to the agent and in turn this agent must usually produce a report regarding the use of resources both in quantitative and qualitative manner. Those entrusted with decision-making authority are generally regarded as having a duty of accountability, a duty to demonstrate how the resources entrusted to them are judiciously managed (Jensen & Meckling, 1976). Audit reinforces confidence and trust in users of financial information. Agency theory is a useful theory of accountability that helps explain the development of the audit assignment. Agency theory posits that agents have more information than principals (described as information asymmetry) which adversely affects the principals' ability to monitor whether their interests are being properly served by the agents (Gerrit & Mohammad, 2011).

The Institute of Chartered Accountants in England and Wales, in November 2006, succinctly put it this way: "In principle, the agency model assumes that no agents are trustworthy and if they can make themselves richer at the expense of their principals they will". Agency theory is based on the relationship between investors (principals) and managers (agents). The principal, so the argument goes, has no alternative but to compensate the agent well for their endeavours so that they would not be tempted to go into business for themselves using the principal's assets to do so. An audit provides an independent assurance on the work of agents and the information provided by an agent which helps to maintain confidence and trust (ICAEW, 2005). Audit assists to reduce the differences that usually arise between the principal and the agent. Auditing is an assurance process that will help in overall reduction of agency costs (Ng, 2002).

b. The Policeman Theory: An auditor's job is to ensure arithmetical accuracy and the prevention and detection of fraud. Is an auditor solely responsible for discovering fraud, like a policeman? This was said to be the most widely held theory on auditing until the 1940's. Under this theory an auditor acts as a policeman focusing on arithmetical accuracy and prevention and detection of fraud. This theory does not seem to hold much power, due to its inability to explain the position of auditing, verification of truth, and fairness of the financial statements. Recent financial statements have been subjected to careful reconsideration of this theory.

However, there is an ongoing public debate on the auditor's responsibility for detection and disclosure of fraud drawing stakeholders unto the basic public perception on which the theory is derived. Auditing literature did not support this theory. It should be noted that it is the responsibility of the management to detect and prevent fraud and irregularities hence they should establish adequate system of internal control. In a bid to search for fraud in an organization, the management can engage an auditor to carry out this assignment on a different term of engagement. In some instances, auditors are given separate investigation assignment on fraud (i.e. forensic assignment on fraud). Fraud can be identified in some instances if proper audit is effectively carried out.

c.Theory of Fraud Triangle: Cressey (1953), a criminologist was recognized as the author of fraud triangle, his research centred on embezzlers, people he referred to as trust violators. The theory was the result of study he carried out on 250 criminals in a period of 5 months. Cressey (1953) in his 1953 report postulated three elements that fraudster adopt to violate trust which includefinancial pressure, opportunity and rationalization.

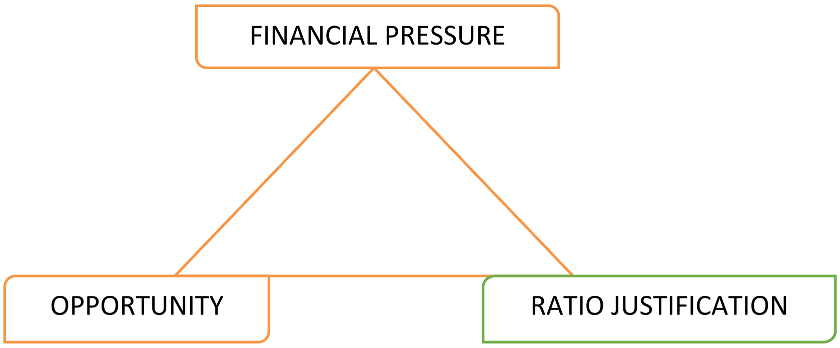


Fig. 1: Fraud Triangle

Source: Donald R. Cressey. Other People's money (Montclair: Patterson Smith, 1973). p.30

d. **Pressure**: This refers to inner push or motivation to do something or carry out an activity to one's favour or advantage. Pressure or incentive is considered as a key factor to committing fraud (Lister, 2007). Personal pressure, employment stress, and external pressures are the three types of pressure identified by Lister (2007). Some personal and group pressures were considered as responsible for fraud commitment (Vona, 2008). These include: financial problem,family challenges and pressures, peer pressure, lack of contentment, greediness,and drug abuse.

e.Opportunity: This is taking advantage of weakness in a system to commit fraud. This was buttressed by Rae and Subramanian (2008) and Rasha and Andrew (2012), opportunity is weakness in the system where the employee has the chance, power, and ability to exploit and commit fraud. It should be noted that weak internal control system, poor internal auditing system, poor accounting record, and lack of segregation of duty encourage and give employeesopportunity to commit fraud (Vousinas, 2019).They do perceive that they have an opportunity to commit fraud without being caught (Vousinas, 2019). Turner, Mock, and Sripastava (2003) and Hooper and Pornelli (2010) state that pressure alone is not sufficient for fraud to take place unless the opportunity is provided to execute fraud.

Cressey (1953) considered general information and technical skill as two areas that encourage perceived opportunity in fraud. General information is hearing about previous fraud committed in the organization or tracking the general fraud trend in the organization. Technical skill refers to the ability or competence required to detect a fraud.

f. Rationalization: This is a situation where a fraudster tries to justify his action for fraud commission. The fraudster may give reason of low pay, lack of promotion, quick use of the money or resources for committing the fraud. Some of them attribute their actions to the devil when they cannot think of any other reason for committing the offence. Rationalization gives the perpetrator an understanding of his illicit action to consider himself as a trustworthy individual (Vousinas, 2019). Some of their rationalizations include borrowing the money to meet an event, feeling entitled to the money, stealing to provide for the family, disgruntled about low salary by the employer (Cressey 1953). Fraud actors do not see their fraud acts as criminal, they tend to justify their illegal action. These fraud actors also take advantage of positions occupied in the organization to commit fraud (Cressey, 1953).

g. Theory of Fraud Scale: This theory was propounded by W. Steve Albrecht in 2005 as an alternative to Fraud triangle theory. Albrecht, Howe, and Romney (1984) describe fraud scale as a tool for identifying fraud through these elements; pressure, opportunity, and personal integrity. The first two ingredients are elements of fraud triangle while the third one, rationalization was substituted with personal integrity by Fraud scale theory. The Fraud scale theory is applicable to fraud committed through financial statements in which commission of fraud (e.g. analyst's forecasts, management's earnings guidance, and history of sales and earnings growth) can be easily observed.

Fraud scale posits a higher probability of fraud when pressure, opportunity and integrity happen together. Someone with high personal integrity can ignore every temptation around him when it comes to financial pressures and perceived opportunity in a group or company. Widianingsih (2013) states that there is likelihood of fraud where temptations andfraud prospects are high and honesty is low. This goes to show that personal integrity is a key determinant in committing fraud. This is demonstrated in the Fraud scale below:

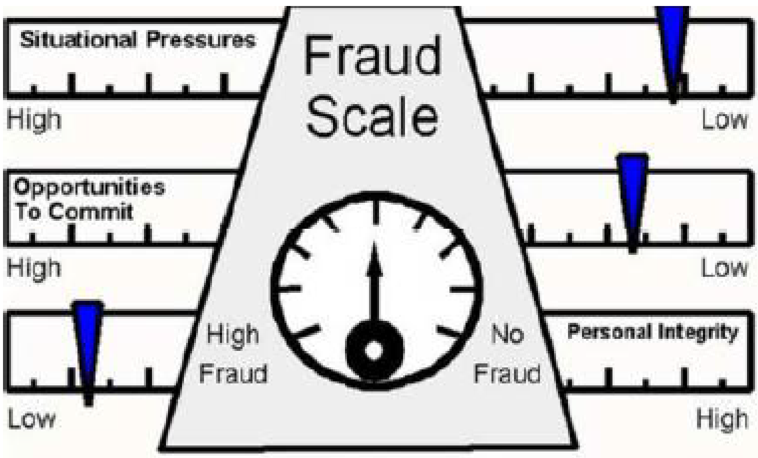


Figure 2: Fraud Scale Theory
Source: Widaningsih (2013)

h. Fraud Diamond

Wolfe and Hermanson (2004) added capability to Cressey's model transforming from fraud triangle to fraud diamond.

Figure 3: The Fraud Diamond

Source: Wolfe, David T., and Dana R. Hermanson. "The Fraud Diamond: Considering the Four Elements of Fraud." CPA Journal 74.12 (2004): 38-42.

Probability of committing fraud is higher with personality traits and capability factor (Wolfe & Hermanson, 2004). In addition to the fraud triangle elements of financial pressure, opportunity, and rationalization, the perpetrator must have the capability to take advantage of it more than once.

Having reviewed the theoretical background responsible for the reason behind fraud commission, Vousinas (2019) introduced a model to improve the fraud models which represents Stimulus, Capability, Opportunity, Rationalization, and Ego (S.C.O.R.E.). The new addition is Ego which was not part of Fraud triangle or Fraud Scale or Fraud Diamond. Ego was part of the study carried out by Sigmund Freud (1923) in psychoanalysis which focused on early childhood development. There are three elements of human personality identified by Freud as Id, super ego, and ego. **Id is** the drive for food, sex, and other life-sustaining things which are considered personal. Super-ego **is** the moral aspect that manifests from what an individual has acquired in the course of learning in life. E**go is** the behaviouralrelationship someone has permitted to becloud his personal integrity. Freud stated that ego is the part of personality that allows us mediate between the demands of the id, superego, and the environment. That ego does not allow us to act on every urge we have (produced by the id) and being so morally driven that we cannot function properly.

2.3 Statement of Hypotheses

The following null hypotheses were formulated to test the objectives of the study:

Ho_1: Internal auditor's independence has no effect on fraud incidence in pension administration in Nigeria

Ho_2: Internal auditor's competence has no effect on fraud incidence in pension administration in Nigeria

Ho_3: Internal auditor's integrity has no effect on fraud incidence in pension administration in Nigeria

Ho_4: Board audit committee and the Pension Regulator have no effect on fraud incidence in pension administration in Nigeria.

2.4 Empirical Review

There have been literatures on the effect of internal audit or internal control on organizational performance, reduction of corruption in financial sector, insurance industry, and public sector. The literature on internal and fraud incidence in pension administration in Nigeria is scanty. Relevant studies will be reviewed for the purpose of drawing appropriate conclusion for this study.

Mohammed (2021) opined that internal audit in Mubi North LGA is not very effective because internal audit was not effectively performed. Internal audit has significant effect on expenditure control and low quality of staff was identified as a strong weakness against the effectiveness of internal audit function in the Local Government.

Ezejiofor and Okolocha (2020) state that internal audit control and procedures have positive effect on financial performance of commercial banks in Nigeria and this effect is statistically significant at 5% level of significance.

Owolabi and Amosun (2020) in their study on internal control systems and quality of financial reporting in insurance industry in Nigeria, found that control environment, risk assessment, control activities, information and communication and monitoring have statistical significant impact on the quality of financial reporting of insurance industry in Nigeria. The results revealed that internal auditors strengthen the quality of financial reports of insurance firms in Nigeria. The internal control system in any establishment is immensely crucial as it has a direct impact on the quality of the financial report provided to the end users.

Ibironke (2019) in his study on "the effect of internal audit quality on corruption in Nigeria public sector" revealed that internal audit quality has a significant impact on reducing corruption in the public sector. Internal audit function was considered as an important tool that can assist in reducing the tide of corruption in Nigeria's public sector if the internal auditor is given appropriate independence to perform his function..

Adedeji, Soyinka, and Sunday (2018), in their study on "corruption control in the public sector", opined that Nigerian accountants have enough competence to prevent corruption in the public sector. They also stated that the cooperation of all levels in an organization is required to establish a workable internal control system. The study included implementation of code of ethics, strong internal control system, and compliance withapplicable laws to reduce corruption level in the public sector.

Assakaf, Samsudin, and Othman (2018), in their study on "Public sector auditing and corruption: A literature review"opined that internal auditing quality is capable of reducing or eliminating corruption level in public sector Nigeria. They stated that there is need for more studies on public sector auditing to detect and prevent corruption in Nigeria.

Avis, Ferraz and Finan (2018), in his study carried out in Brazil, found that internal audit is an important tool that can reduce the embezzlement of public funds at all levels in Brazil. They stated further that internal audit function will discourage public office holders since they are aware that there is a system that is keeping watch over them and this will also jeopardize their chances during election.

Azzali and Mazza (2018) in their study on the internal audit effectiveness evaluated with an organizational, process and relationship perspective, opined that size, listing and Big4 are significantly and positively associated with the internal audit effectiveness. The findings include that organizational (e.g. policy, auditor's experience), processes (risk basedaudit plan, quality assurance program, regulatory guidelines), and relationship (with auditee, senior management, audit committee) are measures that are useful to evaluate the internal audit effectiveness.

Caratas, Spatariu, and Trandafir (2018), in their study on fighting corruption through internal audit, opined that internal audit is a necessary and required ingredient to reduce or eliminate corruption in an organization.

Kontogeorgis (2018) revealed that internal audit function is a vital tool for the management and for the success of a company. The good operation of internal audit function can be a tool for the improvement of quality of the corporate governance and management.

Madhawi, Avedh, and Faizal (2018), in their study on the effectiveness of internal audit, found internal audit to be effective when certain factors are properly established in the system such as; legal requirement for the establishment of an internal audit function, a strategy for the development of qualification of internal audit staff, support from senior management and the presence of the Audit Committee, The Central Internal Audit Policy Unit (a professional body) to develop guidelines, develop community and disseminate best practices. **(Van-Gansberg;he, 2005)** identified six key themes in building an effective internal audit process. Six key themes were identified in the effective building of internal auditing: (1) the concept of ownership. (2) Organization of the governance framework. (3) Law. (4) Improve professional efficiency. (5) Conceptual framework. (6) Resources

Nurdiono and Gamayuni (2018), in their study on the effect of internal auditor's competency on internal audit quality and its implication on the accountability of Local government, opined that an effective internal audit positively and significantly impacts accountability through their competence. Competence is reflected in the education level, professional training, and years of working experience of an internal auditor.

Rabiu and Mansor (2018), in their study on fraud prevention initiatives in the Nigerian public sector: understanding the relationship of fraud incidences and the elements of fraud triangle theory revealed that a significant relationship between three elements of fraud triangle theory and fraud incidences in the Nigerian public sectors.

Agbata, Ekwueme, and Jeroh (2017), opined in their study on the anatomy of pension fraud in Nigeria: Its motives, the management, and future of the Nigerian pension scheme that the intension to commit pension fraud has not reduced to any significant level in spite of the contributory pension scheme established. It was also revealed that there is need for diversification of investment of pension assets to discourage fraud in the system.

Asuedu and Deffor (2017), in their study on Fighting corruption by means of effective internal audit function: Evidence from the Ghanaian Public Sector, opined that internal audit function must be transparently independent to have effect on reduction of corruption in the public sector. They stated further that an effective internal audit system would reduce corruption in an organization. Non-interference from outsiders and ability to prepare a report without fear will add value to the effectiveness of internal audit function.

Omolaye and Jacob (2017) revealed that compliance with corporate governance, a significant positive relationship exists between internal audit function and performance of banks through operational efficiency, organizational growth, higher profitability, solvency and continuity in business. It showed that compliance with corporate principles (especially internal audit function – Principle 18).

The *a-priori* expectation of the study was that Ho_1 - $Ho_4 = \beta > 0$.

3. METHODOLOGY

3.1 Population and sample

The study used survey design. The population of the study covered all heads of internal audit departments in Pension Fund Administrators in Nigeria, Considering the number of Pension Fund Administrators in Nigeria, the study made use of all the internal auditors in PFAs as the sample. It is important to know that we have 22 Pension Fund Administrators. The study was conducted through primary survey. Structured questionnaire was adopted as the instrument to obtain responses from respondents for the study. The questionnaire was prepared on a 5-point Likert scale. SPSS software was used to analyze the data collected.

3.2 Research model specification

The regression equation for the study is below:

Let Y = dependent variable; and X= independent variable

$Y = f(X)$
$Y = yi$
$yi = FI$ = Fraud Incidence
$X = IAF = xi, xii, xiii, xiv$
$xi = IND$ = Internal Auditor's independence
$xii = COMP$ = Internal Auditor's competence
$xiii = INT$ = Internal Auditor's integrity
$xiv = CORP$ = Corporate governance
$X = IAF = INDi, COMPi, INTi, CORPi$
Functional relationship
$yi = \alpha + \beta_1 IND + \beta_2 COMP + \beta_3 INT + \beta_4 CORP + \mu$ ....(1)

4. DATA PRESENTATION AND ANALYSIS

Out of twenty two copies of questionnaires circulated to Heads of Internal Audit in PFAs in Nigeria, twenty copies were successfully completed and returned via email. This successful return represents 90.9%. Twenty three questions were populated for respondents to answer. Five of them were on bio data while the remaining 18 dwelt on the dependent and independent variables.

Analysis of bio data from respondents.
Table 1. Gender

	Frequency	Percent	Valid Percent	Cum. Percent
Valid Male	20	100.0	100.0	100.0

Source: Researcher's survey 2021 (SPSS version 23)
The table above shows that all Heads of Internal Audit in Nigeria are males.

Table 2. Academic qualification

	Frequency	Percent	Valid Percent	Cum. Percent
Valid HND/BSc	9	45.0	45.0	45.0
MBA/MSc	11	55.0	55.0	100.0
Total	20	100.0	100.0	

Source: Researcher's survey 2021 (SPSS version 23)

The distribution in the table above shows that 45% of respondents held first degree or HND as the primary qualification while 55% held additional academic qualification with MB/MSc as career progression.

Table 3. Professional Qualification

	Frequency	Percent	Valid Percent	Cum. Percent
Valid ACA	14	70.0	70.0	70.0
ACCA	2	10.0	10.0	80.0
FCA/FCCA	4	20.0	20.0	100.0
Total	20	100.0	100.0	

Source: Researcher's survey (SPSS version 23)

The table above shows the distribution of professional qualification among Heads of Internal Audit in PFAs in Nigeria. 14 of them representing 70% have ACA qualification, 2 of them representing 10% have ACCA qualification, and the remaining 4 representing 20% have gained FCA/FCCA status. This represents the quality of employees managing the control of pension administration in Nigeria. No holder of Chartered International Institute of Internal Auditors.

Table 4. Age distribution

		Frequency	Percent	Valid Percent	Cum. Percent
Valid	31 – 40 yrs.	3	15	15	15
	41 – 50 yrs.	14	70	70	85
	Above 50 yrs.	3	5	15	100
	Total	20	100	100	

Source: Researcher's survey (SPSS version 23)

The above table shows the maturity of officers handling control of pension administration in Nigeria. 2 of them are between 31-40 years representing 15%; 14 of them are between 41-50 years representing 70%. 3 of them are above 50 fifty years representing 15%.

Table 5. Experience

		Frequency	Percent	Valid Percent	Cum. Percent
Valid	Less than 5 years	2	10.0	10.0	10.0
	6 – 10 years	12	60.0	60.0	70.0
	11- 15 years	6	30.0	30.0	100.0
	Total	20	100.0	100.0	

Source: Researcher's survey (SPSS version 23)

The above shows the experience distribution among Heads of Internal Audit in PFAs in Nigeria. 2 of them representing 10% have been in the industry for less than 5 years. 12 of them representing 60% have been in the industry between 6 and 10 years, 6 of them representing 30% have been in the industry between 11 and 15 years.

Tests of Hypotheses

H_{o1}: Internal auditor's independence has no effect on fraud incidence in pension administration in Nigeria.

Table 6 - Model summary

Model	R	R^{2b}	Adjusted R^2	Std. Error of the Estimate	Change Statistics R^2	F.
1	.999	.999	.998	.206	.999	2936.985

Source: Researcher (SPSS version 23)

a. Predictors: Objectivereporting, ReportingtoBAC, Accesstoinformation, ReportingtoPencom
b. For regression through the origin (the no-intercept model), R Square measures the proportion of the variability in the dependent variable about the origin explained by regression. This CANNOT be compared to R Square for models which include an intercept.

The model summary above shows the value of R^2 of 0.999 and adjusted R^2 of 0.998 which suggests that the model explains about 99.8% of the variation in the dependent variable. This also means that the regression explains 99.8% of the variance in the data.

Table 7 - ANOVA[a,b]

Model	Sum of Sq.	df.	Mean Sq.	F.	Sig.
1 Regression	499.320	4	124.830	2936.985	.000[c]
Residual	.680	16	.043		
Total	500.000[d]	20			

Source: Researcher (SPSS version 23)

c. Dependent Variable: Low Fraud
d. Linear Regression through the Origin
c. Predictors: Objectivereporting, ReportingtoBAC, Accesstoinformation, reportingtoPencom
e. This total sum of squares is not corrected for the constant because the constant is zero for regression through the origin.

In the ANOVA table above, it is shown that the p-value is 0.000[b] which proves that the hypothesis is statistically significant at 5% level of significance, this informs that the p-value of the test statistic is greater than or equal to alpha.

Table 8 –Coefficients[a,b]

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1 Reporting BAC	.193	.096	.184	2.003	.062
Reporting Pencom	.390	.097	.379	4.004	.001
Accessinformation	.231	.088	.218	2.618	.019
Objectiivereporting	.232	.093	.222	2.484	.024

Source: Researcher (SPSS version 23)

In the coefficient table above, the regressed coefficient correlation result shows that there is low fraud among PFAs unlike what we used to express in the past under NISTF and public pension, this is explained by those factors under Beta column which summed up to 1.00 (100%). This means that reporting to Board Audit Committee, reporting to Pencom, access to information documents in the company, and objective reporting by internal auditors have positive correlation with low fraud in PFAs in Nigeria.

Decision: The p-value of the test statistic above is less than 5% level of significance, the null hypothesis which states that internal auditor's independence has no effect on fraud incidence in pension administration in Nigeria is rejected while alternative hypothesis is accepted.

Ho2: Internal auditor's competence has no effect on fraud incidence in pension administration in Nigeria.

Table 9 - Model summary

Model.	R.	R^{2b}	Adjusted R^2	Std. Error of the Estimate	Change R^2 Change	Statistics F. Change
1	.999[a]	.999	.998	.206	.999	2359.957

Source: Researcher (SPSS version 23)

f. Predictors: Externalconsultantreview, Pencomapprovalofauditor, Professionallyqualified, Experienceyear, Auditworkplanprepared

g. For regression through the origin (the no-intercept model), R Square measures the proportion of the variability in the dependent variable about the origin explained by regression. This CANNOT be compared to R Square for models which include an intercept.

The model summary above shows the value of R^2 of 0.999 and adjusted R^2 of 0.998 which suggests that the model explains about 99.8% of the variation in the dependent variable. This also means that the regression explains 99.8% of the variance in the data.

Table 10 - ANOVA[a,b]

Model.	Sum of Sq.	df.	Mean Sq.	F.	Sig.
1 Regression/	499.365	5	99.873	2359.957	.000[c]
Residual	.635	15	.042		
Total	500.000d	20			

Source: Researcher (SPSS version 23)

a. Dependent Variable: Low Fraud
b. Linear Regression through the Origin
c. Predictors: Externalconsultantreview, Pencomapprovalofauditor, Professionallyqualified, Experienceyear, Auditworkplanprepared
d. This total sum of squares is not corrected for the constant because the constant is zero for regression through the origin.

In the ANOVA table above, it is shown that the p-value is 0.000[b] which proves that the hypothesis is statistically significant at 5% level of significance, this informs that the p-value of the test statistic is greater than or equal to alpha.

Table 11 - Coefficients[a,b]

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std Error	Beta	T	Sig.
1 Professionallyqualified	.322	.117	.314	2.756	.015
Experienceyear	.254	.141	.245	1.801	.092
Pencomapprovalofauditor	.231	.112	.222	2.052	.058
Auditworkplanprepared	-.047	.167	-.046	-.285	.780
Externalconsultantreview	.277	.105	.267	2.648	.018

Source: Researcher (SPSS version 23)

In the regressed coefficient table above, the result shows that fraud incidence is low in PFAs in Nigeria as a result of competence of internal auditors in these companies. The result shows 82.7% of combined factors of professional qualification, relevant years of experience, Pencom approval of appointment of internal auditors, external consultants' review of internal auditor's function under Beta column above.

Decision: The p-value of the test statistic in the ANOVA table is significant at 5%. The null hypothesis which states that internal auditor's competence has no effect on fraud incidence in pension administration in Nigeria is rejected while alternative hypothesis is accepted. The result corroborates the study of Asiedu and Deffor (2017), which opined that "education and skill of the internal auditor" and compliance with the provision of the law confirmed the competence of internal audit function. The result revealed staff competence as an instrument that plays important role in reducing fraud in an organization as found out in Mohammed (2021), that internal audit in Mubi North LGA is not very effective because internal audit was not carried out effectively. Internal audit has significant effect on expenditure control and low quality of staff was identified as a strong weakness against the effectiveness of internal audit function in the Local Government.

Ho3: Internal auditor's integrity has no effect on fraud incidence in pension administration in Nigeria.

Table 12 - Model Summary

Model	R	RSquare[b]	Adjusted R Square	Std. Error of the Estimate
1	.999a	.998	.997	.277

Source: Researcher (SPSS version23)

a. Predictors: Fraudincidencereporting, Uncompromisedauditissues, Issuesreportedasidentified, integrityofanauditor
b. For regression through the origin (the no-intercept model), R Square measures the proportion of the variability in the dependent variable about the origin explained by regression. This CANNOT be compared to R Square for models which include an intercept.

The model summary above shows the value of R^2 of 0.998 and adjusted R^2 of 0.997 which suggests that the model explains about 99.7% of the variation in the dependent variable. This also means that the regression explains 99.7% of the variance in data.

Table 13 - ANOVA[a,b]

Model	Sum of Sq.	df.	Mean Sq.	F.	Sig.
1 Regression.	498.770	4	124.693	1622.335	.000[c]
Residual	1.230	16	.077		
Total	500.000[d]	20			

Source: Researcher (SPSS version 23)

a. Dependent Variable: Low Fraud
b. Linear Regression through the Origin
c. Predictors: Fraudincidencereporting, Uncompromisedauditissues, Issues reported as identified, integrityofanauditor
d. This total sum of squares is not corrected for the constant because the constant is zero for regression through the origin.

In the ANOVA table above, it is shown that the p-value is 0.000[b] which proves that the hypothesis is statistically significant at 5% level of significance, this informs that the p-value of the test statistic is greater than or equal to alpha.

Table 14 - Coefficients[a,b]

Model	Unstandardized Coefficients B	Std Error	Standardized Coefficients Beta	T	Sig.
1 Issuesreportedasidentified	.298	.177	.287	1.683	.112
Uncompeomisedauditissues	-.050	.215	-.048	-.234	.818
Integrityofanauditor	.547	.229	.537	2.388	.030
Fraudincidencereporting	.235	.138	.224	1.702	.108

Source: Researcher (SPSS version 23)

a. Dependent Variable: Low Fraud
b. Linear Regression through the Origin

In the regressed coefficient table above, the result shows that fraud incidence is low in PFAs in Nigeria as a result of integrity displayed by the internal auditors in these PFAs. The result shows 100% of combined factors of prompt reporting of issues identified, non-compromise on issues identified, perceive integrity of internal auditors, and reporting of fraud incidence under Beta column above.

Decision: The p-value of the test statistic in ANOVA table above showed a significant level less than 5% hence the null hypothesis which states that internal auditor's integrity has no effect on fraud incidence in pension administration in Nigeria is rejected while alternative hypothesis is accepted. This study is supported by the study of Rabiu and Mansor (2018), the findings revealed that pressure/incentive to commit fraud has a significant relationship with fraud incidences in the Nigerian public sectors. An internal auditor should not compromise his position, he should live above board at all times.

Ho_4: Corporate governance has no effect on fraud incidence in pension administration in Nigeria.

Table 15 - Model summary

Model.	R.	R. Sq.[b]	Adjusted R Sq.	Std. Error of the Est.	Change - Statistics R^2 Change	F. Change
1	**.996[a]**	**.992**	**.991**	**.485**	**.992**	**527.701**

Source: Researcher (SPSS version23)

The model summary above shows the value of R^2 of 0.996 and adjusted R^2 of .991 which suggests that the model explains about 99.6% of the variation in the dependent variable. This suggests that the regression explains 99.6% of the variation in the data.

Table 16 - ANOVA[a,b]

Model/	Sum of Sq.	df.	Mean Sq.	F-Stat	Signif.
1 Regression.	496.238	4	124.060	527.701	.000[c]
Residual	3.762	16	.235		
Total	500.000[d]	20			

Source: Researcher (SPSS version 23)

a. Dependent Variable: Low Fraud
b. Linear Regression through the Origin
c. Predictors: MeetingwiththeBACchairman, NCCG2018awareness, Quarterly reporting to BAC, Investigation by BAC
d. This total sum of squares is not corrected for the constant because the constant is zero for regression through the origin.

In the ANOVA table above, it is shown that the p-value is 0.000[b] which proves that the hypothesis is statistically significant at 5% level of significance, this informs that the p-value of the test statistic is greater than or equal to alpha.

Table 17 - Coefficients[a,b]

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std Error	Beta	T	Sig.
1 QuarterlyreportingtoBAC	.399	.188	.374	2.120	.050
NCCG2018awareness	.449	.365	.418	1.229	.237
InvestigationbyBAC	-.137	.378	-.124	-.361	.723
MeetingwiththeBACchairman	.376	.119	.336	3.152	.006

Source: Researcher (SPSS version 23)

In the regressed coefficient table above, the result shows that fraud incidence is low in PFAs in Nigeria as a result of institution of corporate governance. Pencom has a version of corporate governance for all PFAs to adopt. FRCN expects all registered companies including PFAs o provide annual report on corporate governance issues. Pencom also expezcts PFAs to provide corporate governance report through an external consultant. The result shows 100% of combined factors of internal auditor's quarterly report to the board audit committee, observance and awareness of 2018 Nigerian Code of corporate governance, investigation instituted by the board audit committee, meeting of the internal auditor with the chairman of board audit committee under Beta column above.

Decision: The ANOVA table showed p-value of less than 5% level of significance. The null hypothesis which states that corporate governance has no effect on fraud incidence in pension administration in Nigeria is rejected while alternative hypothesis is accepted. This is supported by the works of Madhawi, Ayedh, and Khairi (2018) which found internal audit to be effective when the following are present:a legal requirement for the establishment of internal audit department; establishment of relevant qualification for internal audit staff; support from senior management and the Audit Committee;and The Central Internal Audit Policy Unit (a professional body) to develop guidelines, develop community and disseminate best practices. Van-Gansberghe, 2005identified six key themes in building an effective internal audit process, these include: (1) the concept of ownership. (2) Organization of the governance framework. (3) Law (4) Improve professional efficiency. (5) Conceptual framework. (6) Resources.

5. CONCLUSION AND RECOMMENDATION

This study examined the impact of internal audit effectiveness on fraud incidence in Nigeria. Internal audit function has positive impact on fraud incidence in pension administration in Nigeria. The level of fraud perpetrated in public pension is not experienced in contributory pension scheme which started since 2004. There is a bit of transparency and segregation of duties among three tiers operating the scheme i.e. the regulator (Pencom), the Custodian, and the Pension Fund Administrators (PFAs). The process of pension payment is a bit cumbersome for perpetrators to crack. The result of this study revealed that PFAs in Nigeria have good internal audit function that has significant effect on fraud incidence.

The results obtained from this study are supported by the works of Kontogeorgis (2018) who revealed that internal audit function is a vital tool for the management and for the success of a company. An effective internal audit system contributes to good quality of the corporate governance in an organization. The works of Ibironke (2019) is in support of this study which revealed that internal audit quality is critical in fighting corruption in the public sector. Rabiu and Mansor (2018) found that pressure/incentive to commit fraud has a significant relationship with fraud incidences in the Nigerian public sectors. An internal auditor should not be under pressure to lose his integrity over any overture made to him by anyone. This study is supported by Azzali and Mazza (2018) who opined that size, listing and Big4 are significantly and positively associated with the internal audit effectiveness. They also showed that organizational (e.g. policy formulation, auditor’s experience), processes (risk basedaudit plan, quality assurance program, regulatory guidelines), and relationship (with auditee, senior management, audit committee) are measures that are useful to evaluate the internal audit effectiveness. Agbata, Ekwueme, and Jeroh (2017) were skeptical about Pension Reform Act (PRA 2014) solving the problem of corruption in Nigeria when they concluded that the spate of fraud has not reduced in pension industry in spite of the introduction of contributory pension scheme.

Stemming from the results above, the following recommendations are made:

a. Internal Audit function should be empowered by the board of PFA to raise any issue in any area that may lead to fraud be it personal or official. The regulator should provide maximum security to the internal auditor to deliver effectively on his role. The removal of an internal auditor should be investigated by the regulator (National Pension Commission);

b. The regulator should direct all internal auditors in PFAs to obtain certification of International Institute of Internal Auditors to update their knowledge and improve their skill in internal auditing;

c. The appraisal of internal auditors should be handled by the Chairman of the board audit committee to ensure transparency and objectivity. Some Managing Directors may want to use the appraisal system to kill the spirit of the internal auditor in doing his work. In addition, the audit committee should be responsible for the promotion of the internal auditor in accordance with 2018 Nigerian Code of Corporate Governance. The regulator (Pencom) should seek to review the appraisal of the internal auditor by the audit committee to ensure that it is being done regularly;

d. Internal audit department should be adequately resourced to cover every department in the organization and perform effectively. Internal audit staff members should be exposed to the certification in the International Institute of Internal Auditors to sharpen their internal audit skill;

e. The segregation of duties and staff rotation should be carried out in sensitive departments to avoid collaboration among staff members to commit fraud. An effective internal control system should be established by the management and approved by the board to discourage fraud. No single person should commence a transaction and conclude it. No one person should be responsible for signing payment documents or some sensitive official documents to frustrate fraud; and

f. The three tiers of government in Nigeria should adopt the current tripartite approach of managing public pensions to prevent further fraud. The system should be transparent where the employees do receive account statement of their pension contribution hence they can monitor the return on their fund performance.

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DOMESTIC DEBT AND INFRASTRUCTURE DEVELOPMENT IN NIGERIA

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Abstract

Infrastructure development has been a major challenge to Nigeria in spite of the rich resources at her disposal. The main objective of the study is to examine Domestic Debt and infrastructure development in Nigeria. The study made use of the ex-post-facto design and applies total enumeration of domestic debt. Variables of the study include domestic debt (Treasury bill bond, development stock, savings bond) and infrastructure development proxies (power and ICT) for 2001 to 2020. The study employs descriptive and inferential statistics analysed by multiple regression. Findings revealed a positive and significant effect of domestic debts on infrastructure development (Adj. R^2POWERINF 78.9% at 0.05 significance level, p-value 0.9369 and ICTINF with Adj.R^2 69.23% at 0.05 significance level, p-value 0.0397). Domestic debt could actually affect infrastructure development but 21% of POWERINF AND 30.77 ICTINF explains other factors affecting infrastructural development. The study concludes that domestic debt has effect on infrastructure development, this could however attain a higher level of effectiveness if there is transparency and accountability in the process of applying the resources. The study suggests further study on the examination of this position if Nigeria implements IPSAS guidelines.

Keywords: Infrastructure development, domestic debt, IPSAS, Accountability, Transparency

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1. Introduction

Even though Nigeria enjoys abundant sources of wealth, the average person on the street cannot boast of a meal a day.(Putte, 2020); Ejere (2013) opined that the average person is poor as a result of the poor management of financial resources.Evidences of the poor state of infrastructural development abound in the rate of development, bad roads, airways, unnecessarily prolonged rail project, poor state of the public hospitals and classrooms. Rating Nigeria's Human Capital Development index (HCDI) is 0.34 globally; Nigeria is in 152nd position out of 157. The World Bank (2019) report revealed that in education, Ghana ranks 104th in global education system and 12th in Africa ahead of Zimbabwe, while Nigeria holds 124th position in the world and 25th in Africa behind Rwanda. In spite of the introduction of Information Technology, service delivery still rates very low (Eseosa& Aigbe, 2019). Deficiency in power generation subsists through different budget periods indicating intention to attain specified level of energy generation without success, for example, the intention was to generate 20,000 megawatts, but reality showed less than 2000 megawatts power generation.

Where there are problems of accountability, the development of a country turns to an erroneous mental imagination (Gberevbie, 2017) .The need to borrow arises when enough cash to settle a commitment is not available. Businesses borrow with a view to paying back such debt through revenue generation. The public sector as a result of the need to provide facilities that will enhance individual and corporate economy goes into borrowing (Festus, 2019). Not only this, even though Nigeria is highly endowed with various revenue generating resources, she is still unable to finance infrastructure development effectively without incurring debt (Onyeiwu, 2012). The Fiscal Responsibility Commission suggested that infrastructural development and health drawbacks are signs of economic problems that may be prevalent in a nation. Debt is an agreed-upon deferred payment, instead of paying for immediate obligations (Chouraqui, Brian and Montador, 2014). Several reasons can be adduced for a nation's going into debt, however what is essential is the effective application of such debt. It is equally important that there are regulatory frameworks for managing such debt . The drawbacks of the annual budget in meeting the finances of the government lead to incurrence of debt. Inability to meet debt obligations places a government, business, individual or entities in a state of stress as efforts are made to ensure payment. Hence it becomes pertinent that for a nation, the mindset to pay must be there necessitating the need for accountability. A decision to incur a debt demands consideration of the attached risks, ability to service the debt as at when due and the worthwhileness of the debt.

Assessing the medium term framework, it is observed that the high debt profile of Nigeria is responsible for the setback in economic development, which overtime has become a burden in the annual budget (Tabiowo, 2015; Festus, 2019). Statistics reveal that government debt continue to increase gradually, as Nigerian Government's debt accounted 18.9% of the country's nominal GDP in September 2020, compared with the ratio of 18.2% in the previous year. Nigerian government's debt to GDP ratio reached 18.9% in September 2020 against the lowest record of 9.6% in December 2010 (CEIC report). The country's nominal GDP reached 114.8bn USD in December 2020 (https://www.ceicdata.com/en/indicator/nigeria/government-debt)

Public debt is made up of external and domestic debts. The debts are incurred by Federal, state and FCT Governments. The DMO (2021) revealed that public debt in 2020 was N32,22trn as at 2020 September.,N25.7trn (2019), N22.4 (2018), N20.3 (2017) and N16.2trn (2016). The trend showed a gradual increase annually.

Various studies on debt and economic growth, revenue generation and economic growth or infrastructural development suggested a need for matching revenue with infrastructure development (Nwosu & Okafor, 2014), and a need for monitoring and accountability (Okwoi & Sule, 2016). Akpan (2013) examined revenue generation and infrastructural development in Imo State and found that there is a link between revenue generation and infrastructure development but suggested a need for monitoring and accountability while Adesoji and Chike (ND) basing their study on Lagos State through an examination of internally generated revenue and infrastructure development, equally suggested that there is appreciable development in infrastructure development; the study however stated a need for boosting revenue generation in order to achieve infrastructural and economic development. Atis (2014), and Palei (2015) through various studies affirmed the contributory effect of infrastructure development on the growth of the economy, yet decried the absence of its development in many sectors. Studies on domestic debt and poverty in Sub-Saharan Africa (Mbate, 2013), and specifically on the economic growth indicated a non-linear relationship between domestic debt and economic growth, this showed slow growth in the economy of Bangladesh (Kazi & Islam 2020). Observing infrastructure development in African nations, Andrea and Lorenzo (2013), noted that bad and congested roads, power outages and unhygienic water are prevalent. The problem of finance is however identified as crucial to solving these challenges.

Maiyaki (2014) investigated the trend in and effectiveness of government budget and expenditure on infrastructure from 1999 and 2014 and suggested that accountability and financial discipline are missing in the affairs of Nigerian government. Okwoi and Sule (2016) equally suggested that there should be a proper rendering of returns on revenue to avoid borrowing. Ssempala, Ssebulime and Twinoburiyo (2020) opined that government needs to review her policies in order to ensure accountability for resources that can be applied to achieving infrastructure development. This study proposes that domestic debt has effect on infrastructural development. Thus if responsibility officers render returns effectively and efficiently, wasted or misapplied funds can be redirected to economic growth programmes and infrastructural development in the future. The main objective of the study thus is to examine Accountability: A Panacea for Domestic Debt burden and infrastructure development in Nigeria.

The study is descriptive and makes use of secondary data analysed through multiple regression. Population of the study is Nigeria's domestic debt and the study covers years 2001 to 2020. The study is essential as it is poised to redirect government's attention to the need for ensuring accountability, a gap which has bedeviled Nigeria's economic and developmental growth.

2. Discussion of Literature

The concepts treated in the study include domestic debt and its proxies such as Federal government savings stock, treasury bills, treasury bond, and infrastructure development with proxies such as power infrastructure, transport, Information and communication technology, health and social welfare.

Infrastructure development is earmarked and implemented through capital expenditure programmes of the government basically for fixed assets that enable generation of revenue (Linda 2005, Babatunde 2018), equally it enhances economic growth for services and production that fall within the country's economic activities. This highlights the importance of maintaining such revenue generating assets in order to capture future development effectively (Ambrose and Steinner 2017). Provision for capital expenditure is primarily provided through the annual budget, however, for reasons such as inadequate preparation, delay in budget process, inexperience, poor monitoring and control have often been a cog in the wheel of infrastructure development. Equally observed is the fact that government sometimes use debts to finance recurrent expenditure giving a wrong notion of applying debt to capital development (Chijoke, 2019; Ahmed, Minister of Finance).

According to West Africa Report (2017) only 16% of Nigeria's roads are tarred and good. The World Economic Forum ranked Nigeria 132nd out of 138 countries globally. The Economic Recovery and Growth plan (ERGP, 2017), equally reported Nigeria's poor level of infrastructure development as being responsible for the low economic status (Schunemann & Porter, 2020). Whereas, Foster and Pushak (2011) suggested that Nigeria needs $10.42bn for ten years to resolve infrastructure challenges, presently, about $5.9bn is being spent annually. However with revenue generation of N5.413bn (2016), N6.547bn (2017), N8.167bn (2018)..N693.91bn (2019) N612.87 (2020), total recurrent expenditure of N21.612trn and capital expenditure of N5.867trn (OECD.Stat, 2021), going for debt to meet outstanding and infrastructure needs is not unlikely. The challenge is the mounting debt which threatens the nation's economy. Extant literatures reveal various demands that attention be paid to the rate at which debt is being incurred and lack of equivalent developmental programmes to justify the debts (Babatunde, 2017, Oyebode, 2018, Festus, 2019). This is an area supposedly addressed by financial standards which directed that proper disclosures be made in order to pave way for accountability.

The introduction of International Public Sector Accounting Standard (IPSAS) is directed at providing a way out through stipulated guidelines to ensure proper accountability for public funds. In spite of the lofty benefits provided by IPSAS, Nigeria only adopted but failed to implement the standards (Babatunde, 2017). Studies like Ijeoma (2014), Onuorah and Nangih (2019) Erin(2016) suggested that IPSAS standards will enhance comparability and International best-practices, transparency and accountability, improve the quality of financial reporting, enhance good governance and furnish reliable information for decision making. If these are equally good for Nigeria, why not follow adoption of the standard with implementation?

Given the ranking of Nigeria on the transparency international index of 136th out of 176 nations, resolving the economic challenges around her sends negative signals about the sincerity of government. This is anchored on the expectations of international investors who would desire a secure financial environment for their investments. This equally portends some challenges in terms of addressing the issue of debt burden. The implication of this problem reveals the necessity of reviewing the gaps that have greatly influenced the current economic scenario.

In practice, Nigeria's budgets for several years are delayed for upward of five to six months before the lawmakers' approval. Budget delays affect execution of infrastructural projects, performance of businesses, and create uncertainties for business decisions. Secondly, budget delays slow down performance in industries and the process of revamping the economy. Thirdly, as a result of the delay, release of allocation and other funds to ministries and parastatals inform undue delay in payment of workers' salaries as well as reducing the purchasing power of the people either in the long or short run. These create some negative influences on the economy.

Infrastructural development is set back since funding and payments to contractors become impossible as a result of budget deficit and delays in implementation. When the flows that should be prompted by budget execution is disrupted, other negative results follow such as people taking advantage of the gaps created. With production and other activities slowed down, there is a possibility of experiencing inflationary tendencies, sharp practices and other negative vices by the people. Given these, the scheduled debt repayment plans are equally put on hold thus extending debt tenure and possible debt accumulation.

Nigeria being the most populous African nation is faced with diverse problems including poor and inadequate development of the transportation (rail, road, air), communication and electricity, education and health sectors among others. This has been the bane of setback in overall national development and economic growth. In both urban and rural areas, infrastructure development is extremely low (Oyedele, 2012) due to inconsistencies in development plans emanating from ethnic, political apathy and non-continuity in governance. Equally, the objectives of each administration usually lack purposefulness and clarity; projects take longer time than planned, at times such projects are abandoned due to the inadequacies and irregularity of funding and at times project funds are misappropriated. More often, approval and release of funds are delayed due to bottlenecks in the system likewise, poor equipment inhibit successful completion of programmes. On record are the arrant wastages in allocated resources, misappropriations and the challenge of transparency in governance, a situation that keeps raising the question of the integrity of government when erring officers misappropriate and still get away with it (Adah, 2015; Benyin & Ogochukwu, 2015 and Olaseni, 2019). Evidences of the poor state of infrastructural development abound in the rate of development, bad roads, airways, unnecessarily prolonged rail project, poor state of the public hospitals and classrooms. Rating Nigeria's Human Capital Development index (HCDI) is 0.34 globally, Nigeria is in 152nd position out of 157. The World Bank (2019) report revealed that in education, Ghana ranks 104th in global education system and 12th in Africa ahead of Zimbabwe, while Nigeria holds 124th position in the world and 25th in Africa behind Rwanda. In spite of the introduction of Information Technology, service delivery still rates very low (Eseosa & Aigbe, 2019).

3. Data Analysis

Model 1

Objective:

Evaluate the effect of domestic debts(treasury bill, development stock, treasury bond, savings bond, green bond) on power and Information and communication technology infrastructures in Nigeria

POWINF = $\beta_0 + \beta_1$ + (TRSB, DEVS, TRYB, SAVB, GRNB) + ε_t ---- Equation 1

ICTINF = $\beta_0 + \beta_3$ +{TRSB, DEVS, TRYB, SAVB,GRNB} + ε_t ---- Equation 2

Main Model --- $\beta_0 + \beta_1$ + INFDEV = TRSB, DEVS, TRYB, SAVB, GRNB, INFL }

Where:

β_0 = Constant

β_1, β_2, β_3, β_4 and β_5 = Model Co-efficients

Hypothesis

H_{01}: Domestic debts (treasury bill, development stock, treasury bond, savings bond, green bond) have no significant effect on power infrastructure in Nigeria.

Table 1: Correlation Test

	LTRSB	LDEVS	LTRYB	LSAVB	LGRNB	INFL	LTRYB
LTRSB	1.000000						
LDEVS	-0.741570	1.000000					
LTRYB	-0.777868	0.791835	1.000000				
LSAVB	-0.870374	0.960135	0.833074	1.000000			
LGRNB	-0.579623	0.903148	0.763425	0.831541	1.000000		
INFL	-0.732514	0.937762	0.695218	0.915030	0.818978	1.000000	
LTRYB	-0.747816	0.709798	0.687668	0.789957	0.553104	0.674950	1.000000

Researcher's Computation (2021)

Table 2: Output result Model 1

Variable	**Model**			
	Coefficient	**Std. Error**	**T Stats**	**Prob.**
ECT(-1)	-0.010920	0.026336	-0.414654	0.0268
LSAVB	-0.2530143	6.310307	-4.00954	0.0011
LTRSB	0.03130751	1.528628	2.048080	0.0585
LDEVS	0.02315107	2.631660	0.879713	0.3929
LTRYB	-0.0029537	3.666895	-0.08055	0.9369
C	0.7481771	40.52722	1.846110	0.0847
Adjusted R^2	0.789552			
Breusch-Godfrey Serial Correlation Test	0.5281			
Heteroskedasticity Test	0.5631			
F-Stat	18.82089 (0.000010)			
Ramsey Reset	15.09457 (0.1300)			

Source : **Researcher's Statistical Analysis, (2021)**

From the table II above, the co-efficient for ICT_{t-1} is the speed of adjustment towards long run equilibrium which is 1.09%. This means about 1.09% of departures from long run equilibrium is corrected each period. The p-value of 0.0268 which is statsitically significant at 5% is significant for explaining Infrastructural development.

From the model result, SAVB has a negative impact on Infrastructural development. Specifically, a 1% change in SAVB would lead to a 25.3% decrease in POWINF of the country. This negative effect is statistically significant, because the p-value for t-statistic of 0.1% is less than 5%. It negates the *A Priori* because an increase in SAVB is expected to increase Infrastructural development.

TRSB has a positive impact on POWINF, a 1% change in TRSB would lead to a 3.13% increase in POWINF of the country. However, the effect of TRSB on POWINF is not statistically significant with a p-value of 0.0585 at 5% significance level. It does conform to *a priori* because an increase in TRSB is not expected to increase Infrastructural development.

DEVS has a positive impact on POWINF. Specifically, a 1% change in DEVS would lead to a 23.2% increase in Infrastructural development. The effect of DEVS on POWINF is not statistically significant with a p-value of 0.3929 at 5% significance level. This again does conform to *A Priori* because an increase in DEVS is expected to increase Infrastructural development.

TRYB has a negative impact on Infrastructural development. Specifically, a 1% change in TRYB would lead to a 0.3% decrease in POWINF. The effect of TRYB on POWINF is not statistically significant with a p-value of 0.9369 at 5% significance and it conforms to *A Priori* because an increase in TRYB is expected to reduce Infrastructural development.

From the table above, the Adjusted R^2 is 0.789552 showing that about 78.9% of the dependent variable is traceable to the independent variables while the remaining 21.1% is explained by factors not included in the model. This shows that the model has a very good fit. This implies that the independent variables are strong explanatory variables of the dependent variable. That is, domestic debt is significant in explaining Infrastructural development.

Since the probability value of f-stat is 0.000010 which is less than 0.05, that is, significant, we reject the null hypothesis and conclude that the model is significant in explaining the effect of domestic debt on Infrastructural development.

It is evident that the model has no serial correlation because the Observed R-squared probability value of 0.5281 is greater than 0.05.Similarly,since the Observed r-squared probability value for heteroscedasticity test is greater than 0.05, there is absence of heteroscedasticity. This shows that the model is homogenous. That is, it is constant. Finally, the F-Statistics for Ramsey-RESET test is greater than 0.05, hence the model is linear. This means that the model was properly formulated.

The study is to evaluate the effect of domestic debts(treasury bill, development stock, treasury bond, savings bond, green bond) on power infrastructure in Nigeria. From the outcome of the analysis which showed that f-stat is 0.000010 and which is less than 0.05 significance level. The null hypothesis was rejected. Equally, From the result in Table 4.5, the p-value is 0.9369, Adjusted R^2 is 0.789552 showing that about 78.9% of the dependent variable is traceable to the independent variables while the remaining 21.1% is explained by factors not included in the model. This shows that the model has a very good fit. This implies treasury bill, development stock, treasury bond, savings bond, green bond have effect on power infrastructure development. This outcome is corroborated by Amaefule and Umeaka (2016) in their study outcome which stated that capital expenditure (through domestic debt) positively creates an increase in infrastructure development.

This position could as well be further enhanced with government's policy review to encourage maintenance of the infrastructures, accountability and transparency in order to achieve sustainability as suggested by Elumelu (2021) and Davies, Nwankwo, Olofindade and Michael (2019).

Model 2

Evaluate the effect of domestic debts (treasury bill, development stock, treasury bond, savings bond, green bond) on information and communication technology infrastructure in Nigeria.

ICTINF = $\boldsymbol{\beta_0 + \beta_3}$ +{TRSB, DEVS, TRYB, SAVB,GRNB} + $\boldsymbol{\varepsilon_t}$ ---- Equation 2

Main Model --- $\boldsymbol{\beta_0 + \beta_1}$ + INFDEV = TRSB, DEVS, TRYB, SAVB, GRNB, INFL }

Where:

β_0 = Constant

β_1, β_2, β_3, β_4 and β_5 = Model Co-efficients

Hypothesis 2

H_{O2}: Domestic debts (treasury bill, development stock, treasury bond, savings bond, green bond) have no significant effect on Information and Communication Technology (ICT) in Nigeria.

Table 3: Output result of Model 2

Variable	**Model Two**			
	Coefficient	**Std. Error**	**T Stats**	**Prob.**
ICT(-1)	-0.000510	0.017535	-0.029106	0.0397
LSAVB	0.506090	0.240014	2.108588	0.0522
LTRSB	0.085766	0.100096	1.544082	0.1609
LDEVS	-0.154556	0.058142	-1.475115	0.1434
LTRYB	0.072528	0.139471	0.520024	0.6106
C	4.279862	1.541460	2.776499	0.0141
Adjusted R^2	0.692394			
Breusch-Godfrey Serial Correlation Test	0.6185			
Breusch-Godfrey Heteroskedasticity Test	0.7296			
F-Stat	11.69184 (0.000164)			
Ramsey Reset	0.330108			

Source : **Researcher's Statistical Analysis, 2021**

Dependent Variable : ICTINF

From the table above, the co-efficient for ICT_{t-1} is the speed of adjustment towards long run equilibrium which is 0.05%. This means about 0.05% of departures from long run equilibrium is corrected each period. The p-value of 0.0397 which is statsitically significant at 5% is significant for explaining ICTINF.

SAVB has a positive impact on ICTINF. Specifically, a 1% change in SAVB would lead to a 50.6% increase in ICTINF of the country. The effect of SAVB on ICTINF is not statistically significant with a p-value of 0.0522 at 5% significance level. It conforms to *a priori* because an increase in SAVB is expected to increase ICTINF.

TRSB has a positive impact on ICTINF. Specifically, a 1% change in TRSB would lead to an 8.6% increase in ICTINF. The effect of TRSB on ICTINF is not statistically significant with a p-value of 0.1609 at 5% significance level. However, it conforms to *a priori* because an increase in TRSB is expected to increase ICTINF.

DEVS has a negative impact on ICTINF. Specifically, a 1% change in DEVS would lead to a 15.5% decrease in ICTINF. The effect of DEVS on ICTINF is not statistically significant with a p-value of 0.14342 at 5% significance level and it does not conform to *a priori* because an increase in DEVS is not expected to reduce ICTINF.

TRYB has a positive impact on ICTINF. Specifically, a 1% change in TRYB would lead to a 7.3% increase in ICTINF. However, the effect of TRYB on ICTINF is not statistically significant with a p-value of 0.6106 at 5% significance level but it conforms to *a priori* because an increase in TRYB is expected to increase ICTINF.

From the result in Table 4.7 above, the Adjusted R^2 is 0.692394 showing that about 69.2% of the dependent variable is traceable to the independent variables while the remaining 30.8% is explained by factors not included in the model. This shows that the model has a good fit. This implies that the independent variables are good explanatory variables of the dependent variable. That is, Domestic Debt is significant in explaining Infrastructural Development.

Since the probability value of f-stat is 0.000164 which is less than 0.05, that is, significant, we reject the null hypothesis and conclude that the model is significant in explaining the effect of Domestic Debt on Infrastructural Development. The table shows that the Observed R-squared probability value is greater than 0.05, hence there is no serial correlation.The table further shows that there is absence of heteroscedasticity. This is because the Observed R-squared probability value for capital expenditure is greater than 0.05. This shows that the model is homogenous, that is, it is constant.Finally, the F-Stat in the table for Ramsey RESET test is greater than 0.05, the model is linear. This means that it was properly formulated.

In summary, findings indicate that TRYB, DEVS and TRSB have significant effect on infrastructure development (POWINF), Adj R^2 being 78.9%, p-value0.9369, 0.05 significance level. The implication is that 21% is explained by other factors. Furthermore, SAVB, TRSB, TRYB AND DEVS have significant effect on information and communication technology (ICTINF), Adj $R^2$69.23%, p-value 00397 at 0.05 level of significance.. This implies that 30.77 is explained by other factors.

It can safely be inferred that domestic debt (SAVB, TRSB, TRYB AND DEVS) has effect on infrastructure development. This implies that if domestic debt is effectively and efficiently applied to infrastructure development, a positive effect would be achieved economically through infrastructure development. This position agrees Drita (2016) on effective development of infrastructure nationally. It is however clear that the Nigerian environment require enforcement of standards which is included in the 21% and 30.77% other factors observed in the outcome of the investigation.

4. Conclusion and Recommendations

Nigeria has come a long way with the challenges of delivering infrastructure development but still faces the dilemma of overcoming the setbacks in achieving the infrastructure development objective. This study has shown that domestic debt if effectively administered will affect infrastructure development positively. The existing gap that must be covered is accountability for financial resources, this equally challenges Nigeria's policy makers to constructively appraise current challenges in line with the need to move away from the fence and implement fully the IPSAS guidelines. This position rests on the following. Ijeoma (2014), suggestedthat the adoption of IPSAS will enhance accountability and transparency in the management of Nigeria's financial resources. Guthrie (2020) opined that accountability in the public sector is a 'chameleon-like' and complex concept. Duenya, Upaa and Tsegba (2017) submitted that the standards are expansively applied globally hence if embraced by Nigeria, it will enable comparison. Erin, Okoye, Modebe and Ogundele (2016) equally averred that the use of standards is poised to impact quality financial report. Sellami and Gafsi (2018) further suggested that the use of accruals rather than cash will greatly influence quality financial information and reporting.

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